

Analysis of the promotion of cigarettes at the point of sale and its attractiveness to children

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Abstract

Smoking habit seriously affects public health in a number of direct and indirect ways. The study reported here took place in Brazil and examined the promotional activities of the tobacco industry at the point of sale, with particular reference to their impact on children. Tobacco control policies are generally in place in developed countries, and smokers typically develop the habit while still young. Trained researchers visited a stratified sample of 429 retail outlets in the city of São Paulo, comprising the local equivalents of bars, snack bars, luncheonettes and pubs. Data for analysis were collected by direct observation at the point of sale and interviews with the person deemed to be in charge of the outlet visited. The results indicate that the tobacco industry is displaying its products within full view of children and making use of the sales' incentives offered to the retailer. The findings contribute significantly to the study of the effect of promotion at the point of sale on young smokers and can inform the policy debate on the increasing regulation of tobacco marketing promotional methods.

Introduction

Smoking habit has been cited as one of the greatest single causes of avoidable death (Danaei *et al.*, 2009). In 2005, global deaths related to the use of tobacco numbered 5.4 million. Mathers and Loncar (2006) assert, on the basis of projections of estimates of mortality and burden of disease for 2002 by the World Health Organization (WHO), that the consumption of tobacco will kill approximately 6.4 million people in 2105, equivalent to one-tenth of all the deaths recorded in the world. They also predict that between 7.4 and 9.7 million deaths in 2030 will be tobacco-related. Their conclusions broadly support international health policy seeking to avoid tobacco-attributable deaths.

Studies of addictive consumption have been especially concerned with children's susceptibility to addiction in view of such practices as binge eating (Czaja *et al.*, 2009; Carlisle *et al.*, 2012), compulsive Internet usage and video gaming (Fisher, 1994; Skoric *et al.*, 2009), alcoholism (Price and Emshoff, 1997; McInnes and Blackwell, 2010), and smoking (Wang *et al.*, 2004; Difranza and Richmond, 2008). The rationale for this particular concern lies in the Piagetian theory of cognitive development (Piaget, 1954; Piaget and Inhelder, 1956), which attests that children are not entirely able to apply logical and abstract reasoning to problems until their early teens. They should not therefore be exposed to promotional material intended for adults because they will not yet have the cognitive ability to understand its persuasive intent (Zubairi *et al.*, 2012). This claim is corroborated by a study in the Netherlands (Rozendaal *et al.*, 2009), which assessed whether or not children's cognitive defences (recognition of advertising as

such and of its commercial intention) are effective in reducing their susceptibility to advertising effects. The findings were that, among 10–12-year-olds, only an understanding of the persuasive intent of advertising diminished the effect of advertisements on their desire for the product advertised; simple awareness that a communication was an advertisement did not. Among those aged between 8 and 10, however, failure to understand the persuasive intent actually increased the impact of advertising.

Based on a broad-scale review of the literature relating to the consumer socialization of children, John (1999) concluded that it is throughout childhood that children develop the knowledge, skills, and values that will influence their purchasing behaviour in the future. Children are exposed to cigarettes during their infancy in different ways, such as by seeing adults smoking around them or cigarette displays at retail outlets. Sargent *et al.* (2001) assessed a sample of films shown between 1988 and 1997, finding that tobacco brands made an appearance in 20% of those made for a child audience, 32% that were directed at adolescents and 35% in those for adults. Given that individuals are socialized into their roles as consumers from an early age, such exposure can be expected to influence children's and adolescents' first smoking experiments. In the US, Freeman *et al.* (2009) found that the understanding among 7–12-year-olds that cigarette advertising promotes specific cigarette brands was positively related to their propensity to smoke. For the majority of smokers, nicotine dependence begins early in life. A study of Brazilian adolescents (Malcon *et al.*, 2003) found that more than half (55%) had started smoking at between 13 and 15 years of age, while almost a further quarter (22.5%) had begun at between 11 and 12. Zanini *et al.*

(2006) estimated that 90% of Brazilian smokers had become dependent on nicotine when between 5 and 19 years old. The lower levels within these age ranges are of course well below the age at which young people are legally permitted to buy cigarettes – for example: 18 in 46 of the States of the US and 19 in the other four; 18 in all but six of the countries of the European Union, where it is 16; 18 in Brazil; 18 in India; and 20 in Japan. In view of the average age at initiation, the smoking habit is considered to be a paediatric disease (American Academy of Pediatrics, 2009), and because it is chronic and is responsible for the high incidence of deaths attributable to cancer or cardiac, cerebral, and respiratory disease.

