Tobacco sales to underage buyers in France: findings from a mystery shopping study

Christian Ben Lakhdar, Xavier Elharrar, K. Gallopel-Morvan, F.-C. Wolff

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Christian BEN LAKHDAR

University of Lille, LEM UMR 9221 CNRS, FSJPS, 1 place Déliot, 59000 Lille, France.

Corresponding author. Email: christian.ben-lakhdar@univ-lille.fr

Xavier ELHARRAR

Service Maladies Respiratoires – CH Aix en Provence, Avenue des Tamaris, 13100 Aix-en-Provence, France.

Email: xavierelharrar@hotmail.com

Karine GALLOPEL-MORVAN

EHESP School of Public Health, Avenue du Professeur-Léon-Bernard, CS 74312, 35043 Rennes Cedex, CREM UMR 6211 CNRS, Rennes, France.

Email: Karine.Gallopel-Morvan@ehesp.fr

François-Charles WOLFF

University of Nantes, LEMNA and TEPP, BP52231, Chemin de la Censive du Tertre, 44322 Nantes Cedex, France

Email: francois.wolff@univ-nantes.fr

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Abstract

Objectives:

In 2017, one in four French 17-year-olds was a daily smoker, even though France prohibited the sale of tobacco to under-18 minors in 2009. This research aims to evaluate the retail violation rate for sale to minors (RVRm) and the associated factors.

Study design: Observational mystery shopping study.

Methods:

We conducted a mystery shopping study enlisting 12-year-old and 17-year-old youths in a representative sample of 527 tobacco outlets during three weeks in spring 2019. Multinomial Logit and Probit regressions were estimated on the data collected.

Results:

The law is not respected. Two out of three sellers (65.2%) were willing to make an illegal sale to a 17-year-old minor, and almost one in 12 (8.1%) were willing to sell to a 12-year-old child attempting to buy tobacco. Illegal sales were more likely to be made by male sellers, retailing in big cities, when there were no in-shop queues, and to 17-year-old females. The absence of the mandatory enforcement poster flagging up the ban on the sale of tobacco to minors appears to be a strong factor associated with RVRm.

Conclusions:

These findings show that progress needs to be made to better enforce tobacco control legislation in order to help decrease underage smoking in France. Rate of compliance with

the law could be improved by stronger enforcement measures and tougher sanctions, but also by training and the provision of age-verification tools for sellers, as demonstrated by experiments in other countries.

Key words: tobacco; underage sales; mystery shopper; France

Introduction

Smoking is the leading cause of preventable death worldwide. Every year, more than 8 million people die from tobacco use, and a billion premature deaths attributable to smoking are expected over the course of this century (1). However, smoking is still prevalent in many European countries, and particularly France, even after having implemented the main measures of the World Health Organization's Framework Convention on Tobacco Control (WHO FCTC) and despite the effectiveness of these measures (2). Even though smoking rates have started to decline in recent years, 32% of French people were smokers in 2018 (3), which is still twice as high as in Australia or the United States and higher than Belgium (19%), Germany (25%) and Spain (28%), and above the European average (26%) (4).

Controlling youth access to tobacco is one of the most crucial tobacco control measures to curb this epidemic. As emphasized by the WHO FCTC and others, the ban on the sale of tobacco to minors aims to prevent young people starting smoking and help the youngest smokers to quit (5–8). Every intervention that has successfully disrupted the sale of tobacco to minors has been associated with an observed reduction in tobacco use by youth (9). With that vision, in 2009, France opted to strengthen the blanket ban on the sale of tobacco to minors by increasing the minimum age from 16 up to 18 years old. This law ushered in various obligations for retailers, including asking for proof of age (ID) if the seller has any doubt about the age of a customer. Sellers were also required to have a clearly visible poster stating the ordinance and law prohibiting sales of tobacco to under-18s (10).

However, the most recent adolescent population survey still reported a high prevalence of smoking among under-18s in France. In 2017, 59% of 17-year-olds reported having smoked at least one cigarette in their lifetime, 34.1% admitted tobacco use in the 30 days preceding

the survey, and one in four reported being daily smokers. Despite the law banning tobacco

sales to minors, easy access for young people to tobacco products remains an issue in

France, with 94% of 17-year-old French smokers reporting that they can easily buy tobacco

from official retailers (11).

