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## The public's attitudes towards tobacco sales prohibitions: Evidence from a nationally representative survey in the former Soviet state of Georgia

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**BACKGROUND:** In the Caucasus region country of Georgia, no data on public opinion regarding tobacco sales restrictions have been available until now. The aim of the study is to provide data from a nationally representative sample including non-smokers, ex-smokers and current smokers, on their level of support for restricting tobacco sales.

**METHODS:** 1,588 people aged 13-70 were interviewed at home about their level of agreement with eight possible tobacco sales restrictions, which were combined to create a dichotomous scale indicating low agreement (agree with none to three of eight restrictions) or high agreement (agree with four or more of eight restrictions). Levels of agreement were analyzed by demographic segments defined by age, gender, education and income and by tobacco use status.

**RESULTS:** Across all eight forms of tobacco sales restrictions, the average support for tobacco sales restrictions was 85.2% which is a high level of support.

Among smokers, 71% of women and 87% of men indicated a high level of agreement for restricted

tobacco sales; among occasional smokers 54% and 55% respectively. Above 95% of female and male ex-smokers and never smokers expressed high level of agreement with sales restrictions.

After adjustment for other predictors, agreement was significantly associated with age (more agreement with higher age) and smoking status (more agreement among never-smokers, less in current smokers), while there were no significant differences in agreement by gender, education, and income.

**DISCUSSION:** It is of high importance for Georgia to fully implement the Framework Convention on Tobacco Control, including strong sales restrictions, and there is good evidence of public support for doing so.

**CONCLUSION:** The present findings indicate to Georgian public health authorities that the support for tightened tobacco sales restrictions is high.

**KEYWORDS:** tobacco; tobacco control; tobacco control policy; public attitude; sales restriction; tobacco sales restriction; youth access; law; FCTC.

## Отношение общественности к запрету продаж табака: данные национально-репрезентативного опроса в Грузии

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**АКТУАЛЬНОСТЬ:** В стране кавказского региона Грузии до настоящего времени не было результатов исследований об отношении общественности к ограничению продаж табачных изделий. Целью данного исследования является получение сведений по национально-репрезентативной выборке, включающей некурящих, бывших курильщиков и нынешних курильщиков, об уровне поддержки ограничений продажи табака.

**МЕТОДЫ:** 1588 человек 13-70 лет были опрошены у них дома об их согласии с восьмью возможными ограничениями продаж, эти ответы затем были скомбинированы для получения дихотомической переменной, противопоставляющей низкий уровень согласия (от нуля до трех из восьми ограничений) и высокий уровень

(согласие с четырьмя и более из восьми ограничений). Уровень согласия сопоставляли по демографическим группам, определяемым по возрасту, полом, образованием и уровнем доходов, а также в зависимости от курительного статуса.

**РЕЗУЛЬТАТЫ:** Средний уровень согласия при сравнении восьми вариантов ограничений продаж табака составил 85,2%, что составляет высокий уровень поддержки.

Среди курильщиков 71% женщин и 87% мужчин обозначили высокий уровень поддержки ограничений продаж, среди эпизодических курильщиков 54% и 55% соответственно. Среди бывших курильщиков и некурящих более 95% респондентов сообщили о высоком уровне поддержки ограничений продаж табака.

После учета других факторов, уровень согласия определялся возрастом (большая поддержка выражалась людьми старшего возраста) и курительным статусом (более высокий уровень согласия выражали никогда не курившие, меньший – нынешние курильщики), при этом не было существенных различий в зависимости от пола, образования и уровня доходов.

**ОБСУЖДЕНИЕ:** Важно, чтобы Грузия полностью выполнила требования Рамочной Конвенции по контролю над табаком, включая ограничения

продаж, и данное исследование свидетельствует об общественной поддержке этих действий.

**ЗАКЛЮЧЕНИЕ:** Полученные результаты указывают органам здравоохранения Грузии на высокую поддержку ужесточения ограничений продаж.

**КЛЮЧЕВЫЕ СЛОВА:** табак; контроль над табаком; политика контроля над табаком; отношение общественности; ограничение продаж; ограничение продажи табака; доступ молодежи; РКБТ.

## INTRODUCTION

The World Health Organization (WHO) terms tobacco consumption and related health burden ‘the 20th century’s epidemic’; even after decades of public health work to reduce tobacco use, it remains the number one cause of avoidable deaths worldwide (WHO, 2012). Nevertheless, health promotion strategies combining public education and healthy public policy are effective in reducing tobacco use as experienced in the USA, Canada, and Australia (Ashley, et al., 2000; Borland, 2006; Brooks, 2001; Laforge, et al., 1998). The Framework Convention on Tobacco Control (FCTC) emphasizes the importance of combining tobacco demand reduction strategies with tobacco supply reduction ones (WHO, 2005).

Experience of countries that have done well in reducing tobacco consumption shows that key policy elements in a comprehensive approach to the tobacco problem include specific actions to increase tobacco prices and taxes, to protect smokers and non-smokers from exposure to tobacco smoke, to restrict advertising, promotion and sponsorship, to restrict sales to minors, and to conduct of education, communication, and public awareness campaigns (Borland, 2006; Brooks, 2001; Laforge, et al., 1998; WHO, 2005).