Among the health policies accorded top priority by the WHO with regard to the cessation of the smoking habit is the prohibition of the advertising and promotion of tobacco products. This unavailability of traditional forms of promotion, such as television advertising, has increased the strategic importance to the manufacturers of initiatives at the retail premises where tobacco products are sold, as a means of communicating brand imagery (Hickling and Miller, 2008). The WHO has issued specific directives intended to prohibit such point-of-sale promotion, which are deemed to encourage tobacco consumption: product displays, promotional material and advertising, and the display of tobacco products where they can be seen by the shopper (WHO, 2011).

Research objectives

Given the concern with the promotion of smoking, especially among children, and the potential of point-of-sale promotion to stimulate the purchase of tobacco products, this research project had two key objectives. First, it sought to evaluate the actual influence of the tobacco industry's use of product display plus promotional materials and sales incentives at the point of sale. Second, it sought to assess the attractiveness to children of the industry's products on the premises of retailers who sell tobacco products. 'Children' was defined as those aged under 12, before they reach the stage of development that Piaget described as 'formal-operational'.

Four specific research questions were posed:

RQ1: Where do retail premises selling cigarettes display cigarette packs and promotional materials at their point of sale?

RQ2: How visible to children are cigarette packs and promotional materials at retail premises selling cigarettes?

RQ3: What do managers of retail premises selling cigarettes say about the types of promotional materials and incentives used by tobacco manufacturers to promote cigarettes at the point of sale?

RQ4: To what extent do cigarettes compare in terms of their display at the point of sale, promotion, incentives to buy, and visibility to children, with other types of products (such as soft drinks and chocolates)?

Conceptual background

In the rest of this paper, 'point of sale' (sometimes described as 'point of purchase') will be contracted to 'POS', whether used as a noun or an adjective.

The influence of sales ploys on children at the POS

POS promotion has been shown to be effective in encouraging the consumption of cigarettes, especially among younger shoppers. In the UK, MacFadyen *et al.* (2001) found that the probability of a 15–16-year-old becoming a smoker was significantly associated with high levels of awareness, perception and involvement with respect to POS promotion of tobacco products, specifically the presence of display placards and panels within a store, gift offers, and price discounts. Such promotion is a standard feature of the kinds of retail outlets that are regularly frequented by children and young people. In the US, for example, Feighery *et al.* (2001) recorded its presence in 94% of 585 retail stores surveyed. Hoyer (1984) had previously argued that shoppers buying low-involvement items, such as those commonly found in such retail stores, tend to create simple choice rules that allow them to make the purchase effortlessly. It is to be expected that this situation will apply in the case of most consumers who routinely buy at convenience stores, 'drugstores' in the US, 'newsagents and tobacconists' in the UK, neighbourhood 'bars' and cafés in Europe, and news-stands in most countries. Many such consumers will tend to patronize the same shops for the same kinds of purchase and will thereby be exposed to the same packaging and POS promotion over time, including that for tobacco-related products. The literature review informing the design of the study reported here shows that the effect of long-term exposure to marketing communication tools at the POS can influence smoking behaviour. A study of the effect of retail tobacco promotional activities on adolescent smoking in the US by Henriksen *et al.* (2004) found that two-thirds of the more than 2000 high school students surveyed frequented a convenience store, bar or grocery store at least once a week, and that this habit was associated with a 50% increase in the probability of their smoking at some time in their lives.

Exposure to tobacco-related displays, advertisements and packaging at the POS most frequently visited engenders a certain familiarity with the smoking habit, which may contribute to the predisposition to become smokers. Hastings *et al.* (2008) questioned 1078 11–16-year-olds in the UK about their intention to smoke and the brands they remembered having seen on display at the POS. Each brand recalled corresponded to a 35% increase in the probability of a declared intention to smoke. A survey of 605 14–15-year-olds in Australia by Wakefield *et al.* (2006) found that the presence of cigarettes on display increased their perception that they are easily accessible products, diminished their perception that they would be asked to present some proof of age in order to buy them, and increased their perception of the number of shops that might be willing to sell them cigarettes. Wakefield *et al.* (2008) later studied the influence of POS cigarette displays on impulsive purchasing in Australia, finding that about a quarter of smokers bought cigarettes on impulse when shopping for other items, just because they saw them on display.

