

Original Investigation

The Decline of Menthol Cigarette Smoking in Australia, 1980–2008

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Abstract

Introduction: Concerns have been expressed that menthol cigarettes are highly conducive to uptake and hence function as “starter cigarettes” for adolescents. There is strong evidence for this in the United States. If menthol cigarettes are critical to uptake for some adolescents, they might be expected to remain popular among adolescents independent of promotional activity. We analyzed trends in the market share of menthol brands in Australia among both adolescents and adults to provide further insights into the determinants of menthol cigarette smoking.

Methods: We used the Australian Secondary Students Alcohol and Drug Survey (1984–2008), the Smoking and Health Survey (1980–1998), and the International Tobacco Control Four Nations Survey (2002–2008) to estimate market share of brands. Measures were reported use of all menthol brands for adults and use of the Alpine brand for adolescents.

Results: Menthol smoking was much more popular among female smokers of all age groups in the early 1980s. During the 1980s and 1990s, use declined markedly in the 18–29 age groups, while remaining relatively stable among older smokers. Use of Alpine declined markedly among adolescents in the 1980s and 1990s. However, during this period, Alpine remained more popular among experimenting than regular smokers.

Conclusions: Both Alpine and other menthol brands are now primarily “older women’s cigarettes” in Australia. The trends in declining popularity among younger smokers suggest that targeted marketing plays a major role in determining menthol brand market share. Alpine has played a role as a “starter” cigarette in Australia but that role has decreased markedly since the 1980s. Within the Australian context, “light/mild” brands may have taken over the role of easier-to-smoke cigarettes that attract experimenting smokers.

Introduction

Menthol cigarettes began as an accidental discovery in the United States in the 1920s (FDA, 2011; Gardiner, 2004). They were initially

marketed as “medicinal” cigarettes for smokers with coughs and colds who were temporarily unable to smoke their usual brand. However, menthol cigarettes soon proved to have broader appeal, becoming the usual cigarette of many American smokers and later becoming popular around the world (Gardiner, 2004). In recent years, menthol brands have accounted for around 60% of market share in the Philippines and between 20% and 30% in Hong Kong, Singapore, and the United States (Giovino et al., 2004). More typical market shares are between 5% and 10% (including in Australia, which is the focus of the present study).

In more recent times, a major selling point for menthol brands has been that they have more pleasant “fresher” or “smoother” smoke than “regular” cigarettes, suggesting relative health benefits rather than claiming them explicitly (Anderson, 2011; Castro, 2004; Hall, 1973; Philip Morris, 1987, 1994b; Sutton & Robinson, 2004). The fresher/smooth smoke of menthol cigarettes is also widely believed to make them easier to smoke and thus attractive to adolescent experimental smokers who are struggling to overcome their aversion to certain sensations of smoking, such as harshness, throat and chest irritation, and stale aftertaste (Hersey et al., 2006; Hersey, Nonnemaker, & Homs, 2010). If this is correct, menthol cigarettes are strategically important to the tobacco industry for getting adolescent smokers through the uptake process (Food and Drug Administration [FDA], 2011).

Recent research has shown that menthol cigarettes are indeed more popular among adolescent smokers in the United States (Hersey et al., 2006, 2010). Hersey et al. (2006) found higher rates of menthol smoking among both younger adolescent smokers and those who had smoked for less than a year, leading them to conclude that menthol cigarettes function as “starter cigarettes” for adolescents. Hersey et al. (2010) further reported that in 2006, 52% of middle school students and 43% of high school students who smoked usually smoked menthol cigarettes.