In order to assess enforcement of this law, the national tobacco control fund (*Fonds de Lutte*

contre le Tabac) commissioned a French NGO called *Comité National Contre le Tabagisme*

(National Committee for Tobacco Control) to conduct a mystery shopping study. The study

was designed to evaluate the retail violation rate for sale to minors (RVRm) and the

associated factors. This methodology was selected due to its effectiveness in checking

compliance with the law and its control of known biases. Mystery shopper methodology is a

well-established and evaluated market research tool commonly used to study selling age-

restricted products to young people (8,12–24). This approach could usefully inform public

policy by highlighting key characteristics of tobacco outlets and underage buyers for control,

training and prevention policy to prioritize.

Methods

A mystery shopping study was designed to estimate the RVRm and the associated factors.

Design

Cross-sectional data were collected over a three-week period in spring 2019. Sampling was

stratified by type of tobacco outlet (tobacconist, tobacconist–newsagent, bar–tobacconist,

bar–tobacconist–newsagent), size of town and region (the study covered every region of

mainland French except Corsica) to obtain a representative sample of French tobacco

outlets. In France, tobacco outlets have a monopoly on the sale of tobacco products. No other stores (like supermarkets) can sell cigarettes, and cigarette vending machines are prohibited. We selected 527 tobacco outlets from a total of 14,000 tobacco vendors listed by the Ministry of Economy and Finance to conduct 527 purchase attempts by either 12-year-old (N=260) or 17-year-old (N=267) male or female mystery shoppers.

Sample size was determined using 2019 figures for the number of French young adults aged 12 (N=848,005) and 17 (N=841,386). Using a 95% confidence level and a margin of error of six gives approximate sample sizes of N=260 for 12-year-olds and N=267 for 17-year-olds. BVA, a market research and consultancy institute that has no competing interests with the tobacco industry, conducted the mystery shopping study. The steering committee (including agents from the French public health authorities) validated that the ethics and methodology of the study were sound. Parental consent to participate was obtained for all minors, who received a financial incentive for their participation.

BVA purpose-trained and assigned experienced adult mentors to discreetly accompany the mystery shoppers (minors aged either 12 or 17 yo). Their role was to ensure that the purchase attempt went smoothly and to note the existence of a sign flagging the ban of tobacco sales to minors. Before the attempt, the adults recruited and trained young people to participate in the compliance checks. During the purchase attempt, the adults bought confectionary or chewing gum in order to look like ordinary customers. Minors were instructed to not wear makeup or clothes that would make them appear older, to take their ID card with them, and to make their purchase attempts in unfamiliar tobacco outlets. Minors never completed the tobacco purchase, even if the seller was willing to sell—they simply claimed they did not have enough money, and left the shop. The mystery shopping procedure is described in Figure 1.

[Figure 1]

Immediately after the attempted purchase of a cigarette pack, the minor and the mentor completed a questionnaire compiling various items including location of the tobacco outlet, type of outlet, presence/absence of the legal ban enforcement poster, whether or not the seller asked for the minor's age and/or ID card, and whether or not the sale was about to be completed.

The law clearly stipulates that tobacconists are to request ID if they are in any doubt as to a customer's age. Nevertheless, due to ignorance of the law, some sellers may only ask for age without requiring proof of ID, which is why the questionnaire also captured this information. Table 1 reports descriptive data on the main variables used in the empirical analysis.

[Table 1]

Data analysis

RVRms were calculated as the ratio of sellers willing to sell tobacco to total number of attempted purchases. As the results focused on both the seller's reaction (as the law obliges the seller to ask for the buyer's age and ID) and his/her decision-making (as cigarette sale to minors is forbidden), we ran two econometric analyses. The first analysis used multinomial Logit regressions to get the odds ratios of factors associated with the seller asking for age only, ID only, or both age and ID (the reference category is no age-check effort). The second

analysis used a Probit model to investigate the factors associated with the seller's decision to sell or refuse cigarettes.

