Research and Evaluation Unit

Tobacco in the media and youth smoking

Report prepared for the HSC

May 2007

Tobacco smoking in the media and youth smoking

A summary of key literature

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Background

This summary document was drawn from a review of the literature conducted in early 2006, *Tobacco in the media and youth smoking uptake.* The present document was prepared in 2006 and early 2007.

The literature review and subsequent summary were commissioned by the Health Sponsorship Council (HSC). Their purpose was to inform HSC strategies that aim to 'reduce media portrayals of tobacco' in order to reduce youth smoking initiation.

In this document *media* refers to those organised means of dissemination of fact, opinion, entertainment, and other information, such as newspapers, magazines, cinema films, radio, television, internet, billboards, books, CDs, DVDs, videocassettes, computer games, and other forms of publishing. *Mass media* refers to media that is specifically conceived and designed to reach a very large audience. Mass media can be used for various purposes, including advocacy (advertising, marketing, propaganda, public relations, and political communication), education, entertainment, journalism, and public service announcements.[1]

Acknowledgements

Introduction

Countries such as the United States (U.S.) Canada, Britain, Switzerland, and New Zealand reported rising rates of youth smoking during the 1990s.[2] In 1999, 17% of 14 to 15-year-old New Zealand girls and 14% of 14 to 15-year-old New Zealand boys were daily smokers.[3] Although the rise in youth smoking rates has slowed in recent years, the rapid increase during the 1990s stimulated concern about the factors driving youth smoking. The role of popular media, and in particular, tobacco companies' use of popular media, has been of growing interest.

> In 2005, 11% of 14 to 15-year-old girls and 8% of 14 to 15-year-old boys in New Zealand were daily smokers.[3]

Despite restrictions on the advertising and promotion of tobacco products in a number of countries, youth audiences still encounter substantial media content related to smoking across virtually all media channels. Much of this content is, in intent, non-promotional, incidental portrayals of tobacco. However, there is increasing evidence to suggest that tobacco companies are responsible for some of these media portrayals.

Documents released as part of the tobacco industry's settlement with several U.S. states indicate that marketing to youth, using mass media to portray smoking as a part of popular culture, is a primary goal of tobacco promotions.[4] In an environment where traditional means of marketing are restricted, the tobacco industry is looking to popular media, in particular U.S.-generated popular media, for alternative ways to reach its markets.

> "Today's teenager is tomorrow's potential regular customer... The smoking patterns of teenagers are particularly important to Philip Morris..."[5]
>
> *1981 report to the vice president of Research and Development at Philip Morris.*

The belief that mass media directly influence individual behaviour has long existed in the tobacco industry. Tobacco companies have invested, and in some countries continue to invest, in media promotion. Moreover, anti-smoking efforts often use mass media campaigns to promote their messages.[6] Both parties operate under the assumption that communicating with target markets via mass media can engender the desired consumer behaviour – either purchase of a specific cigarette brand for tobacco companies, and stopping or not starting smoking, for tobacco control campaigners.

There is evidence to support the argument that media influences smoking behaviour. Young people who are exposed to high levels of tobacco promotion are more likely to use, or intend to use, tobacco.[7] Cigarette brand preferences of young

> Research supports a link between tobacco portrayals in popular media and adolescents' acceptance of smoking and intentions to smoke.[7]

people correlate to brands with the highest advertising budgets.[8] Moreover, children most exposed to smoking in movies are nearly three times more likely to initiate smoking than those least exposed.[9] Similarly, television viewing between ages 5 and 15 has been found to be a significant predictor of adult smoking. Watching television for more than two hours per day between ages 5 and 15 accounted for 17% of smoking in adulthood.[10]

Despite the evidence of an association between media and smoking, the mechanisms by which media influence smoking behaviour are not well understood. Explanations for the correlation between watching television and smoking initiation highlight the potential for different explanatory mechanisms. Television may lead young people to initiate smoking through depictions of smoking onscreen, or because of normalising the amount of smoking taking place. Alternatively, television may act as a substitute for activities that protect against the likelihood of young people becoming smokers – such as family and social bonding.[12] Then again, all of these mechanisms, and others as yet unidentified, may contribute to the association between television viewing and smoking initiation.