### Tobacco use in Georgia and tobacco control policies

Tobacco use in the former Soviet state of Georgia has increased to alarming proportions since 1990, mostly due to transition toward a market economy and the arrival of the international tobacco industry, whose costly promotional campaigns have thrived in the absence of legislative restrictions on tobacco industry behavior. In 2001, the prevalence of tobacco use among men was 53.3% and rose to 59.8% in 2008. Among women, the prevalence increased from 6.3% to 14.9% in the same period (Bakhturidze, et al., 2008; Gilmore, et al., 2004).

The tobacco use trend among youth is also worrying. The Global Youth Tobacco Survey conducted in 2000-2007 estimated that 19.2% of youth aged 13-15 years smoked cigarettes in European countries, while the prevalence was 23.7% in Georgia (Warren, et al., 2008).

Thus, the trend in Georgia is opposite to that in countries with long-running comprehensive approaches to tobacco control. Ban of tobacco sales to minors and other tobacco control measures have been recently enacted but not enforced (Bakhturidze, et al., 2008).<sup>7</sup>

### The influence of public opinion on policy-making

From the public health perspective, Georgia is in need of better tobacco

control legislation with effective enforcement. Such legislation may be enacted as a result of policy decision-making, which is the subject of several theories in the literature on public policy-making (Anderson, 2006). Factors that are hypothesized to be of importance to collective decision-making are values at different levels (organizational, professional, personal, public interest, ideological), political party affiliation, constituency interests, deference to others, decision rules and public opinion, amongst other factors (Anderson, 2006; Kingdon, 2003; Stein, et al., 2005).

In this context, public opinion is defined as “those public perspectives or viewpoints on policy issues that public officials consider or take into account in making decisions” (Anderson, 2006, p. 133). Public opinion may be expressed in many ways, amongst which surveys and polls are used to elicit public opinion on specific issues. However, the public may be not sufficiently informed about an issue to express a meaningful opinion about it, and hence surveys and polls may be not able to illuminate public opinion in a comprehensive way (Stein, et al., 2005; Kinder & Sears, 1985).

The potential importance of public opinion survey data for tobacco control is suggested by Kingdon’s (1995) theory of agenda setting. Based on his research in California in the USA, Kingdon described the

policy-making process as an ongoing one, where streams of policies, problems, and politics constantly mingle together in a primeval soup. His model attempts to capture the organic, constantly changing nature of political agenda-setting (Kingdon, 2003).

Kingdon's model presents streams of policies, problems, and politics as largely independent of one another, yet coupled at critical junctures to yield policy change. The term Kingdon used for these critical junctures is 'policy window', a moment when external or internal forces push an issue to the top of the political agenda.

In theory, at least, convincing claims about public opinion can illuminate problems, like that of the harm tobacco does to health, sufficiently that they help to open a policy window that might otherwise not open. Thus, with regard to tobacco control policy-making, public opinion favoring or not favoring certain control measures may be expected to have some influence on the degree to which tobacco control rises or falls on the political agenda, interacting with the host of other factors that have impact on political agenda-setting.

In the arena of tobacco control, public opinion data do seem to have played a significant role in many countries in helping to shift policy-makers' perceptions about the public's normative beliefs and attitudes towards tightened tobacco control legislation. Survey data from the USA, Canada, the UK, and Australia indicate that even smokers supported bans on smoking in restaurants and bars if they lived in places with such bans, and many studies show that bans in workplaces, public transport and in public spaces such as shopping malls are widely supported by the public as well (Borland, 2006;

Brooks, 2001; Trotter & Mullins, 1996; Lam, et al., 2002; Brenner, et al., 1997). Support for tobacco control is evident among smokers and non-smokers across various age groups from students to the adult population (Rigotti, et al., 2003; Trotter & Mullins, 1996). Similarly, data from Canada shows that smokers demonstrate high compliance with smoking bans even if non-smokers were less optimistic (Ashley, et al., 2000; Pederson, et al., 1987). Newer types of bans (e.g., in homes and in vehicles carrying children) were supported by up to 77% of respondents in an opinion poll in New South Wales, Australia (Walsh, et al., 2002).

However, it is a truism that 'all politics are local', and no amount of public opinion data from outside Georgia can be expected to have significant influence on health policy-making in Georgia. Furthermore, while the general thrust of evidence from Anglo-Saxon countries suggests strongly that citizens support legislation restricting the use of tobacco, as reviewed above, there are no similar studies in the former Soviet Union, at least so far. One cannot guess what public opinion about tobacco control exists in today's Georgia. This situation prompted the design of the present study aiming to provide unique data on the Georgian public's attitudes towards a range of tobacco sales restrictions options.

### Aim

In Georgia, no data on public opinion regarding tobacco sales restrictions have been available until now, and public opinion has therefore played a minor role in policy development processes. This situation is the background for the present report, which aims to provide data from a nationally representative sample including non-smokers,

ex-smokers and current smokers, on their level of support for restricting sales to minors, restricting sales outlets, and increasing penalties for sales restrictions violations.