Results

RVRm

Faced with an underage mystery shopper, 62.2% of sellers made no effort to check age, 18.2% asked the customer their age without requiring ID, and only 19.6% asked for proof of ID. After the minor had responded to their request and, if necessary, given a false pretence (making the purchase for their mother or father) in an attempt to buy the cigarettes, 62.6% of sellers refused to sell cigarettes to the minor while 37.4% agreed to make the illegal sale. Among the 328 sellers who did not ask for any confirmation of age, 46.3% sold cigarettes and 53.7% declined.

Results differed according to the age of the minors. When the mystery shopper was a 12-year-old, 68.9% of sellers did not ask for the shopper's age or ID, 16.9% asked for the shopper's age without requiring ID, and 14.2% asked for ID. After the minor either presented his/her ID card or lied by claiming he/she was 18 years old or tried to buy the cigarettes under a false pretence, 8.1% of sellers agreed to sell cigarettes to the minor, and the other 91.9% refused to sell in all cases.

When the mystery shopper was a 17-year-old, 55.8% of sellers did not ask for the shopper's age or ID, 19.5% asked for the shopper's age without requiring ID, and 14.2% asked for ID. Still following the protocol, either after claiming to be 18 years old or having presented

his/her ID and tried to buy the cigarettes under a false pretence, 65.2% of tobacco sellers agreed to sell cigarettes to the minor, and the other 34.8% refused to sell.

Factors associated with RVRm

The sellers' reactions differed according to several factors (Table 2). Sellers were twice as likely to ask for age, 3.4 times more likely to ask for ID, and almost 6 times more likely to ask for age and ID from a 17-year-old shopper compared to a 12-year-old shopper. Sellers were less likely to ask for age and ID when the tobacco outlet was in a city of 15,000 inhabitants or more. Mystery shoppers who were smokers also got asked much less for their age and ID.

[Table 2]

Concerning the sellers' reactions to 12-year-old mystery shoppers, age and ID checks decreased very sharply when the attempted purchase was made after 4 pm compared to in the morning. Conversely, age and ID checks increased very strongly when the outlet was located in a 'priority neighbourhood' (socio-economically deprived area). The factor that seemed to most influence asking for ID or for both age and ID is seller gender: frequency of age and ID checks increased very strongly when the seller was a woman.

Concerning sellers' reactions to 17-year-old mystery shoppers, female sellers asked for the shopper's age significantly more but asked for ID significantly less. Being a smoker also significantly reduced the likelihood of a minor being asked for age and ID. Time of purchase had an influence, since shoppers were more often asked for their age in mid-afternoon compared to morning.

For both groups of underage shoppers, the type of outlet, presence of the mandatory ban enforcement poster, proximity of a middle/high school, and presence of a queue did not influence the behaviour of the sellers.

The final sale decision partially followed the factors associated with the sellers' reactions (Table 3). Sellers were more willing to sell to a 17-year-old minor, especially to girls, and less willing to sell to 12-year-old girls. Furthermore, when the mystery shopper was a smoker (no 12-year-old smokers in our sample), it significantly increased the seller's readiness to sell them cigarettes. Female sellers were less likely than male to sell cigarettes to a 12-year-old shopper. Size of the town is a factor: the bigger the city, the more the sellers were willing to sell cigarettes to minors. The decision to sell was not affected by time of the attempted purchase. Sellers were less likely to sell cigarettes to minors when there were other people waiting in the queue.

[Table 3]

Type of outlet, proximity of a school, or being located in a priority neighbourhood had no effect on the seller's decision. However, the presence of the mandatory ban enforcement poster appeared to be strongly associated with refusal to sell tobacco to a minor.

Discussion

Results from this mystery shopping study show that the law is not respected in France. Two out of three sellers were willing to sell cigarettes to a 17-year-old minor, and one in 12 were willing to sell to a 12-year-old child. These RVRm are associated with various factors.

Many characteristics of the mystery shoppers influenced the results, including smoking status, gender, and age. Other influential covariates included whether the seller was a woman, whether or not the outlet was located in a small town, and whether or not there was a queue in the shop. These variables impacted not only the reactions of sellers but also their final sale decision. Finally, sales were more likely to be made when the mandatory enforcement poster citing the ban on selling tobacco to minors was not visible in the store.