The display of cigarettes at the POS furthermore makes it more difficult for smokers to abandon the habit, as demonstrated by two more Australian studies. Analysing the influence of POS promotion on cessation behaviour, Germain *et al.* (2010) found that smokers with a high level of sensitivity to displays of the product at the POS were less willing or able to stop. Burton *et al.* (2011) assessed the effect of retail displays on the buying and smoking

habits of current smokers and those who intended to give up the habit. They found that, even among respondents who did not buy cigarettes, those who saw them for sale were more likely to smoke and smoked more than those who did not.

All this evidence suggests that POS promotion and display of the product at the POS both increase the propensity to smoke in adults and teenagers and therefore could influence children's perception, attitudes and behaviour with respect to the habit. The same conclusion drawn by political policy makers has over the past decade resulted into a number of initiatives, directives and regulations relating to health warnings to be displayed on individual cigarette packs.

Since 2003, in the European Union, for example, regulations have required that at least 30% of the visible surface area of a pack must display the messages that 'Smoking kills' or 'Smoking seriously harms you and others around you'. More specific warnings, to cover at least 40%, are 'Smokers die younger', 'Smoking causes fatal lung cancer' and 'Smoking when pregnant harms your baby'. As long ago as 1985, the US surgeon general had determined that all cigarette packs should display only slightly less severe and more general messages, such as 'Smoking causes lung cancer, heart disease, emphysema, and may complicate pregnancy' or 'Smoking by pregnant women may result in fetal injury, premature birth, and low birth weight'. In the developing world in 2008, the Indian government required that the warnings 'Smoking kills' and 'Tobacco kills' should be accompanied by visual warnings, such as a picture of a cancerous lung, covering at least 40% of the pack's surface. It was furthermore required that packs were displayed at the POS in such a way that the messages were in full view of the shopper.

By 2012, regulation by the Australian federal government had forbidden any graphic elements in the pack design beyond the brand name, the warnings that 'Smoking is addictive', 'Smoking causes heart disease' and 'Smoking causes lung cancer', all in a drab brown colour, and images relating to the named consequences of smoking. Thus, any form of promotional message, plus, all use of branding-related colours, symbols and logos, were thereby explicitly excluded. In 2010 the European Commission had launched a public consultation exercise on a formal proposal to revise a directive relating to health warnings, which mooted the possibility of such 'generic' packaging. Recommendations were due in late 2012. Meanwhile, determinedly design-free plain packaging has been implemented in member-state Ireland in 2013.

Smoking behaviour in Brazil: children and promotion at the POS

The WHO estimates that 100 000 young people start to smoke every year, across the world, 80% of whom are estimated to live in low- and middle-income countries (WHO, 2012). As a developing country, Brazil exhibits rates of smoking that impact heavily on the national health system. In response, the country has been implementing innovative measures for the control of smoking, a policy initiative, which is of special significance because Brazil is the world's largest exporter of tobacco leaves, the second-largest producer of tobacco products after China and itself a very large consumer market for those products (Focchi *et al.*, 2006; Cavalcante, 2007; Lee *et al.*, 2010). Illnesses related to cigarette smoking account for an annual expenditure of approximately US\$

10.5 billion by the Brazilian public health system, equivalent to 0.5% of the country's gross domestic product and three times the total tax contribution of the tobacco industry (Pinto and Pichon-Riviere, 2011). When the study reported in this paper was conducted, the Brazilian legislature had not, despite specific directives issued by the WHO, imposed any restriction on the display of cigarette packs or the placement at the POS of placards, posters or other kinds of promotional material relating to tobacco products. At that time, POS promotion was the main marketing communications focus of the tobacco industry in Brazil.

Brazil's national programme for the control of smoking

Brazil is a signatory to the Framework Convention on Tobacco Control, an international public health 'treaty' promulgated by the WHO for the purpose of reducing the consumption of tobacco and the amount of exposure to secondary tobacco smoke. The measures it proposes have been implemented in Brazil through the National Programme for the Control of Smoking, which has already taken many initiatives with regard to the Framework's recommendations for the monitoring of consumption, the launching of educational and awareness campaigns relating to the harm caused by tobacco. The Programme, which has been devolved to the states and municipalities of Brazil, has been responsible for several notable innovations (Jha and Chaloupka, 2000; Iglesias *et al.*, 2007). Brazil was the first country in the world to ban the use of such descriptions as 'low nicotine content', 'light' and 'mild', and others that could mislead the consumer as to the toxicity of the products. It was also the first to set up a government agency to monitor and regulate the chemistry of tobacco products and the emissions deriving from them. Brazil was furthermore the second country in the world to adopt the obligatory printing of health warnings and associated illustrations on cigarette packs and on all kinds of promotional material relating to tobacco products (Lee *et al.*, 2010).