With this report in hand, public health agencies in Georgia get empirical evidence on the degree to which Georgians support, or do not support tobacco sales restrictions. This report can also be valuable for other countries making the transition to market economies, providing a means to compare levels of public support for tobacco sales prohibitions, and a guide to analyze data on public opinion regarding such prohibitions.

## METHODS

### Sample

Survey data were collected in January through February, 2008, sponsored by the Open Society – Georgia Foundation's grant program (Bakhturidze, et al., 2008). Two-stage stratified sampling was applied. The 2007 census enumeration districts were used for the sampling frame (National Statistics Office of Georgia, 2012). Each region was divided into homogenous strata consisting of urban/rural and mountainous/lowland settlements.

At the first stage of sampling, 94 enumeration districts were selected out of 16 000 such districts across the whole Georgia. At the next stage, lists of the household addresses were used in each of the selected 94 enumeration districts to further sample households (Bakhturidze, et al., 2008). A household with members aged 13-70 available for interviews was considered a unit of observation: 1655 households were sampled and 1588 people (one member from each household) were actually interviewed (Bakhturidze, et al., 2008).

### Data Collection

In-house face-to-face interviews used a standard questionnaire. About 80 interviewers and 10 regional supervisors from the Department of Statistics of Georgia carried out this survey. Regional supervisors controlled the selection of addresses and the work of interviewers.

### Study outcomes/determinants

The variables considered in the present report were as follows:

1. Demographic variables age, gender, marital status, education level and income;
2. Smoking status (daily, occasional, ex and never);
3. Levels of agreement with the implementation of eight tobacco sales prohibitions and violation penalties, coded 'yes', 'no', 'don't know' and 'refuse to answer': (1) sales prohibition to children under 18, (2) prohibition of sales by children under 18, (3) prohibition of sales of single cigarettes, (4) prohibition of sales in schools and youth organizations and within 50 meters around these facilities, (5) prohibition of sales in health care settings, (6) prohibition of sales along with children's clothes and toys, (7) increased penalties for violations of the law prohibiting sales to minors and single cigarette sales, and (8) sales of cigarettes only from stores licensed to sell tobacco products.

The denominators equaled numbers of all respondents, including those who refused to answer. For the whole sample (n=1588), the number of study participants who did not answer individual sales restriction attitude items ranged from 17 to 31 (1.1-2.0 %). The numerators were all respondents who indicated 'yes' when asked to consider each sales restriction.

### Data analysis

The dimensionality of the attitudes towards smoking restriction scale was examined with correlation analysis and with factor analysis (principal axis factoring). The reliability of the scale was estimated with Cronbach's alpha. Using these eight variables a single dichotomous variable was constructed indicating degree of overall support for sales restrictions; those answering 'yes' to three or less of the eight restrictions were coded 'low support' and those answering yes to 4 or more of the eight sales restrictions were coded 'high support'. Differences in levels of support by the demographic variables were estimated using the Chi-square test of independence. Associations between demographic factors and smoking, on the one hand, and support for smoking restriction, on the other, were also examined with a binary multiple logistic regression analysis. SPSS versions 19 and 20 were used for all analyses (Pallant, 2007; Field, et al., 2000).

### Ethical clearance

The Georgian Health Promotion and Education Foundation Ethical Committee approved the study protocol. Signed informed consent was obtained from all participants. For participants under age 18, parents or guardians confirmed by signature their approval of the minor's participation. The survey organizers took responsibility with regard to the protection of confidentiality during the collecting, analysis and dissemination of data.

## RESULTS

Intercorrelations between the sales restrictions attitude items ranged from 0.79 to 0.95. Factor analysis (principal axis factoring) showed that the first unrotated factor had an eigenvalue as high as 7.11 while

the second unrotated factor had an eigenvalue as low as 0.32. This strongly supports the assumption that the scale is unidimensional and can be reduced to one single index. Cronbach's alpha turned out to be as high as 0.98. A simple, additive sumscore based on the eight attitude items was constructed (range 0-8). As much as 77.3% of all respondents had agreed to all eight items, while no agreement (or missing answer) on all items was found for 12.5%. The association between a simple, additive sumscore based on the eight sales restrictions attitude items and the dichotomy described in the methods section (high versus low support for sales restrictions) was 0.98.

The lowest level of approval was 50.4% among respondents aged 13-25 for 'sales of cigarettes must be only from stores that have a license to sell tobacco products'. The highest level of approval was 98.4% among respondents aged 56-70 for 'sales prohibition to children under 18'. There was a statistically significant age gradient for all eight restrictions, with older respondents having the highest approval rates (Table 1).

No statistically significant gender differences or differences by income level were observed with regard to any of the sales restrictions items.

Regarding demographic education segments, approval of each of the eight restrictions for all education segments was in the range 81.1%-90.1%; nevertheless, there was a statistically significant education gradient, with higher educated respondents having the highest approval rates.