> Studies suggest that eliminating children's exposure to smoking in movies could halve smoking initiation.[11]

The search for an explanation for the association between media and youth smoking is complicated given the role of movie, music, and media celebrities in influencing young people through their real-life conduct. Celebrities are seen by some as 'super-peers' and may be particularly influential in developing and reinforcing teen smoking behaviour.[8]

> Having a favourite movie star who smokes on and off screen has been associated with teen susceptibility to becoming a smoker.[6]

This report summarises the literature relating to tobacco portrayals in the media, and youth smoking uptake. It explores how the media influences tobacco uptake and use; considers media use by New Zealand youth; examines instances of tobacco portrayals in the media; and looks at ways to counter and reduce smoking portrayals in the media. Recommendations for future research are outlined.

How the media influences tobacco initiation and use

There is no single, unifying explanation for the mechanisms by which media influences human behaviour. This report will outline the multi-faceted and complex effect of the media on youth smoking.

Media effects

Research into media effects investigates how the media influences knowledge, opinion, attitudes, and behaviour.[13] Audiences are regarded as active seekers and users of information, rather than passive recipients. Media effects research is often supported by Social Learning Theory.

> "… the appropriate questions … do not ask whether mass media affects adolescents; rather they ask which messages, under which conditions, affect which perceptions, beliefs, and behaviours among which adolescents."[2]

Social Learning Theory argues that behaviour is learnt through observing others engaging in a behaviour, observing the rewards and censures, and favourable and unfavourable definitions associated with the behaviour. The behaviour is subsequently modelled by the observer. Learning is particularly effective when the rewards associated with a behaviour are social rewards, such as acceptance. Once a behaviour has been learnt, experiences with the new behaviour become increasingly important in whether or not the behaviour persists.[14]

In the context of media and smoking behaviours, Social Learning Theory predicts that tobacco portrayals in media will influence the strategies young people use to define themselves as individuals, to present themselves as social players, and to tackle a variety of personal issues.[15] These ideas have been incorporated into the Social Influences model.