The prohibitions called for by Article 13 of the Framework Convention on Tobacco Control, which came into effect in Brazil in 2000, have had a very significant impact. A two-stage research project among children in primary and secondary schools in 10 Brazilian state capitals, to assess the impact of this prohibition on their smoking behaviour, was undertaken by Galduróz *et al.* (2007). In the first stage, in 1997, a sample of 15 000 school students was surveyed. In the second, 4 years after the advertising restrictions had come into force, in 2004, more than 21 000 were studied. Analysis of the results found that, in 7 of the 10 state capitals in which the study took place, there had been a significant drop in the proportion who had tried smoking at some time. In eight capitals, there had also been a reduction in the heavy consumption of tobacco, defined as 10 or more cigarettes a day. The largest reduction in experimentation with tobacco was recorded among those aged 11 and 12. The study attributed these results to the public policies implemented over the period, especially the prohibitions regarding promotion.

Methodology

The sampling frame for this study comprised retail outlets selling cigarettes and other tobacco-related products in São Paulo, the

largest and most populous city in Brazil, which consequently represents the domestic tobacco industry's greatest potential market. Data were collected by both direct observation, to record how cigarette packs were displayed to customers and what kinds of POS promotional were also on view, and by personal interviewing, to establish such non-observable factors as the number of employees, the number of customers per day, and the nature of incentives offered to the operators by the tobacco companies. The latter were compared with those offered by the manufactures of the soft drinks and confectionery items also on sale in such outlets.

A team of trained researchers, responsible for both the observation and the personal interviews, followed a structured checklist to guide the recording of observations and a series of open-ended questions developed from previous published studies (Feighery *et al.*, 2001; Wakefield *et al.*, 2002; Lovato *et al.*, 2007; Cohen *et al.*, 2008). Answers to the questions were obtained by face-to-face interviews with the individuals deemed to be in charge of the retail outlet at which the observation was carried out. Preliminary training aimed to achieve mastery of the fieldwork procedures, in particular with regard to coding systems and the conduct of the interviews. During the training progress, a Brazilian non-governmental organization, the *Alliance for Tobacco Control*, provided vital feedback on the checklist, the questionnaire and the guidance given to the research team.

Researchers were instructed to complete their checklist of observations before conducting the personal interviews. Data collection took place during a 1-week period in May 2010. Roughly a third of the completed observational audits and interview responses were post-checked by telephone for completeness and accuracy, during and after the fieldwork.

The sample of retail outlets was stratified to be representative of all districts within the city of São Paulo, distributed in five zones: South, East, West, North and Centre. Fifty-one data collection points were selected systematically to reflect the socio-demography and geography of this very large metropolis (11.3 million population in 2011) and its intricate complex of areas and districts. The population is distributed unequally among the five

geographic areas of the city: 44% of its inhabitants live in the South (including Southeast, South and Centre-South), 24% in the East (including East 1 and East 2) and 21% in the North (including Northwest and North), but only 8% in the West and 3% in the Centre. The socio-demographic distribution, as measured by the government's human development index (HDI), is somewhat more uniform. An HDI from 0.7 to 0.79 is defined as 'medium', one between 0.8 and 0.89 is 'high' and one above 0.9 is designated 'very high'. In those terms, the best general standard of living is in the Centre and the West districts, both with a mean HDI across their constituent areas of 0.91. The next highest mean ratings are in the South (0.86) and North (0.83) and the least favoured district is the East, at an HDI of 0.79.

Against that profile of the sampling frame, the distribution of the sample of 429 eligible outlets selected by the DataFolha institute was: South = 29%, East = 26%, West = 19%, North = 16% and Centre = 10%. The premises visited comprised 209 bars, café bars, pubs or luncheonettes selling tobacco products, 114 bakeries (at which cigarettes are commonly bought in Brazil) and 106 news-stands.