Comparison across tobacco use status segments revealed that approval of each of the eight restrictions ranged from 92.1% to 97.9% among ex- and never-smokers, and

**Table 1. Tobacco sales restrictions 1-8 by demography and smoking status, bivariate analysis; (n = 1588)**

		1	2	3	4	5	6	7	8
		% Yes	% Yes	% Yes	% Yes	% Yes	% Yes	% Yes	% Yes
Age	X <sup>2</sup> (4)	312.8	316.1	337.7	310.9,	291.5,	314.9,	305.0,	319.9,
	p	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	13-25	55.7	55.3	53.8	54.9	54.2	54.5	51.1	50.4
	26-35	77.5	78.5	77.5	76.9	78.8	78.2	77.5	78.2
	36-45	92.5	92.5	92.8	92.8	92.8	93.7	90.7	91.3
	46-55	97.7	98.0	98.3	96.6	95.6	97.7	95.3	95.6
	56-70	98.4	98.2	98.2	98.2	96.6	96.9	96.6	96.6
Gender	X <sup>2</sup> (1)	0.2	0.8	0.02	0.1	0.01	0.3	0.52	0.7
	p	0.68	0.77	0.88	0.74	0.91	0.56	0.47	0.41
	Male	86.3	86.3	85.9	85.1	85.3	86.3	84.7	85.0
	Female	85.6	85.8	85.6	85.7	85.0	85.3	83.3	83.4
Education	X <sup>2</sup> (2)	8.5,	10.5,	10.5,	7.4,	8.0,	12.6,	6.5,	15.0,
	p	0.01	0.01	0.01	0.02	0.02	<0.01	0.04	<0.01
	Low	85.4	85.2	85.2	84.6	84.2	84.4	82.8	82.2
	Middle	83.2	83.2	83.2	83.0	82.7	82.8	81.8	81.1
High	89.3	89.9	88.9	88.9	88.7	90.1	87.2	89.1	
Income*	X <sup>2</sup> (2)	1.4,	0.5,	0.8,	0.1,	1.3,	0.2,	3.1,	0.7,
	p	0.50	0.76	0.68	0.93	0.52	0.90	0.21	0.71
	Low	86.7	86.0	86.7	85.6	85.4	85.4	85.6	84.9
	Middle	86.9	87.0	86.2	86.0	86.5	86.3	84.9	84.6
	High	84.6	85.6	84.8	85.2	84.1	85.7	81.9	83.1
Smoking status	X <sup>2</sup> (3)	225.3	222.4	231.2	199.5	214.7	213.1	213.4	219.0
	p	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Daily	84.2	83.5	82.6	84.0	83.1	83.3	80.0	81.3
	Less than daily	53.7	54.6	53.7	54.6	53.2	54.6	52.2	51.2
	Ex-smoker	95.8	97.9	96.9	93.8	94.8	96.9	97.9	94.8
	Never smoker	93.6	93.7	93.9	92.8	93.0	93.3	92.1	92.4

\* 19 study participants did not report income

1. Agree to sales prohibition to children under 18
2. Agree to prohibition of sales by children under 18
3. Agree to prohibition of sales of cigarettes in single units
4. Agree on sales prohibition in schools and youth organisations
5. Agree to prohibition of sales in health care settings
6. Agree to prohibition of sales with children's clothes and toys
7. Agree it is important to increase penalties for violations of the law prohibiting sales to minors and single unit sales
8. Sales of cigarette must be only from stores that have a license to sell tobacco products

from 51.2% to 84.2% among daily and less than daily smokers. The lowest approval rates were observed among less than daily smokers, ranging from 51.2% to 54.6%. All the smoking status gradients were statistically significant, with ex- and never-smokers having the

highest approval rates and less than daily smokers have the lowest approval rates.

Approval rates across all demographic segments and across the eight restrictions were very high for all restrictions.

In the sample segments aged 36-70 for males and females alike, high approval of restrictions was expressed by 93.4-98.7% of respondents. In the age segment 13-25, only 55.7% of respondents indicated high approval of restrictions (Table 2). The age differences in