There are several potential explanations for this non-compliance with the law. The penalty for this offense in France may not be enough of a deterrent. Currently, a tobacco seller who fails to comply with the law risks a €135 fine, which is well below penalty levels established in other countries. In the UK, for example, first-time offenders are fined around €3,000 and repeat offenders are fined up to €23,000 and may lose their license or their right to work in a tobacco outlet for 12 months. Ireland has also introduced deterrent punishments, with fines of €400 to €3,000, suspensions of sales licenses and up to 3 months in prison. Both the seller and the storeowner can be sanctioned, and the list of sanctioned retailers is made public. Compared with these neighbouring countries, the French sanction appears to be weak and, consequently, not dissuasive.

Furthermore, the probability of a compliance check in France is very low (25). French law specifies that it is essentially the role of the police to enforce the underage smoking law compliance checks, but after 10 years in existence, only a few sellers have ever been fined for illegal sales. French police are clearly reluctant to carry out this task. Systematic random unannounced inspections by mystery shoppers headed by the Ministry of Health (as in

Quebec) or a public health authority (as in Australia or the USA) may be a policy measure to increase compliance. In the USA, for example, the FDA performs more than 130,000 compliance checks annually. It has been shown that effectively enforcing laws against tobacco sales to minors through regular compliance checks and penalizing retailers that sell to minors can significantly reduce youth smoking (26,27) and is cost-effective (17).

A qualitative study posits that sellers may be uncomfortable carrying out their legal duty (28). Indeed, as our results show, many French sellers do not ask for age or ID. There are many ways to dispel the potential unease surrounding the legal obligation to ask for ID in France. As already done in Ireland (see www.showmeid.ie), the association of French tobacco sellers could organize specific training and awareness campaigns to facilitate execution of the law. For instance, fear appeal campaigns that depict very young people who start smoking because the law is under-enforced could prompt a reaction from tobacco retailers. Such campaigns have been shown to be effective in increasing awareness and behavioural compliance (29). French health authorities could take the FDA's lead and propose specific online training for sellers. Furthermore, the implementation of age-verification systems (AVS) could facilitate age control and improve compliance, as found in the Netherlands. AVS are technical supports for cashier, such as pop-up windows that indicate the minimum accepted date of birth when an age-restricted product is scanned, date-of-birth key-in systems where the seller has to key the customer's date of birth into the cash register system, ID swiper/checkers, or even remote age verification with live video (30,31).

However, even if this non-compliance with French law by tobacco sellers can be partly explained by a lack of training and control tools, there are almost certainly other explanatory factors not highlighted here. Qualitative research using retailer interviews could serve to further explore these barriers to enforcement of underage smoking law. Also, the results of mystery shopper studies also depend on the mystery shoppers recruited: enlisting smokers in our sample clearly influenced the results obtained, which confirms findings from previous studies (13). As underage smokers who behaved normally were more likely to be sold tobacco, the rate of non-compliance may be underestimated, as most underage customers attempting to buy cigarettes are current smokers.

In this study, only 16% of all mystery shoppers were smokers, and all were 17-year-old customers (32%). This proportion is higher than the prevalence of this age group in the general population, where 25% self-report as daily smokers (11). In other words, while our sample was representative of tobacco stores, it was not representative of youth smoking status, as 17-year-old smokers were over-represented.

Other factors could pose limitations to our results. We found that female sellers were less willing to sell tobacco to a 12-year-old client. Our study had a roughly 50/50 split between male and female tobacco sellers, but the actual gender split among tobacco sellers in France remains unknown. Likewise, we found that the presence of a queue in the shop impacts the sales decision: social control and the fear of being reported to the police could explain why sellers are more reluctant to accept a sale in these situations, but it may also be viewed more as a random event than a limitation.

Another limit lies in the fact that we did not account for other possible sources of procuring tobacco, such as the black market, Internet purchases, or through adult acquaintances. Again, this limit warrants some perspective, as a recent representative survey of French teenagers found that 94% of 17-year-old smokers reported that they buy their tobacco in official tobacco outlets (11). Finally, two important issues may be seen either as limits or as a research agenda. First, we did not study e-cigarettes and e-liquids, even though France prohibits the sale of vaping products to under-18s. Second, as shown for alcohol, compliance at outlet level can misrepresent the real availability of products to minors. The time required by an underage shopper to buy the risky product may be another informative indicator, in addition to compliance rate, to describe the availability of age-restricted products (32).