Data analysis and results

Sample profile

Table 1 defines the retail outlets visited in terms of type, size, customer throughput, customer age profile and distance from the nearest school. The second-most numerous subsample, bakeries, have, by far, the largest number of employees and greatest flow of customers. The median customer throughputs were 475 per day for bakeries, 150 for news-stands and 100 in total for the bars, café bars, pubs and luncheonettes. Children under 12 years of age and teenagers were well represented among the regular customers, especially at the bakeries and news-stands. There was a primary or secondary-level school close to the majority of the premises, only 16% of the sample being more than 10 city blocks away from the nearest.

Table 1 Sample profile ($n = 429$)

		Bars, café bars, pubs, and luncheonettes		Bakeries		News-stands	
		$(n = 209)$		$(n = 114)$		$(n = 106)$	
		n	%	n	%	n	%
Number of employees	Fewer than three	119	56.9	6	5.3	95	89.6
	Four to 10	80	38.3	28	24.6	10	9.4
	More than 10	10	4.8	79	69.3	1	.90
Number of customers per day	Under 100	131	62.7	14	12.3	44	41.5
	101–500	64	30.6	54	47.4	53	50.0
	More than 500	14	6.7	46	40.4	9	8.5
Age range of customers, in years	Under 12	101	48.3	111	97.4	99	93.4
	12–18	134	64.1	113	99.1	101	95.3
	19–30	209	100	114	100	106	100
	Over 30	209	100	114	100	106	100
Distance from a school, in city blocks	On the same block	65	31.1	50	43.9	41	38.7
	Two to three	66	31.6	40	35.1	38	35.8
	Four to 10	36	17.2	8	7.0	13	12.3
	More than 10	42	20.1	14	12.3	13	12.3

Simple correspondence analysis identified a relationship between the type of cigarette-retailing POS and its proximity to the closest school ($\chi^2 = 13.974$, $P < 0.05$). The first dimension accounts for 95.8% of the total inertia, so that it should lead in the interpretation of the data (Bendixen, 1995). The results suggest that bars, café bars, pubs and luncheonettes are generally further from schools, being either 4–10 blocks distant or more than 10 blocks away, while bakeries and news-stands are closer, on the same city block or only two or three blocks distant.

Chi-squared analyses

The chi-squared statistic was used to assess differences among the types of outlet in terms of the retail display of cigarette packs, the promotional materials present at the POS, sales incentives to the retailer and the visibility of the merchandise to children. Table 2 shows a clear difference in how the product is displayed, bakeries making greater use of display cases containing both cigarettes and other kinds of product and news-stands displaying the packs on shelves more often than either of the other types. A significant relationship was also found between the type of outlet and the promotional materials to be seen at the POS: price-promoting posters, illuminated display cases, and illuminated signs and brand logos all being more prominent in bakeries.

The results in Table 3 show significant differences between the type of outlet and both the incentive offered to the retailer and the degree of visibility to children. Bakeries stand out from the others in several respects: merchandising materials, proximity to confectionery and other delicacies, and the visibility of the promotional material to young customers or accompanied children.

Correlation analyses

Pearson's correlation coefficients gauged the strength of the relationship among proximity of the POS to a school, five summary measures of outcomes of promotional initiatives and the number of daily customer visits. The first of those variables was measured on a 4-point scale corresponding to the distance brackets specified in Table 1. The summary outcome measure, the tobacco promotion index (TPI), was constructed by scoring one point for each of the eight promotional materials specified in Table 2 that could be observed by the researcher during a visit to a POS. In practice, a score of 1 corresponded to no promotional material at all and 9 therefore signified the presence of all eight. The outcomes are shown in Table 4.

In the same way, a 7-point tobacco incentive index (TII) was measured by scoring 1 point for each of the six sales incentives provided to the retailer by a brand-owner, which are specified in Table 3. Comparative 7-point indices were measured for soft drinks and chocolates, the soft drink incentive index (SDII) and chocolate incentive index (CII). Lastly, a 5-point visibility-to-children index (VCI) scored points for each of the four variable specified in the corresponding rows of Table 3. The correlation analysis further included a measure of the daily customer traffic, on the 3-point scale shown in Table 1.