**Table 2. Support for tobacco sales prohibitions by the demographic factors**

	N total	High support %	Bivariate logistic regression			Multiple logistic regression		
			Odds ratio	CI95%	Sign. P	Odds ratio	CI95%	Sign. P
Age								
13-25	264	55.7	1.00		<.001	1.00		<.001
26-35	307	79.2	3.02	2.09-4.36	<.001	2.85	1.81-4.47	<.001
36-45	334	93.4	11.29	6.88-18.53	<.001	9.94	5.68-17.40	<.001
46-55	298	98.0	38.74	16.66-90.09	<.001	28.32	11.72-68.43	<.001
56-70	385	98.7	60.49	24.23-151.04	<.001	43.87	16.41-117.26	<.001
Gender					.954			
Female	923	86.6	1.00			1.00		
Male	665	86.5	0.99	0.74-1.33	<.01	1.19	0.81-1.76	.379
Highest completed education								
Primary or secondary school	494	85.4	1.00			1.00		
Middle college	571	83.9	0.89	0.64-1.24	.490	0.66	0.42-1.04	.073
University, post graduate degree	523	90.4	1.61	1.10-2.37	<.05	0.97	0.57-1.63	.901
Household income last month					.380			.792
Low (100-400 Gel., about 50-200 Euro)	458	86.7	1.00			1.00		
Middle (401-800 Gel., about 201-400 Euro)	571	87.4	1.07	0.74-1.54	.736	1.22	0.78-1.88	.383
High (401+ EURO)	540	85.9	0.94	0.65-1.35	.730	1.23	0.79-1.91	.360
Not applicable	19	73.7	0.43	0.15-1.24	.118	1.09	0.26-4.50	.909
Tobacco use					<.001			<.001
Smoke daily	449	84.2	1.00			1.00		
Smoke less than daily	205	54.6	0.23	0.16-0.33	<.001	0.58	0.37-0.92	<.05
Smoked cigarettes regularly in the past	96	97.9	8.83	2.13-36.64	<.01	1.85	0.40-8.53	.428
Never smoker	838	94.3	3.09	2.10-4.55	<.001	4.18	2.63-8.63	<.001

Percentages from crosstabs (bivariate analyses) and results from binary multiple logistic regression.

Low support is agreement with three or fewer of eight types of sales prohibitions.

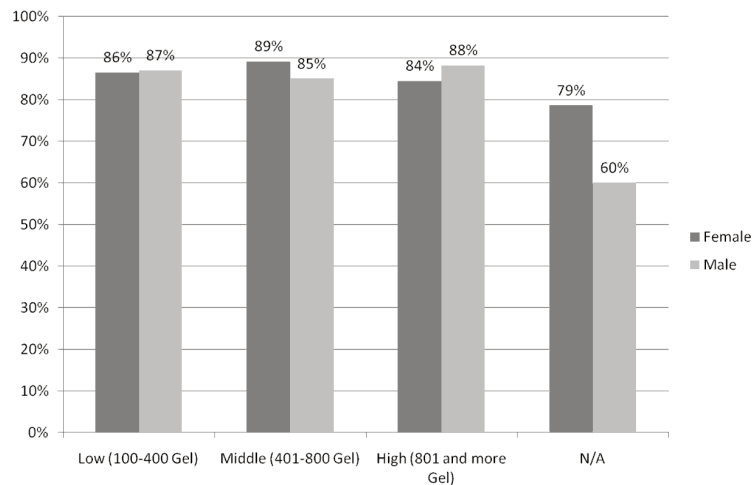
High support is agreement with four or more sales prohibitions.

level of support for restrictions were statistically significant, as shown in the Table 2.

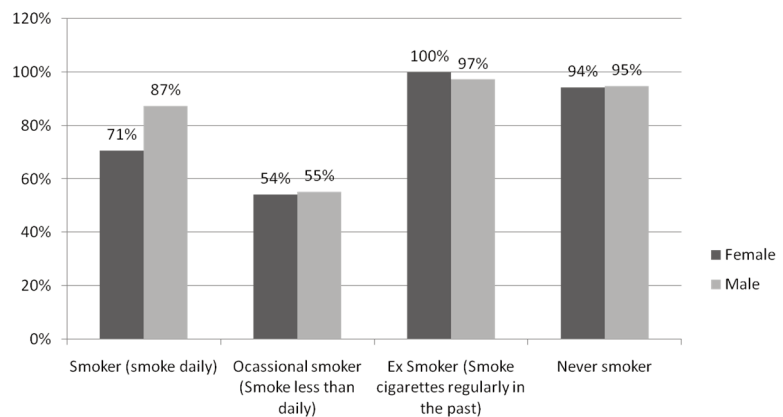
Among never- or ex-smokers, high approval of restrictions was indicated by 94.3% to 97.9% of respondents. Occasional smokers were less supportive of restrictions than were current smokers. These differences in approval were statistically significant, as shown in the Table 2. Bivariate analysis showed that support for restrictions was significantly higher among those with university or post-graduate degree. There were no statistically significant differences in levels of support for restrictions by gender and household income level.

The results of the multivariate binary logistic regression analysis roughly confirms the associations with age and smoking behavior described above. However, after controlling for age, ex-smokers are no longer different from daily smokers, and the association with education is no longer significant (Table 2).