Kreslake, Wayne, Alpert, Koh, and Connolly (2008) reported that menthol cigarettes have become more popular with U.S. adolescent smokers in recent years, with 44% of adolescent smokers usually smoking menthol brands in 2005, up from 37% in 2002. Industry documents show that U.S. tobacco companies manipulated menthol levels of certain brands in an effort to

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increase market share among “young adult” smokers (Kreslake et al., 2008). Thus, one plausible explanation for the recent increase in market share of menthol brands among U.S. adolescents is that they have been reengineered to be even easier for “starters” to smoke. However, Kreslake et al. (2008) also reported that magazine advertising expenditure for menthol brands increased in the United States between 1998 and 2005, while decreasing for nonmenthol brands. Thus, a plausible alternative explanation for the increased popularity of menthol brands among U.S. adolescents is that it reflects the intensity of marketing efforts.

Explaining trends in the popularity of menthol brands is by no means be an either/or choice between their sensory/pharmacological characteristics and targeted marketing. Nonetheless, it may be instructive to study trends in menthol smoking in a country where advertising of tobacco products has been subject to more stringent restrictions than in the United States. Australia is a useful comparison country, as it has introduced strong advertising restrictions since the mid-1970s but menthol brand smoking was well-established prior to then.

Television and radio advertising ended in Australia in 1976. Newspaper/magazine advertising ended in 1992; and cinema and billboard advertising ended nationwide by 1996, with earlier statewide bans, beginning in Victoria in 1987 (Winstanley, Woodward, & Walker, 1995). Since then, legal advertising in Australia has been largely limited to point of sale displays (for which statewide restrictions were introduced between 1997 and 2006) and sponsorship of international sporting events with exemptions from the bans, such as Grand Prix car racing, which continued to display tobacco industry sponsors’ logos until 2006 and contributed greatly to awareness of the Marlboro brand in particular (Scollo & Winstanley, 2008).

The Australian menthol market is split between several “stand-alone” menthol brands and menthol “line extensions” within “brand families” where the original or “parent” brand is nonmenthol. One “stand-alone” menthol brand, Philip Morris’ Alpine (since line extended into an all-menthol brand family), has long been the most well-recognized menthol brand. Advertising for Alpine prior to the end of electronic and print media advertising was highly feminized and strongly focused on younger smokers (Carter, 2001, 2003a, 2003b). There are also suggestions that marketing efforts were directed toward adolescent smokers. From 1986 to 1989, Alpine was one of a handful of Australian brands to be sold in packs of 15 cigarettes. This pack size was likely to have a strong appeal to adolescents due to its cheaper price. Advertising also focused on the small size of the pack, suggesting how easily it could be hidden. In more recent years, Philip Morris used various forms of “stealth marketing”, including fashion events to promote the Alpine brand to young women (Carter, 2001, 2003a, 2003b; Harper, 2001; Winstanley et al., 1995). Internal Philip Morris documents show that the company was concerned about the effect of increasing advertising restrictions on “image-driven” brands and that maintaining the market share of Alpine among younger women smokers was a high priority for the company (Philip Morris, 1987; 1994a; 1994b). One document (Philip Morris, 1994b), concerning a proposal to redesign the package, noted that Alpine retained a strong share of new smokers (around twice that of its total smoker share) but that its declining share of the “key” 18–24 segment posed a threat to the long-term future of the brand.

In this paper, we use data from three national prevalence studies in Australia to examine trends in the market share of menthol cigarettes (Alpine among adolescents) over the period 1980–2008. We also explore whether the trends are consistent with Alpine being a starter cigarette for Australian adolescents.

Methods

Data Sources

Adolescent Smoking

The adolescent data are taken from the triennial Australian Secondary Students Alcohol and Drug Survey (ASSAD). This was a pencil-and-paper survey conducted on a representative sample of Australian secondary students (aged 12–17 years) between 1984 and 2008 (White, Hayman, & Hill, 2008). Survey methods were the same in all years. The basic design was a stratified two-stage probability sample, with schools selected at the first stage and students at the second. Schools were randomly sampled from each Australian State and Territory and the three main education sectors to ensure proportional representation. Principals of selected schools gave permission to conduct the survey. If a school refused, it was replaced by the school nearest to it within the same education sector. Schools provided students from either Year levels 7–10 (age range: 12–15) or Year level 11 and 12 (age range: 16–17). A total of 80 students were randomly selected from each school. Approximately 0.1% of selected students actively declined to participate.