Table 4 shows that no significant correlation was found between the proximity of a POS to a school and the other variables at $P < 0.05$. At $P < 0.10$, however, the analysis suggests that the closer it is to a school, the higher the TII will be ($r = 0.09$,

$P = 0.059$). A strongly significant positive correlation was found between VCI and TPI ($r = 0.49$, $P < 0.001$), and between VCI and TII ($r = 0.16$, $P = 0.001$), meaning that the visibility of the cigarettes to children increases in parallel with the indices for promotional material and sales incentives.

Comparing cigarettes with soft drinks and chocolates, the analysis found a highly significant correlation in both cases: $r = 0.43$, $P < 0.001$ for the former and $r = 0.39$, $P < 0.001$ for the latter. However, the visibility of the cigarettes to children did not correlate with sales incentives relating to soft drinks [$P > 0.05$, not significant (ns)] or chocolates ($P > 0.05$, ns). The highest levels of sales incentives for cigarettes ($r = 0.32$, $P < 0.001$), soft drinks ($r = 0.18$, $P < 0.001$) and chocolates ($r = 0.17$, $P < 0.001$) tend to accrue to the POS with the higher daily client flows.

Analysis of variance

Table 5 shows the results of one-way analysis of variance to check for significant differences among the types of POS with respect to the TPI, TII, SDII, CII and VCI indices. Bakeries scored significantly higher than bars, café bars, pubs and news-stands on all five. Table 5 shows that they utilize more tobacco promotional materials [$F(2,426) = 15.68$], receive more sales incentives for cigarettes [$F(2,426) = 25.06$], soft drinks [$F(2,426) = 31.53$] and chocolate [$F(2,426) = 13.53$], and display cigarettes where they are more visible to children [$F(2,426) = 9.54$].

Discussion of the results

This section presents a summary of the major findings of the study reported here and discusses each research question posed.

RQ1: where are the products and promotional materials displayed?

The great majority (82%) of retail premises visited displayed cigarettes in display cases, either on their own or alongside other non-tobacco products. Promotional materials were observed at the tobacco point of sale itself in more than two-thirds (67.6%) of the premises and in other places within the outlet in one in 10 (10.5%). At almost a quarter of all visits, no cigarette-related promotional material was to be seen anywhere in the premises, even though cigarettes were on sale there. Products typically displayed close to the tobacco products were cigarette lighters and lighter fuels (28% of observations), newspapers, magazines and books (13%), matches (10%), pens and pencils (10%), batteries (10%) and toys and playing cards (6%).

RQ2: visibility of products and promotional material to children at the POS

It was observed that cigarette packs and tobacco advertising were readily visible to children in more than four in five (83.7%) and almost two-thirds (64.4%) of the premises visited, respectively. The location of the cigarette POS near the cash register in almost all the premises (93.5%) and near confectionery and other delicacies in more than four-fifths (83.4%) further enhanced that visibility.

Table 2 Display and promotional materials at point of sale

	<i>n</i> (%)	Bars, café bars, pubs, and luncheonettes (<i>n</i> = 209)	Bakeries (<i>n</i> = 114)	News-stands (<i>n</i> = 106)
Form of display				
Alone in a display case specifically designed for cigarettes				
Yes (%)	175 (40.8%)	38.8%	50.0%	34.9%
No (%)	254 (59.2%)	61.2%	50.0%	65.1%
χ^2	5.88 [†]			
In a display case with cigarettes and other products				
Yes (%)	233 (54.3%)	52.6%	65.8%	45.3%
No (%)	196 (45.7%)	47.4%	34.2%	48.4%
χ^2	9.77**			
On normal shelves				
Yes (%)	120 (28%)	23.4%	21.1%	44.3%
No (%)	309 (72%)	76.6%	82.1%	55.7%
χ^2	18.93**			
Promotional materials				
Posters				
Yes (%)	77 (17.9%)	19.1%	20.2%	13.2%
No (%)	352 (82.1%)	80.9%	79.8%	86.8%
χ^2	2.20 (ns)			
Poster promoting the price of the brand				
Yes (%)	285 (64.4%)	60.8%	86%	56.6%
No (%)	144 (33.6%)	39.2%	14%	43.4%
χ^2	27.11**			
Cigarette display case, either illuminated or spot-lit				
Yes (%)	118 (27.5%)	17.2%	54.4%	18.9%
No (%)	311 (72.5%)	82.8%	45.6%	81.1%
χ^2	56.35**			
Cigarette display case, non-illuminated				
Yes (%)	260 (60.6%)	67.9%	52.6%	54.7%
No (%)	169 (39.4%)	32.1%	47.4%	45.3%
χ^2	9.29**			
Illuminated signs or brand logos				
Yes (%)	58 (13.5%)	10.5%	21.9%	10.4%
No (%)	371 (86.5%)	89.5%	78.1%	89.5%
χ^2	9.39**			
Non-illuminated signs or brand logos				
Yes (%)	44 (10.3%)	10%	9.6%	11.3%
No (%)	385 (89.7%)	90%	90.4%	88.7%
χ^2	.19 (ns)			
Free gift with purchase				
Yes (%)	4 (.90%)	1%	.90%	0.90%
No (%)	425 (99.1%)	99%	99.1%	99.1%
χ^2	.005 (ns)			
Sales promotion materials				
Yes (%)	15 (3.5%)	1%	6.1%	5.7%
No (%)	414 (96.5%)	99%	93.9%	94.3%
χ^2	7.83*			