In conclusion, the RVRm in France is still high. Even today, retailers continue to supply adolescent smokers with tobacco products. France still requires effective and efficient implementation of existing enforcement measures in order to curb tobacco sales to minors and thus bring down underage smoking.

Statements of ethical approval

We did not seek ethics committee approval for this research, as our study method is not

deemed medical research. Subjects were not manipulated or negatively affected in any way.

For this reason, this study is exempted under the French "Loi Jardé" (law 2012-300 of 5

March 2012 concerning research involving human subjects) which incorporates the

Declaration of Helsinki principles.

Conflicts of interest

None

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Figure 1. Mystery shopping study protocol.
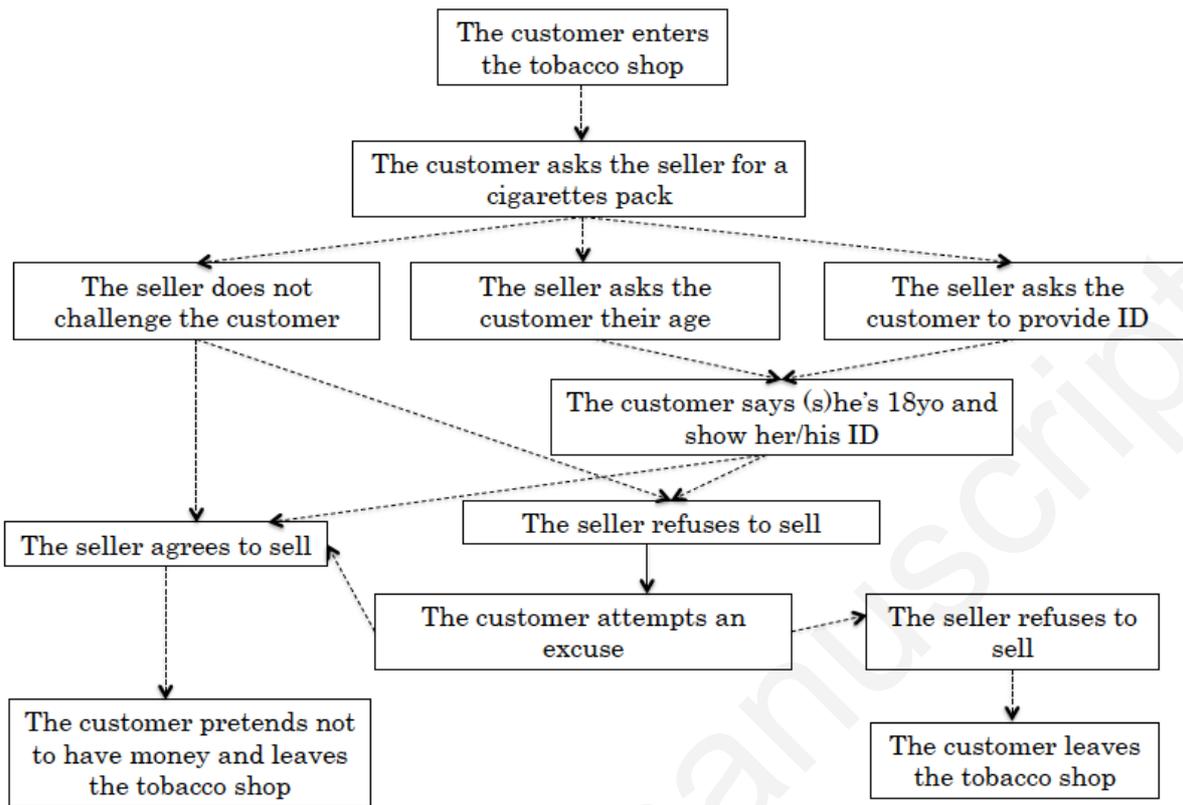
Source: 2019 BVA-CNCT Mystery Shopper Study.