Adult Smoking

Data from 1980 to 1998 were taken from the triennial Australian Smoking and Health Surveys (SHS; Hill, White, & Scollo, 1998; Hill, White, & Segan, 1995). Data were collected as part of an omnibus face-to-face survey conducted by a market research company, using the same sampling and interviewing procedures each wave. Sampling was conducted at the Australian Bureau of Statistics census collector’s district (CDs) level. CDs were selected at random within specified strata that included state and rural/urban divisions. Within each CD, an individual residence was chosen at random for the first contact, with the adjacent house contacted next. Further adjacent households were approached until the required number of interviews for that CD was obtained (usually 8). Once contact with a household was established, one person aged 14 years or older was randomly selected for interviewing using the next/last birthday method. If the selected person was not available for interview, three call backs were made. This survey was discontinued after 1998.

From 2002 onwards, we have data from the International Tobacco Control (ITC) Policy Evaluation Survey—Australian arm. This is a panel or cohort survey with replenishment from the same sampling frame. It uses computer-assisted telephone interviews on an approximately annual schedule. We used data collected in the first wave in 2002, followed by the fourth (2005) and seventh (2008) waves. Respondents are selected via random digit dialing to ensure a broadly representative sample. All respondents were smokers at the time of recruitment (having smoked at least 100 cigarettes in their lifetime and having smoked at least once in the past 30 days). At each wave, the sample is replenished using the same sampling frame to maintain its size. (Retention rates between waves exceed 70%). A detailed

Table 1. Number of Adult and Adolescent Smokers in Each Survey by Gender and by Age Group for Adult Smokers

Adults	Year of survey								
	Smoking and health survey						International Tobacco Control survey		
	1983	1986	1989	1992	1995	1998	2002	2005	2008
Males	976	1,388	657	797	712	988	1,072	770	598
% 18–29 years old	33.6	33.0	32.4	29.6	24.9	26.0	29.7	18.6	10.2
Females	841	1,366	638	709	650	1,109	1,200	943	763
% 18–29 years old	36.6	35.5	35.3	30.5	31.7	28.6	27.4	15.5	7.1
Adolescents (Australian School Students Alcohol and Drug Survey)									
	1984	1987	1990	1993	1996	1999	2002	2005	2008
Number of current smokers in survey wave	5,219	3,899	4,749	4,742	6,390	5,003	3,347	2,163	1,929
% Males among smokers	48	46	47	47	46	47	45	44	45
% of surveyed students	21	17	17	19	19	19	13	19	7

description of the conceptual framework of the ITC project (Fong et al., 2006) and its methodology (Thompson et al., 2006) can be found elsewhere. Respondents were included only if they were current smokers (daily, weekly, or monthly).

Details of the samples used can be found in Table 1. For the ITC sample, we used estimates weighted to the population of smokers based on the age and sex distributions of the smoking population.

Measures

In the ASSAD Survey, current cigarette smokers (defined here as having smoked at least once in the last 7 days) were asked to report the brand they last smoked from a list or they could write the name of the brand if it was not listed. Those listing more than one brand were excluded from the analysis.

Variants within brand families were not included, so use of menthol varieties from brand families that also had nonmenthol varieties could not be determined. Accordingly, analyses of menthol smoking for adolescents concerned only Alpine use. (Other menthol-only brand families, such as Kool, Moore, and St. Moritz were excluded from analysis because none or very few respondents reported using them in any wave.)

In addition, students smoking in the past week indicating they were light, regular, or heavy smokers were defined as regular smokers. Those smoking in the past week but who referred to themselves as occasional or nonsmokers were defined as experimental smokers. Since 1987, current smokers have indicated how they accessed their last cigarette and thus whether they bought it or obtained it from someone else (friends, parents, siblings, etc.). These two variables were used to explore the potential role of Alpine as a starter brand.