In the Social Influences model, the media is identified as an important social learning factor influencing beliefs and expectations (see Figure 1 on page 7).[16] Central to this model is the idea that parents influence the quantity and type of media available to adolescents, and peers and media influence self-concept. The development of self-concept is highest in the teenage years and the desire to confirm a personal self-concept may lead to smoking.
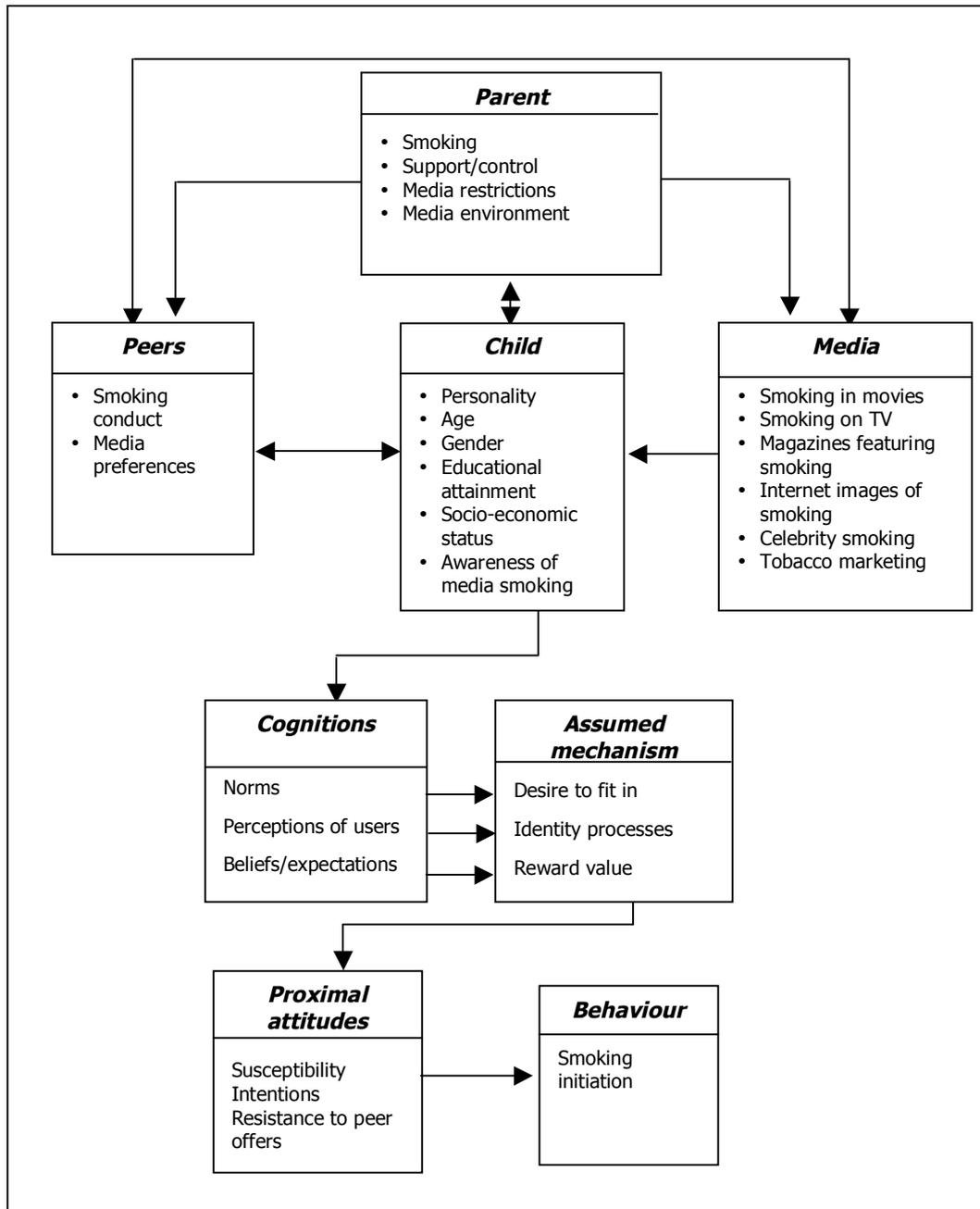
Figure 1: Social Influences model and effect of media on smoking initiation[16]

Young people interpret media content through a filter of who they are and what they are interested in. Moreover, young people come to the media with an identity that affects their motivations for using the media and informs the media they select. This, in turn, affects what media content young people pay attention to, the extent to which they interact with the content, and how they may or may not incorporate it into their lives.[2]

Media may be especially influential as a socialising agent when children lack alternative sources of information. Mass media can be seen as opening up ideas and information from sources outside of families and friends and offering a 'tool-kit' for

possible ways of living.[2] In this context, it can be argued that popular media is as important, and its 'stars' (musicians, actors and other role-models) even more important, than parents and teachers as models of values, beliefs, and behaviour. The high visibility of celebrities' behaviour, on and off screen, and their larger-than-life status, can give celebrities a kind of 'super-peer' status.[17]

Effects of tobacco portrayals

Studies are beginning to show that media portrayals of smoking have an effect on youth smoking initiation.

Australian research[13] summarising the results of studies on the media and smoking concluded that:

- Media both shapes and reflects social values about smoking.
- Media provides new information about smoking directly to audiences.
- Media acts as a source of observational learning by providing models that teenagers seek to emulate.
- Exposure to media messages about smoking provides direct reinforcement for smoking (or not smoking).
- Media promotes interpersonal discussion about smoking.