Table 1. Descriptive statistics (%)

Variables		Full sample	12-year-olds	17-year-olds
Mystery shopper characteristics				
Age	12 years old	49.3	100	0.0
	17 years old	50.7	0.0	100
Gender	Male	49.1	48.5	49.8
	Female	50.9	51.5	50.2
Smoker	No	83.7	100	67.8
	Yes	16.3	0.0	32.2
Outlet characteristics				
Type of outlet	Tobacconist–newsagent	50.3	49.2	51.3
	Bar–tobacconist	49.7	50.8	48.7
Ban enforcement poster	Not present	27.1	26.9	27.3
	Present, non-compliant	1.5	8.0	2.2
	Present, compliant, not clearly visible	14.2	12.7	15.7
	Present, compliant, visible	57.1	59.6	54.7
Gender of the seller	Male	55.6	56.5	54.7
	Female	44.4	43.5	45.3
Town size	< 3,500 inhabitants	34.5	39.2	30.0
	3,500–14,999 inhabitants	42.5	39.6	45.3
	> 15,000 inhabitants	23.0	21.2	24.7
Distance from a school	< 1 km	49.1	46.5	51.7
	> 1 km	50.9	53.5	48.3
Priority neighbourhood	No	79.3	82.7	76.0
	Yes	20.7	17.3	24.0
Region	Auvergne-Rhône-Alpes	10.1	10.4	9.7
	Bourgogne-Franche-Comté	4.0	4.2	3.7
	Bretagne	5.5	5.4	5.6
	Centre-Val de Loire	3.8	3.8	3.7
	Grand Est	19.0	18.1	19.9
	Hauts-de-France	7.0	6.9	7.1
	Ile-de-France	19.0	19.2	18.7
	Normandie	6.1	6.5	5.6
	Nouvelle-Aquitaine	8.5	8.8	8.2
	Occitanie	7.0	6.9	7.1
	Pays de la Loire	4.7	4.2	5.2
	Provence-Alpes-Côte d'Azur	5.3	5.4	5.2
Context of the attempted purchase				
Time of attempt	Morning	42.5	43.8	41.2
	Midday	16.1	14.6	17.6
	2pm-4pm	22.6	18.1	27.0
	After 4pm	18.8	23.5	14.2
Queuing	No	46.7	45.0	48.3
	Yes	53.3	55.0	51.7
Number of observations		527	260	267

Source: 2019 BVA-CNTC Mystery Shopper Study

Table 2. Econometric analysis of the seller's reaction (multinomial logit, reference = no demand – odds ratios)

Variables		Full sample			12 yo			17 yo		
		Age	Identity cart	Age and Identity cart	Age	Identity cart	Age and Identity cart	Age	Identity cart	Age and Identity cart
Age	17 years old	2.124**	3.494***	5.955***						
		(2.50)	(3.08)	(4.61)						
Gender	Female	1.590*	0.626	1.109	1.092	1.402	1.806	2.644**	0.210**	1.875
		(1.67)	(-1.18)	(0.29)	(0.20)	(0.47)	(0.67)	(2.15)	(-2.19)	(1.25)
Smoker	Yes	0.606	0.000	0.067**				0.730	0.000	0.030***
		(-1.00)	(-0.02)	(-2.44)				(-0.38)	(-0.01)	(-2.97)
Type of outlet	Tobacconist–newsagent	1.352	1.124	1.137	1.646	2.377	1.342	0.987	0.591	0.860
		(1.09)	(0.29)	(0.35)	(1.09)	(1.04)	(0.37)	(-0.03)	(-0.80)	(-0.31)
Ban enforcement poster	Yes	0.733	1.094	0.775	0.428*	0.765	0.466	1.667	3.258	1.984
		(-1.10)	(0.20)	(-0.64)	(-1.75)	(-0.29)	(-0.80)	(1.17)	(1.58)	(1.28)
Gender of the seller	Female	0.972	1.150	1.558	0.689	4.432*	5.770*	1.044	0.669	1.056
		(-0.11)	(0.34)	(1.22)	(-0.81)	(1.79)	(1.94)	(0.11)	(-0.67)	(0.12)
Town size (ref: < 3.500 inhabitants)	3,500–14,999 inhabitants	0.815	0.609	0.459	0.519	0.318	0.225	1.036	0.553	0.955
		(-0.54)	(-0.88)	(-1.42)	(-1.06)	(-1.12)	(-1.15)	(0.06)	(-0.61)	(-0.06)
	>15,000 inhabitants	0.403**	0.310**	0.397*	0.422	0.120	0.280	0.497	0.377	0.867
		(-2.43)	(-2.08)	(-1.83)	(-1.26)	(-1.53)	(-0.98)	(-1.17)	(-1.21)	(-0.21)
Distance from a school	> 1 km	1.188	1.183	1.007	1.054	1.801	0.772	1.492	0.606	1.397
		(0.59)	(0.37)	(0.02)	(0.11)	(0.71)	(-0.34)	(0.89)	(-0.74)	(0.61)
Priority neighbourhood	Yes	1.295	0.859	2.418	2.642	1.772	120.775*	0.367	0.332	0.834
		(0.63)	(-0.21)	(1.44)	(1.44)	(0.36)	(1.68)	(-1.49)	(-0.98)	(-0.24)
Time of attempt (ref: morning)	12am	1.699	1.021	1.354	0.764	1.937	0.602	2.073	0.241	1.866
		(1.34)	(0.04)	(0.63)	(-0.37)	(0.74)	(-0.49)	(1.31)	(-1.18)	(1.02)
	2pm–4pm	1.865*	0.659	0.534	1.676	0.605	0.107	3.284**	0.513	1.044
		(1.79)	(-0.76)	(-1.22)	(0.86)	(-0.45)	(-1.35)	(2.26)	(-0.86)	(0.07)
	After 4pm	2.120*	0.911	0.543	1.708	0.438	0.043**	2.170	1.059	1.171
		(1.91)	(-0.17)	(-1.12)	(0.91)	(-0.68)	(-2.14)	(1.04)	(0.07)	(0.23)
Queuing	Yes	1.030	1.631	1.111	0.760	1.861	0.319	1.550	1.162	1.921
		(0.11)	(1.22)	(0.29)	(-0.63)	(0.84)	(-1.27)	(1.05)	(0.24)	(1.29)
Region		YES	YES	YES	YES	YES	YES	YES	YES	YES
Number of observations		527			260			267		