In the SHS, smokers were asked to identify their current brand and variant with the help of a list of brands and variants. In the ITC Survey, current smokers are asked, “Do you have a regular brand and variety of cigarettes?” Respondents who did were then asked “What brand of [cigarettes/roll-your-own cigarettes] do you now smoke more than any other?” Those who indicated they did not were asked “What specific brand and

variety of [cigarettes/roll-your-own cigarettes] are you currently smoking?” From this brand information, we constructed a three-level variable indicating whether Alpine, another menthol brand, or a nonmenthol brand was smoked.

Results

Adolescent Smoking

Figure 1 shows the percentage of male and female secondary student smokers in each survey year who reported Alpine as the last cigarette they smoked. Alpine was one of the more important brands for adolescent females in 1984, being smoked by around 10% of all current smokers. Our data show its use peaking among both female and male adolescents in 1987 (at 11% and 3% of current smokers, respectively), followed by a steep decline for females. Alpine was significantly more popular among female than male adolescent smokers between 1984 and 1993 (all p values $<.001$) but there was no difference in the proportion of male and female adolescent smokers using Alpine between 1996 and 2008. By 1996, only 1% of female adolescent current smokers still smoked Alpine and its use has remained at around this level since then. Among males, use levels remained low throughout with a decline from a much lower peak of 3% between 1987 and 1993.

Experimental smokers were more likely to smoke Alpine than regular smokers among both female and male adolescents between 1984 and 1993 (all $p < .001$). Since then, use levels have been so small within both groups that there have been no significant differences for males, although small differences continued for females until 2005 (See Table 2). Both male and female adolescent smokers smoking cigarettes obtained from others were more likely to have last smoked Alpine than those buying their own cigarettes in 1987 and 1990 (all $p < .001$), but not in more recent years.

In Table 3, we present trends in market share for adolescents for six brand families: one menthol brand (Alpine), the “flagship” brands of main manufacturers (Peter Jackson and Winfield), one budget brand (Longbeach), one “exclusive” brand (Benson and Hedges), and an international brand (Marlboro). These illustrative

Table 2. Percentage of Adolescent: a. Experimental and Regular Smokers and b. Those That Accessed Cigarettes by Getting Them From Others or Buying Them Themselves, Reporting Alpine was the Last Cigarette They Smoked in Each Survey Year (Data from Australian Secondary Students Alcohol and Drug Survey)

	1984	1987	1990	1993	1996	1999	2002	2005	2008	χ^2 (df)	p Value
Smoking status											
Females											
Experimental	14	16	9	4	2	2	2	2	1	260.93 (8)	<.001
Regular	8	8	3	2	1	1	0	1	1	194.78 (8)	<.001
χ^2 (df= 1)	31.92	27.58	33.8	6.87	13.3	7.12	6.06	6.58	0.60		
p Value	<.001	<.001	<.001	.001	<.001	.001	.01	.01	.44		
Males											
Experimental	3	6	4	1	1	1	1	1	1	50.97 (8)	<.001
Regular	1	1	1	0	1	1	1	2	0	5.37 (8)	.717
χ^2 (df= 1)	14.4	22.8	14.0	3.8	2.7	1.0	0.04	0.02	1.23		
p Value	<.001	<.001	<.001	.05	.10	.32	.85	.87	.27		
Access											
Females											
Did not buy cigarettes	N/A	13	8	3	1	2	1	1	1	257.37 (7)	<.001
Bought cigarettes	N/A	10	4	2	1	1	1	2	0	156.62 (7)	<.001
χ^2 (df= 1)		9.81	11.58	2.30	1.11	1.05	0.24	1.59	1.56		
p Value		.002	<.001	.13	.29	.31	.62	0.21	.21		
Males											
Did not buy cigarettes	N/A	5	4	1	1	1	1	1	0	45.42 (7)	<.001
Bought cigarettes	N/A	1	1	1	1	0	1	1	2	8.49 (7)	.89
χ^2 (df= 1)		14.9	10.3	0.1	0.0	2.6	0.64	0.74	0.87		
p Value		<.001	<.001	.74	.94	.11	.42	.39	.3		

figures reflect a broader picture of consolidation of already popular brands, growth of budget brands, and decreasingly gendered brand preferences.