Media portrayals of smoking teach children and adolescents smoking stereotypes – glamour, attractiveness, sexiness and rebellion – and provide motivations for smoking such as stress relief, celebration, and romance.[18] Tobacco references in the media strongly support notions of how to conform to popular groups and develop a desirable self-image.[19] Media images of smoking can downplay negative health effects, normalise smoking behaviour, and negate the effects of non-smoking role modelling by parents.[20]

Media portrayals of smoking may demonstrate ways young people can resolve personal and social situations such as:

- Body image: movie and celebrity images show thin people smoking, reinforcing the belief that smoking can be used to control weight.[21]
- Low self-esteem: smokers are often portrayed as mature, independent, popular, and participating in 'edgy' behaviours, leading adolescents to believe smokers are more self assured.[22]
- Coping with stress and depression: smoking is portrayed as an emotional coping strategy.[18]
- Romantic relationships: to be romantically attractive, teenagers engage in behaviours that allow them to portray the right social image, with which smoking is often associated.[19]

In societies where smoking has become a marker of low socio-economic status, smoking portrayals may not be positive and glamorous but may reflect the realities that disadvantaged young people must deal with and so have the effect of affirming smoking as an immutable aspect of their lives.[23]

Young people use images of smoking to form or validate opinions about smoking and people who smoke, interpreting media images of smoking through their own ethnicity, gender, age, and culture. A focus group study in Auckland found that young people perceived smoking as a positive action when it was portrayed authentically by young, attractive actors.[24] Characteristics of stress and tension that used tobacco as a prop were interpreted as genuine and valid, and the use of tobacco images in movies was considered normal and acceptable. Similarly, a focus group study in Australia found that young people notice smoking in the media and they perceived smoking images in a wide range of media to be normal and acceptable.[25]

Attitudes and beliefs of New Zealand teens towards tobacco

Qualitative research was conducted in 2001 to determine New Zealand young people's attitudes and beliefs regarding tobacco.[26] Participants were students living in Auckland (n = 160), aged between 10 and 17 years, who were reasonably representative of the gender and ethnic mix in Auckland. Results showed that smoking was stimulated by social influences, self-concept, stress and pressure and was frequently associated with ideas of infallibility, experimentation, and curiosity.

- Health messages about the negative consequences of smoking seemed to be well understood by teens, although they viewed smoking-related illnesses as age-related.

- For young New Zealanders, self-concept incorporated ideas of 'being cool' and rebelling. Among male and female Pacific participants this translated into the desire to look 'tough' or 'bad'.

- Pakeha participants, particularly females, were more likely to see smoking as a tool to meet and socialise with people.

- Pakeha males viewed smoking as a social activity.

- Māori, Pacific, and most frequently Pakeha, participants mentioned links between smoking and weight control.

- Smoking and non-smoking participants expressed ideas about smoking as a coping mechanism by reducing stress and providing relaxation.

Tobacco industry use of the media

Smoking initiation often begins in pre-adolescence, and regular smoking usually starts during adolescence. Progression from experimentation to established smoking occurs over a two-to-three year period with peak experimentation between 13 and 16 years.[27] There is evidence that with a delay in smoking onset the likelihood of addiction is reduced.[28] It is critical for tobacco companies that they reach young people and cultivate young smokers if they are to maintain their market.

Tobacco marketing has been designed to cultivate smokers throughout the smoking initiation process and to utilise the developmental stages of smoking uptake, thereby increasing the use of tobacco products.[27]

Reaching the youth market has become increasingly difficult for the tobacco industry. In New Zealand, tobacco media advertising has been banned since 1990[29] and sponsorship effectively since 1995. Similarly, Australian Federal law prohibited tobacco advertising since 1992, although there are some exemptions.[30] The European Union approved a ban on tobacco advertising in newspapers, magazines, radio, and the internet effective from 2005.[31]

The regulation of tobacco marketing in the U.S. is subject to the outcomes of the Master Settlement Agreement (MSA; 1998).[32] The agreement between tobacco companies and 46 U.S. states restricts tobacco advertising in print, television and film, and prohibits payments for product placements in media or live performances. Because of the dominance of American popular culture, this agreement is critical to how tobacco is portrayed in the media internationally.