Source: 2019 BVA-CNTC Mystery Shopper Study. Note: odds ratios from multinomial logit models. Significance levels are 1% (***), 5% (**) and 10% (*), respectively.

Table 3. Econometric analysis of the seller's decision (probit model – marginal effects)

Variables		Full sample	12 yo	17 yo
Age	17 years old	0.598***		
		(9.88)		
Gender	Female	0.095*	-0.058*	0.212***
		(1.78)	(-1.78)	(2.67)
Smoker	Yes	0.325***		0.200
		(2.87)		(1.55)
Type of outlet	Tobacconist–newsagent	-0.002	-0.011	0.029
		(-0.05)	(-0.36)	(0.36)
Ban enforcement poster	Yes	-0.160***	-0.123**	-0.181**
		(-2.64)	(-2.26)	(-2.32)
Gender of the seller	Female	-0.012	-0.058*	0.051
		(-0.23)	(-1.77)	(0.67)
Town size	3,500–14,999 inhabitants	0.176**	0.144**	0.132
(ref: < 3,500 inhabitants)		(2.20)	(2.21)	(1.15)
	> 15,000 inhabitants	0.109	0.298**	0.011
		(1.42)	(2.42)	(0.11)
Distance from a school	> 1 km	0.035	0.048	-0.004
		(0.60)	(1.47)	(-0.05)
Priority neighbourhood	Yes	-0.061	-0.007	-0.042
		(-0.78)	(-0.19)	(-0.35)
Time of attempt	12 a.m.	0.015	0.044	0.031
(ref: morning)		(0.21)	(0.83)	(0.31)
	2pm–4pm	-0.081	-0.049	-0.078
		(-1.17)	(-1.46)	(-0.74)
	After 4pm	0.070	0.012	0.098
		(0.88)	(0.23)	(0.88)
Queuing	Yes	-0.162***	-0.057*	-0.186**
		(-2.98)	(-1.74)	(-2.33)
Region		YES	YES	YES
Number of observations		527	194	243
Observed probability		0.370	0.108	0.617

Source: 2019 BVA-CNTC Mystery Shopper Study.

Note: estimates from probit models. Significance levels are 1% (***), 5% (**), 10% (*), respectively. Decisions after the mystery shopper's pretexted excuse are not included in the probit models on 12-yo and 17-yo youths, but they are included in the full sample.