Adult Menthol Smoking

Figure 2 shows the proportion of adult male and female smokers by age group smoking any menthol cigarettes. In each survey year and in both age groups, more women than men smoked menthol cigarettes. Over the period of study, the proportion of menthol cigarette smokers significantly decreased among women,

with the changes mainly seen among those under 30. Among younger women, use of menthol cigarettes peaked at 25% of smokers in 1980 and 1983 and declined to 7% in 1998, after which rates stabilized. Younger women in 1983 were about 4 times more likely to smoke menthol cigarettes than younger women in 1998 (OR = 4.22, 95% CI = 2.54–7.00). In the early waves, there were no clear differences in menthol use by age. Menthol use among older women declined to 15% of all smokers in 1995 and then stabilized at between 17% and 19%. By 1998, women older than 30 years of age were significantly

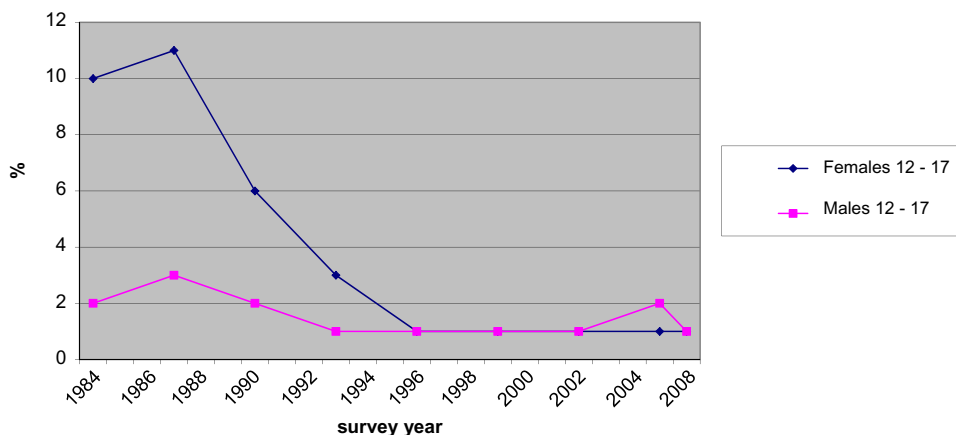


Figure 1 Percentage of secondary students who smoke reporting Alpine as last brand smoked: 1984–2008 (Australian Secondary Students Alcohol and Drug Survey)

Table 3. Proportion of Male and Female Secondary Students Who Smoked in Past Week Reporting Alpine and Other Major Brands as the Last Cigarette Smoked: ASSAD 1984–2008

	1984	1987	1990	1993	1996	1999	2002	2005	2008	Effect of year, χ^2 (df)	p Value trend over time
Alpine											
Males	2	3	2	1	1	1	1	2	1	37.3 (8)	.001
Females	10	11	6	3	1	1	1	1	1	386.2 (8)	<.001
Winfield											
Males	43	34	30	25	22	20	31	33	43	165.6 (8)	<.001
Females	44	28	26	21	20	20	27	30	42	162.3 (8)	<.001
Peter Jackson											
Males	21	43	28	32	36	33	24	15	13	179.6 (8)	<.001
Females	17	41	28	34	44	40	31	20	13	205.0 (8)	<.001
Benson & Hedges											
Males	4	3	6	7	8	9	9	10	6	40.7 (8)	<.001
Females	5	3	5	6	8	6	6	8	7	39.0 (8)	<.001
Longbeach											
Males	a	a	11	11	5	8	19	11	12	77.6 (6)	<.001
Females	a	a	14	17	6	10	14	14	15	72.8 (6)	<.001
Marlboro											
Males	2	2	2	4	6	5	5	5	3	96.0 (8)	<.001
Females	1	1	1	1	3	3	3	3	4	117.3 (8)	<.001