Despite the MSA, and an increasing number of tobacco advertising bans and restrictions worldwide, tobacco industry promotional expenditure has continued to increase and young people continue to be exposed to media portrayals and promotions of smoking.[31] It seems likely that growing restrictions on promotion have forced the tobacco industry to seek new and innovative ways to reach the public.

Marketing expenditure by tobacco companies rose from $4.9 billion in 1995 to $9.5 billion in 2000. The majority of the expenditure was used for promotional allowances, special offers, and gifts.[33]

Using media portrayals in preference to advertising contributes to the perception that smoking is socially acceptable, normative, and safer than it actually is.[13]

One of the most effective ways that tobacco companies communicate with young people is through popular media and involving smoking in cultural cues and settings attractive to youth.[14] Tobacco marketing increasingly uses popular media as a promotional tool, rather than directly

advertising the product, to generate indirect, subtle and cumulative effects. Viewers are less likely to notice or to resist messages when they are presented as entertainment.[13] By attaching symbolic meaning to tobacco brands and targeting specific brands to different population sectors, such as women, ethnic minorities, and youth, these promotions become embedded in popular culture.[34]

Tobacco marketing uses popular media to influence existing cultural norms and introduce new cultural norms by associating tobacco use with attractive characters who are similar to the target audience, or to whom the audience wish to aspire.[19] The meanings and social relations evoked by the messages youth receive about smoking are as important as the content of the messages.

Product placement and below-the-line marketing

Partial advertising bans enable tobacco companies to exploit loopholes in tobacco control laws and respond to bans by diverting resources from restricted media into other forms of promotion and tie-ins with other entities marketing to teenagers.[4] Examples include product placement and below-the-line marketing.

In New Zealand, advertising bans do not prevent advertisements in imported print media, internet advertising, tobacco sponsorship of international sporting events, and indirect publicity in movies, television, and other media.[5]

Product placement
Before the advent of the MSA, tobacco portrayal in film was often a form of paid product placement. Although no budget for product placement has been recorded by any tobacco company or media since the MSA came into force, many commentators argue that product placements, albeit unpaid, are still widespread, and that the dramatic increase in the frequency of smoking in movies is evidence of this practice.[35] Product placement can occur in television programmes, radio shows, music videos, magazines, video games, plays, songs, and even novels. Product placement assists with the costs of film-making and distribution and allows tobacco companies to strengthen their marketing efforts by using indirect advertising in conjunction with popular culture and media.[5]

Below-the-line marketing
Below-the-line marketing is a term used by the advertising industry for targeted, direct marketing efforts with convenient response mechanisms that are easy to measure. Tobacco companies have used below-the-line marketing techniques, such as brand-stretching and database marketing, to incorporate tobacco messages into popular culture.

Brand-stretching involves publicising a product through the use of non-tobacco products and other services to communicate the brand or company name

> Tobacco industry support of music promotions is implied by its lack of action to halt the use of its images.[36]

with essential visual identifiers.[4] For example, brand-stretching was seen when "Camel" boots were offered for sale in Norway following the introduction of advertising bans in 1975. The advertisements were similar to those used to advertise Camel cigarettes.[31] Brand-stretching examples in New Zealand include posters advertising dance events in the South Island that mimicked the *Zig Zag* tobacco logo[36] and dance party advertisements with *Dunhill* colours and imagery used in New Zealand magazines in the 1990s.[37] Tobacco company imagery has also been used in New Zealand music promotions (dance posters, CD covers, décor, and magazine editorial content).[38]

Database marketing allows tobacco companies to build up a database of young people whom they can communicate with directly. An example of database marketing is the, now defunct, internet site *wavesnet* registered by Mojo Advertising on behalf of Philip Morris.[4] The website included promotions for Philip Morris-sponsored fashion events, and dance parties called *Glisten* which were themed around *Alpine* cigarette packs. Online surveys were held that entitled visitors to free entry to the shows, drinks, and gifts. Computer terminals at the events allowed attendees to register on-site, further expanding the marketing database.