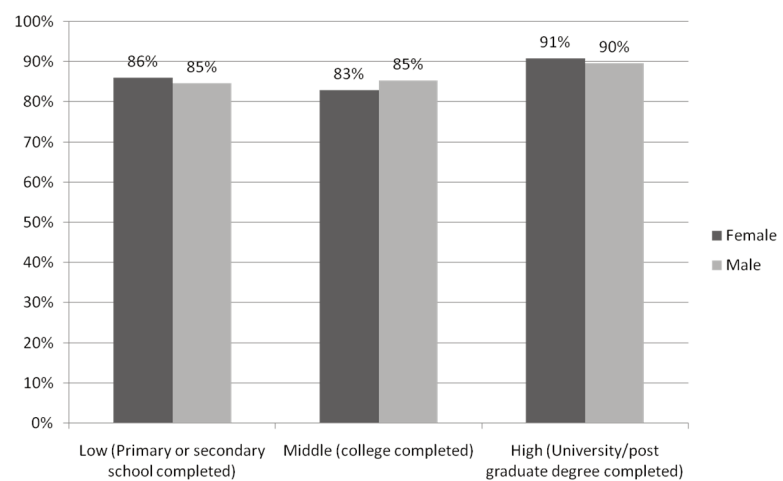
Figures 1-4 provide a further breakdown of the composite measure of approval of restrictions, with age by gender tabulations given in Figure 1, showing no gender differences by age. As shown in Figure 2, approval levels were lowest among occasional smokers. Perhaps the most noteworthy data in Figure 2 pertain to smokers' approval of restrictions, with levels of 71% among women and 87% among men. Figure 3 shows no education differences between males and females in levels of approval for restrictions. Figure 4 shows similarly high levels of approval for restrictions for income level for both women and men, but lower levels of approval among those who did not provide income data.



**Figure 1. Percent of females and males supporting four or more of eight tobacco products sales prohibitions, by age.**



**Figure 2. Percent of females and males supporting four or more of eight tobacco products sales prohibitions, by smoking status.**



**Figure 3. Percent of females and males supporting four or more of eight tobacco products sales prohibitions, by education.**

**DISCUSSION**

This study presents new data suggesting that a majority of the Georgian population strongly supports restrictions to prevent youth access to tobacco. In fact, such restrictions already exist in Georgia de jure, but there is a very low level of implementation and enforcement. This is deplorable, since restrictive youth access laws are most effective when administered in a comprehensive manner. Restricted accessibility of tobacco products is particularly important to prevent an eventual first use of tobacco (Ashley, et al., 2000).

The point has been made that beyond sales restrictions, it is also important to prevent adolescents from acquiring cigarettes through noncommercial sources (Laforge, et al., 1998). Yet the importance of commercial restrictions cannot be overemphasized. Global Youth Tobacco Survey data analyses show that 61.7% of youth aged 13-15 who smoke cigarettes usually purchase their cigarettes in stores. In European countries, seventy percent of youth who attempted to purchase cigarettes in a store were not refused a purchase because of

their age, during the month preceding the survey (Warren, et al., 2008).

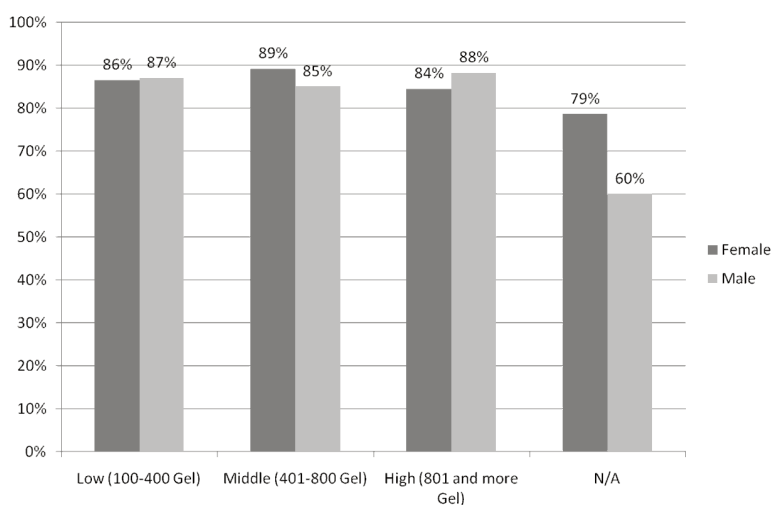
According to the WHO, the World Bank and several relevant studies, raising taxes and sales restrictions on tobacco products are among the measures aimed to reduce tobacco consumption (Pederson, et al., 1987; Andreeva, 2005; Rimpela & Aaro, 1993; Castrucci, et al., 2002; WHO, 2004; Jha & Chaloupka, 2000). Turning to the situation in Georgia, since May 15, 2006, the WHO Framework Convention on Tobacco Control (FCTC) entered into force in the country, with Article 16 prohibiting sales of tobacco to and by minors, and other related measures (WHO, 2005; WHO, 2012). However, after six years since Georgian ratification of the FCTC, enforcement has been poor due to little political and administrative will to deal effectively with those who violate the law (WHO, 2007; WHO/Euro, 2007).

Summing up the situation in Georgia, it seems evident that the political environment is ripe for renewed advocacy to penalize sales of tobacco to minors. Yet as mentioned in the introduction, the tobacco in-

dustry and their lobbyists present a huge barrier to the successful implementation of tobacco control regulations in Georgia; the industry works actively to hinder the enforcement of laws and regulations dealing with tobacco sales prohibition, in part by efforts to influence public opinion in many countries (Muggli, et al., 2003). They hope to turn public opinion to their side, to counter public health's concentrated assault on youth access to tobacco products (Forster & Wolfson, 1998).