Note. ASSAD = Australian Secondary Students Alcohol and Drug Survey.

^aLongbeach was a minor brand and not listed in ASSAD prior to relaunch as a budget brand in 1989.

more likely to smoke menthol cigarettes than younger women ($p < .001$).

The proportion of the menthol market taken by Alpine fluctuated unsystematically between 40% and 50% across the period of study. However, given the modest sample sizes, much of this fluctuation is likely to be due to sampling and is not consistent with a large downward trend in the proportion of total menthol market share held by Alpine.

The trends in market share for adults for a wider range of brands (which are not presented in a table here) are similar to those for adolescents shown in Table 3. However, older adult smokers were less likely than younger ones to change their brand preference.

Discussion

The menthol cigarette market in Australia was highly gendered prior to its decline, with menthol brands being much more popular among female than male smokers in all age groups in the early 1980s. The fundamental shift in the Australian market we found can be summarized as markedly declining numbers of younger smokers experimenting with and developing settled preferences for menthol brands, while they retained their popularity among older women. We found that the market share of Alpine among Australian adolescents declined substantially between 1984 and 2008, with most of the decline occurring by 1996. Market share of Alpine also declined among adult

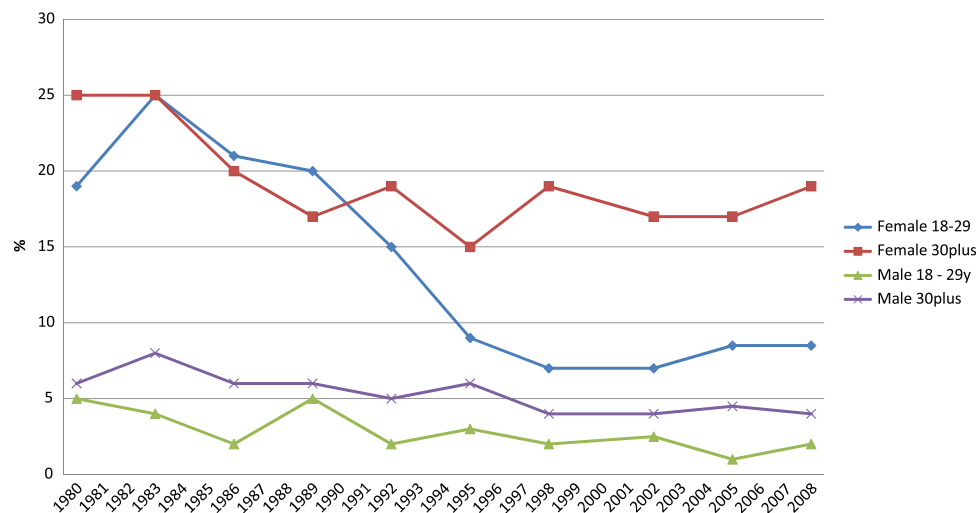


Figure 2 Percentage of adult smokers smoking any menthol brand 1983–2008 (Smoking and Health Survey 1983–1998, International Tobacco Control 2001–2008)

smokers between 1980 and 2009. The decline in use of Alpine among adults occurred within the context of a general decline in menthol smoking in Australia rather than Alpine primarily losing market share to other menthol brands or brand varieties (as is shown the lack of any temporal trend in the proportion of menthol market share held by Alpine). Due to limitations of the available data, we are unable to exclude the possibility that Alpine lost market share to menthol varieties of major brand families among adolescents rather than to nonmenthol brands. We also do not know whether the market shares of either Alpine or all menthol brands peaked prior to the study period. However, our results suggest a process of declining popularity beginning among adult smokers and then following among adolescents in the mid-1980s.