Note: [†] $P < .10$, * $P < .05$, ** $P < .001$, ns, not significant.

RQ3: types of manufacturers' promotions and incentives

Price-promoting posters were observed at the POS in just under two-thirds (64.4%) of all outlets, and non-illuminated display cases in just over 60%. The most widespread incentive offered by tobacco manufacturers to the retailers visited is the provision of

prizes, bonuses or discounts for placing new brands of cigarettes at the POS, reported to have been received by somewhat less than a fifth (17.7%) of the managers interviewed. Other frequent incentives, in almost equal proportions in all premises visited, were merchandising materials (14.9%), discounts for purchase of a larger quantity (14.5%) and some form of recognition for giving the cigarette brand conspicuous display in the shop (14.2%).

Table 3 Incentives for retailers and visibility to children at POS

	<i>n</i> (%)	Bars, café bars, pubs and luncheonettes (<i>n</i> = 209)	Bakeries (<i>n</i> = 114)	News-stands (<i>n</i> = 106)
<i>Incentives</i>				
Bulk-buying discounts				
Yes (%)	62 (14.5%)	8.1%	23.7%	17%
No (%)	367 (85.5%)	91.9%	76.3%	83%
χ^2	15.16**			
Merchandising materials				
Yes (%)	64 (14.9%)	7.2%	28.9%	15.1%
No (%)	365 (85.1%)	92.8%	71.1%	84.9%
χ^2	27.55**			
Training or guidance related to the product, selling, marketing, etc.				
Yes (%)	31 (7.2%)	3.8%	11.4%	9.4%
No (%)	398 (92.8%)	96.2%	88.6%	90.6%
χ^2	7.34*			
Prizes, bonuses or discounts for placing new brands				
Yes (%)	76 (17.7%)	10%	31.6%	17.9%
No (%)	353 (82.3%)	90%	68.4%	82.1%
χ^2	23.46**			
Prizes, bonuses or discounts for placement of brand-related promotion (advertising, posters, display cases, etc.)				
Yes (%)	57 (13.3%)	6.2%	25.4%	14.2%
No (%)	372 (86.7%)	93.8%	74.6%	85.8%
χ^2	23.74**			
Prizes, bonuses or discounts for conspicuous display of the brand at the POS				
Yes (%)	61 (14.2%)	9.1%	24.6%	13.2%
No (%)	368 (85.8%)	90.9%	75.4%	86.8%
χ^2	14.59**			
<i>Visibility to children</i>				
Cigarettes near cash register				
Yes (%)	401 (93.5%)	89.5%	99.1%	95.3%
No (%)	28 (6.5%)	10.5%	.90%	4.7%
χ^2	12.01**			
Packs readily visible to children				
Yes (%)	359 (83.7%)	80.9%	88.6%	84%
No (%)	70 (16.3%)	19.1%	11.4%	16%
χ^2	3.24 (ns)			
Cigarettes or advertising material placed near confectionery or other delicacies				
Yes (%)	358 (83.4%)	75.6%	96.5%	84.9%
No (%)	71 (16.6%)	24.4%	3.5%	15.1%
χ^2	25.53**			
Cigarette advertising visible to children				
Yes (%)	285 (66.4%)	64.1%	79.8%	56.6%
No (%)	144 (33.6%)	35.9%	20.2%	43.4%
χ^2	14.26**			

Note: * $P < .05$, ** $P < .001$, ns, not significant; POS, point of sale.