The potential relevance of this study's findings for policy processes in Georgia can be probed by considering Kingdon's ideas about policy windows (Kingdon, 2003); does the unique information about public opinion presented in this paper have the potential to open a policy window for tightened regulation and enforcement of sales restrictions to protect youth? Realistically, that will depend on the effectiveness of health advocates' efforts to translate a research publication into advocacy material that can reach the ears, minds and hearts of decision-makers.

Yet there is one aspect that should not be overlooked – there may be few public issues, indeed, in which a strong majority of the public expresses such uniform support, as is found in the present data. Guessing cautiously, one might have expected strong support for some restrictions, modest support for others and low support for yet other restrictions. But that is not the case; pick any restriction and the large majority in this study supports it. Beyond that they support virtually all of the restrictions, and there is evidence that very high levels of public support can have rather direct impact on the enactment of legislation restricting youth access to tobacco (Howlett & Ramesh, 2003).



**Figure 4. Percent of females and males supporting four or more of eight tobacco products sales restrictions, by income.**



### Strengths and limitations

Strengths of this study that are worth noting are the representativeness of the sample and the high response rate. Regarding measurement, the internal consistency of the items regarding attitudes towards sales restrictions is very high, the advantages of which have already been mentioned. On the other hand, the attitude items have not been used in previous research, nor were their psychometric properties tested in a pilot study. Whether the high internal consistency observed in this study would be replicated in other populations is therefore a matter for speculation that only future research could illuminate.

### Further research

This study shows that the normative attitude in Georgia supports tobacco sales restrictions, almost overwhelmingly. However, for many controversial issues in which strong vested interests are at stake, communication via the media may help twist the public's perceptions about what is normative and what is not. That is because the media emphasise 'news', and what is news is often uncommon experiences and controversial positions on issues. For example, even if the majority of users of a particular hospital are quite satisfied with the level and quality of medical service, media stories about just a few instances of bad treatment in the hospital may give readers the impression that the level of satisfaction with the service is lower – perhaps much lower – than it actually is. Similarly, media reports of serious crime in a community may give the public the impression that crime is a much more serious problem than it actually is.

The relevance of this kind of norm distortion to tobacco control gener-

ally, and to attitudes toward tobacco sales restrictions in particular, is that decision-makers are also members of the public, and they may be prone to misjudge public opinion about issues in which a loud minority manage to make a lot of news. If some smokers, or tobacco retailers, or cigarette manufacturers complain in the media about abuses of their freedoms due to tobacco control, decision-makers may perceive that support for tobacco control is lower than it actually is. That would enhance the importance of studies like this one, which report relatively unbiased estimates of public support for tobacco control.

However, in the case of Georgian decision-makers, no research on their perceptions about public opinion regarding tobacco control has been undertaken, as far as we are aware. To explore this issue it would be useful to complement studies like this one with studies of decision-makers' perceptions about public opinion. One can only speculate what the findings would be, but if there is a large disconnect between what the public supports and what decision-makers think they support, that be news-worthy, indeed.

### CONCLUSION

The findings of this study show that all eight tobacco sales restrictions have a high level of public support in Georgia. We interpret this as public demand for the government to enforce the already existing restrictions and regulations, to establish new restrictions on tobacco sale at non-licensed outlets, and increase penalties for violations of restrictions.

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### REFERENCES

Anderson J, E. (2006). Public Policymaking. Wadsworth, Belmont, USA.