Our results suggest that menthol cigarettes once functioned as starter cigarettes in Australia for a proportion of adolescents but are no longer an important starter product for either sex. In contrast with adolescents in the United States, where nearly half of adolescents smoke menthols (Hersey et al., 2006; Hersey, Nonnemaker and Homsy (2010); Kreslake et al., 2008), only a small proportion of Australian adolescents smoked menthol cigarettes at any point in the past two decades. Further, the decline in the popularity of Alpine among adolescents preceded the recent decline in smoking prevalence among adolescents, which began at least one survey wave (3 years) later. While menthol cigarettes may have an important function as starter cigarettes within particular contexts, such as in the United States, they are no longer an important part of the uptake process in Australia.

The continuing popularity of menthol brands among Australian women older than 30 years of age suggests that within the Australian context, menthol cigarettes are likely to become a settled long-term preference among those who develop an early preference for them. Brand loyalty is common among cigarette smokers and settled preference for menthol cigarettes among a proportion of adult Australian smokers may be part of that phenomenon rather than reflecting any special sensory or pharmacological properties of menthol.

The overall decline in the menthol market in Australia is difficult to explain fully, and we concur with Castro (2004) that menthol smoking is likely to have diverse determinants with complex interactions. We propose two plausible potentially interrelated explanations here for the contrast with the United States:

1. Increasing marketing restrictions and a possible failure to effectively market menthol cigarettes in Australia within the parameters of those restrictions.
2. Divergent development paths for “easier to smoke” cigarettes in Australia and the United States.

Increasing marketing restrictions and possible failures of marketing within the available parameters may be elements of a comprehensive explanation of the decline of menthol cigarette smoking in Australia, although we do not believe marketing restrictions can provide a complete explanation of the decline. Advertising restrictions in Australia were introduced in stages. Electronic media advertising bans occurred in 1976, before the study period and well before the period of declining menthol smoking we observed between the mid-1980s and the early 1990s. Print advertising was banned in 1992, and in the following couple of years, outdoor advertising bans followed on a state-by-state basis. The bulk of the decline in menthol smoking

in Australia (at least since 1980) thus occurred during the period when advertising restrictions were increasing rather than after most forms of advertising had been banned.

During the period of declining menthol smoking, there was considerable innovation in pack sizes, which the tobacco industry believed produced substantial brand switching (Philip Morris, 1987). Innovations included the introduction of 15s packs for Peter Jackson in 1985 and Alpine in 1986, which were found to be highly popular among teenagers and consequently were banned in 1989 (Winstanley et al., 1995). However, the availability of Alpine in 15s packs for 3 years is most likely to have been a counteracting cause to the trend in market share among adolescents. The introduction of large packs (such as 40s and 50s) for “budget” brands began in 1989 (Winstanley et al., 1995). Budget brands gained substantial market share during the period when the menthol market was declining, but the two most popular “budget” brands, Holiday and Longbeach, were both introduced to the market in large packs without menthol varieties. Menthol varieties were subsequently added to these brand families but not until 1–2 years after large packs were introduced. Thus, it is plausible that the introduction of large pack sizes for budget brands could have encouraged some menthol smokers to switch to nonmenthol brands. Nonetheless, we believe it unlikely that the failure to include menthol varieties when large pack sizes were first introduced would be a major cause of switching from menthol to nonmenthol cigarettes, and it is also noteworthy that it occurred well after menthol brands began losing market share.