RQ4: comparison with soft drinks and chocolates at the POS

Most received some kind of incentive from suppliers of cigarettes (60%), soft drinks (59%) and chocolates (83%). But the evidence

of this study is troublesome because, despite the significant intercorrelation among the three incentive indices for all three product categories ($r = 0.43$, $r = 0.39$ and $r = 0.55$, respectively), only those relating to cigarettes correlate strongly with the products' visibility to children ($r = 0.16$, $P = 0.001$). This suggests

Variables	1	2	3	4	5	6
1 Proximity of POS to nearest school	–					
2 TPI	–.05	–				
3 TII	.09 [†]	.23**	–			
4 SDII	.06	.10*	.43**	–		
5 CII	–.01	.05	.39**	.55**	–	
6 VCI	.04	.49**	.16*	.03	.04	–
7 Customers per day	–.03	.27**	.32**	.18**	.17**	.26**

Table 4 Correlations analysis (n = 429)

Note: [†]P < .10, *P < .05, **P < .001. CII, chocolate incentive index; POS, point of sale; SDII, soft drink incentive index; TII, tobacco incentive index; TPI, tobacco promotion index; VCI, visibility-to-children index.

	Bars, café bars, pubs, and luncheonettes (n = 209)	Bakeries (n = 114)	News-stands (n = 106)	F-value
TPI	2.87	3.51	2.71	15.68**
TII	1.45	2.46	1.87	25.06**
SDII	1.85	2.33	1.07	31.53**
CII	1.18	1.58	1.14	13.53**
VCI	4.10	4.64	4.21	9.54**

Table 5 Comparison of indices

Note: **P < .001. CII, chocolate incentive index; SDII, soft drink incentive index; TII, tobacco incentive index; TPI, tobacco promotion index; VCI, visibility-to-children index.

that the particular ways in which cigarettes are displayed and promoted at the POS may possibly make them especially appealing to children.

Conclusion

This study provides evidence that promotion at the POS was a tool consistently used by the tobacco industry, at least in the city of São Paulo. This finding is concerning, in that that effective promotion of smoking has harmful consequences in terms of public health, being associated with: (a) the perception, especially among children and adolescents, that cigarette smoking is socially acceptable, safe and ‘normal’ behaviour (MacFadyen *et al.*, 2001; Pollay, 2007; Hastings *et al.*, 2008; Wakefield *et al.*, 2008); (b) a higher probability that those who visit retail outlets selling cigarettes will become interested in the product and either begin to smoke or increase their consumption (MacFadyen *et al.*, 2001; Henriksen *et al.*, 2004; Wakefield *et al.*, 2006; Lovato *et al.*, 2007; Pollay, 2007; Paynter and Edwards, 2009; Paynter *et al.*, 2009); and (c) impulse-buying stimuli, which are on one hand an opportunity and incentive to consume, and on the other an obstacle to cessation (Pollay, 2007; Hastings *et al.*, 2008; Paynter and Edwards, 2009). As people start to develop their social identity as consumers from an early age, the exposure of children to cigarettes has very serious and negative implications. Being around smokers or cigarette’s visual promotional content will influence the frame of reference that children use for their future behaviour.

Recommendations for tobacco control and future research

Bakeries in particular, which are a normal POS for tobacco products in Brazil, were characterized by the general display of tobacco

promotional materials, sales incentives to the retailer, and higher visibility to children, in comparison with other retail outlets. As they were found to be commonly frequented by children and adolescents, and those in this study were located closer to schools than the other three sources, bakeries should be carefully considered by policy makers. They are places where contact with tobacco by children and adolescents seem to be encouraged, at least as far as the manufacturers’ policies are concerned. All this evidence reinforces the need to implement the WHO’s recommendations as to the prohibition of the promotional materials associated with tobacco retailing and the restriction of the public visibility of cigarettes at the POS. After this study had been concluded, the Brazilian legislature has implemented law 12.546/2012, which prohibits the promotion of cigarettes and tobacco-related products but still permits the exposure of the products at the POS.

Though the socio-cultural environment of the city in which the study was conducted may be significantly different from that of other major cities in North America, Europe, the Middle East or Asia (with respect to the role of bakeries as tobacco retailers, for example), it is safe to suggest that the findings can be generalized, with due caution. It is suggested that future studies should relate the promotion of cigarettes at the POS to actual consumption, to stated intentions to start, continue or stop smoking, and to a generally favourable attitude towards the consumption of the product, especially among children.

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