- Andreeva, T. (2005). Tobacco in Ukraine: national survey of knowledge, attitudes and behavior. A survey of Ukrainian population by Kiev International Institute of Sociology commissioned by the International Centre for Policy Studies, 71.
- Ashley, M., Cohen, J., Bull, Sh., Ferrence, R., Poland, B., Pederson, L., & Gao, J. (2000). Knowledge about tobacco and attitudes toward tobacco control. How different are smokers and nonsmokers? *Canadian Journal of Public Health*, 91(5), 376-80.
- Bakhturidze, G., et al. (2008). Population survey on tobacco economy and policy in Georgia. FCTC Implementation and Monitoring Center in Georgia, 4-22.
- Borland, R. (2006). Support for and reported compliance with smoke-free restaurants and bars by smokers in four countries: findings from the International Tobacco Control (ITC) Four Country Survey. *Tobacco Control*, 15, iii34-iii41.
- Brenner, H., et al. (1997). Smoking Behaviour and Attitude Toward Smoking Regulations and Passive Smoking in the Workplace. *Preventive Medicine*, 26, 138-143.
- Brooks, D. (2001). Support for smoke-free restaurants among Massachusetts adults, 1992-1999. *American Journal of Public Health*, 91(2), 300-303.
- Castrucci, B. C., Gerlach, K. K., Laufman, N. J and Orleans, T. C. (2002). Adolescents' acquisition of cigarettes through noncommercial sources. *J Adolesc Health*, 31, 322-6.
- Field, A. (2009). Discovering Statistics using SPSS. 584-626.
- Forster, J. L., & Wolfson, M. (1998). Youth access to tobacco: policies and politics. *Ann Rev Public Health*, 19, 203-35.
- Georgian Law on Tobacco Control, updated in December 15, 2010. Retrieved from <http://www.tobaccocontrollaws.org/files/live/Georgia/Georgia%20-%20TC%20Law%202010.pdf>
- Gilmore, A., Pomerleau, J., McKee, M., Rose, R., Haerpfner, Ch., Rotman, D., & Tumanov, S. (2004). Prevalence of Smoking in 8 Countries of the Former Soviet Union: Results From the Living Conditions, Lifestyles and Health Study. *American Journal of Public Health*, 94(12), 2177-87.
- Howlett, M., & Ramesh, M. (2003). Studying public policy – policy cycles and policy subsystems. Oxford University Press, 129, 163, 185-204.
- Jha, P., & Chaloupka, F. (2000). Tobacco control in developing countries. Oxford University Press, New York, 46-61.
- Kinder, D., & Sears, D. (1985). Public Opinion and Political Action. The Handbook of Social Psychology, II, 659-741.
- Kingdon, J. (2011). Agendas, Alternatives, and Public Policies. Longman classics in political science, 196-208.
- Kingdon, J. W. (2003). Agendas, Alternatives and Public Policies, 2nd ed. Longman, New York.
- Laforge, G. R., Velicer, F. W., Levesque, A. D., Fava, L. J., Hill, J. D., Schofield, E. P., Fan, D., Vries, H., Shisana, O. W., & Conner, M. (1998). Measuring support for tobacco control policy in selected areas of six countries. *Tobacco Control*, 7, 241-246.
- Lam, T. H., et al. (2002). Public opinion on smoke-free policies in restaurants and predicted effect on patronage in Hong Kong. *Tobacco Control*, 11, 195-200.
- Muggli, M., Hurt, R., & Blanke, D. (2003). Science for hire: A tobacco industry strategy to influence public opinion on secondhand smoke. *Nicotine & Tobacco Research*, 5, 303-314.
- National Statistics Office of Georgia. (2012). Retrieved from [http://www.geostat.ge/index.php?action=page&p\\_id=152&lang=eng](http://www.geostat.ge/index.php?action=page&p_id=152&lang=eng)
- Novotny, T., & Mamudu, H. (2008). Progression of tobacco control policies: Lessons from the United States and Implications for Global Action. World Bank publications.
- Pallant, J. (2007). SPSS Survival Manual. Open University Press, 118-200.
- Pederson, U., Bull, Sh., Ashley, M., & Lefcoe, N. (1987). A Population Survey in Ontario Regarding Restrictive Measures on Smoking: Relationship of Smoking Status to Knowledge, Attitudes and Predicted Behaviour. *International Journal of Epidemiology*, 16(3).
- Rigotti, N. A., et al. (2003). Students' opinion of tobacco control policies recommended for US colleges: a national survey. *Tobacco Control*, 12, 251-256.
- Rimpela, A., & Aaro E. L. (1993). The effects of tobacco sales promotion on initiation of smoking – experiences from Finland and Norway. *Scand J Social Med*, 49, 5-23.
- Stein, E., et al. (2005). The Politics of Policies: Economic and Social Progress in Latin America. Inter-American Development Bank, Washington, D.C.
- Trotter, L., & Mullins, R. (1996). Environmental tobacco smoke: Surveys of restaurant patrons and hospitality industry personnel. *Quit Evaluation Studies*, 9, 27-41.
- Walsh, R., et al. (2002). Environmental tobacco smoke in homes, motor vehicles and licensed premises: community attitudes and practices. *Australian and New Zealand Journal of Public Health*, 26(6), 536-542.
- Warren, Ch., Jones, N., Peruga, A., Chauvin, J., Baptiste, J-P., Costa de Silva, V., Awa, F., Tsouros, A., Rahman, Kh., Fishburn, B., Bettcher, D., & Asma, S. (2008). Global Youth Tobacco Surveillance, 2000—2007. *Morbidity and Mortality Weekly Report (MMWR)*, Centers for Disease Control and Prevention, 57(SS01), 1-21.
- WHO (2004). European Strategy for Smoking Cessation Policy. European Tobacco Control Policy Series, WHO, 4-29.
- WHO (2005). WHO Framework Convention on Tobacco Control. WHO, Geneva, 1-16. Retrieved from [http://www.who.int/tobacco/framework/WHO\\_FCTC\\_english.pdf](http://www.who.int/tobacco/framework/WHO_FCTC_english.pdf)
- WHO (2007). Protection from exposure to second-hand tobacco smoke. Policy recommendations. WHO, 2-35.
- WHO (2007). The European Tobacco Control Report. WHO, Copenhagen, 12-85.
- WHO (2012). Parties to the WHO Framework Convention on Tobacco Control. Retrieved from [http://www.who.int/fctc/signatories\\_parties/en/index.html](http://www.who.int/fctc/signatories_parties/en/index.html)
- WHO (2012). WHO Global Report – Mortality attributable to tobacco. WHO, Geneva, 2-14.