Another plausible partial explanation for the decline in menthol smoking in Australia is that it may be due to “low tar” cigarettes usurping the role previously played by menthol brands as the most salient easier-to-smoke products. The Australian cigarette market has long been a predominantly Virginia market, and Virginia cigarettes are typically less harsh and irritating than U.S. blended ones (Staunton, 1998). Also, the Australian cigarette market went further down the “low tar” track than any other market in the world during the period in which we found menthol smoking dramatically decreased among Australian adolescents and younger adult smokers (King, Carter, Borland, Chapman, & Gray, 2003; King & Borland, 2004). The mean sales weighted tar yield in 1984 in Australia was 12.3 mg (Winstanley et al., 1995), approximately the same as in the United States (Samet, 1996). However, by 1994, around 90% of market share in Australia was taken by “mild/ultra-mild” brands and the mean sales-weighted tar yield of Australian brands had dropped to 6.8 mg compared with 12.6 mg in the United States (Laffoon & Fenner, 1993; Ruff, 1994). Accordingly, by the mid-1990s, most Virginia products available on the Australian market would have been less harsh and irritating than they had been in the early 1980s. Thus, it is plausible that the Australian mild/ultra-mild brand varieties that came to dominate the market during the 1980s and early 1990s were sufficiently low in harshness/irritation to largely fill the demand niche previously occupied by menthol brands.

This proposed partial explanation emphasizes that adding menthol is just one of several possible ways of producing cigarettes to appeal to those put off by the strong taste and harshness/irritation of “full flavor” cigarettes. Tobacco industry documents suggest that this has also been the industry’s thinking. For instance, a 1987 Philip Morris Australia product development document for a “low tar” variant of Alpine suggests that adding menthol and reducing tar yields are more or less interchangeable

means to produce products to appeal to consumers who want “milder” and “less harmful” cigarettes:

The consumer regards menthol cigarettes as being “milder” than non-menthol products, easier to smoke and “less harmful”, even though these products may not be milder in terms of CPM [“tar”] delivery. (Philip Morris, 1987)

If “mild/ultra-mild” Virginia cigarettes came to largely fill the demand niche for “easier-to-smoke” cigarettes in Australia, it suggests that restrictions on menthol use, such as those currently being investigated in the United States (FDA, 2011), will lead to cigarette manufacturers pursuing alternative strategies to produce cigarettes that appeal to starter smokers and others disinclined to smoke “full flavored” cigarettes. It will be important for regulators to keep track of any such changes, along with possible shifts in the market toward existing products with these characteristics.

Finally, we should reiterate that the conclusiveness of our findings is limited by the SHS and ASSAD survey series not beginning until some years after the electronic media advertising ban. Further, the ASSAD survey was not designed with either menthol or light/mild brand smoking in mind, and our consequent lack of ability to quantify total menthol brand smoking among adolescents has made certain conclusions less than definitive. We can claim with certainty that the other stand-alone menthol brands (St. Moritz, Kool, and More) have never attracted Australian adolescent smokers in significant numbers. However, the ASSAD data do not enable us to determine to what extent the decline in the proportion of adolescent smokers preferring Alpine was due to them switching to menthol variants of the other major brands and to what extent it was due to them switching to nonmenthol brands. However, the fact that adult smokers switched their preferences away from all menthol brands makes it plausible that adolescent smokers may have done the same.

In summary, we found strong declines in the market share of Alpine among female adolescents and strong declines in the market share of both Alpine and other menthol brands among younger adult females in the 1980s and early 1990s. Since then, the market shares of both Alpine and other menthol brands have remained relatively stable. Having once been stereotypically “young women’s/girl’s cigarettes”, both Alpine and menthol brands generally have become “older women’s” cigarettes. This occurred despite Philip Morris’ best efforts to target market Alpine to younger women in the more restrictive environment (Carter, 2001, 2003a, 2003b; Harper, 2001; Philip Morris, 1994b). Further research may enable us to better understand the causes of this quite remarkable divergence between Australia and the United States.

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Declaration of Interests

The authors declare that they have no competing interests.

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