Media use by New Zealand youth

In New Zealand, access to a variety of media has rapidly increased over the last decade (see Figure 2). Almost all households have a colour television, with two-thirds having two or more televisions. Four-fifths of households have one or more VCR or DVD recording device and almost two-thirds have a computer in the home.[39]
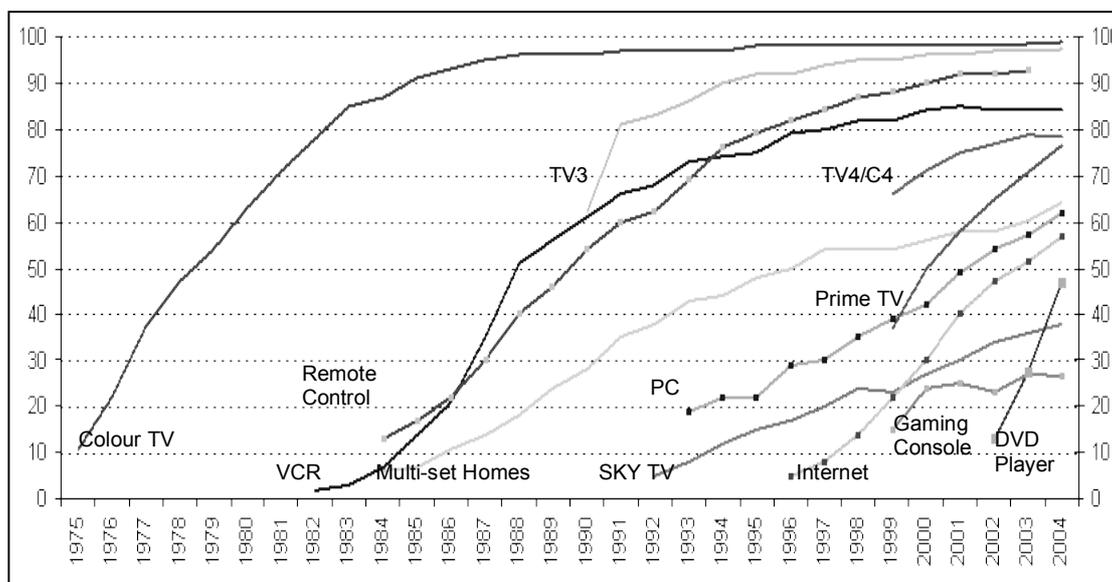

Figure 2: Percentage of households with media devices (1975-2004).[39]

A U.S. review of research published in 2002 found that when teens were asked which media would be most effective for advertisers to reach them, they ranked radio and magazines first, followed by cable television, timeslots before movies in cinemas, then other television.[2] Although radio and magazines rate highly with New

> Television is the medium that most New Zealand youth say they would not be able to live without.[40]

Zealand youth, when asked what medium they would not be able to live without, nearly one-third chose television. This was especially important for children aged 9 to 11 years. For young people, mobile phones and music are increasingly important. Young people often multi-task while enjoying media, most frequently listening to music or having the radio or television on, while online.[40]

Movies

Movies are available to young New Zealanders through a greater variety of access points than ever before, including cinemas, DVDs, and videos. New Zealand research has identified teens as frequent cinema-goers. In 2004, over three-fifths of Year 10 students and over half of Year 12 students reported going to the movies at least once in the month prior to survey.[41] One study found that only 0.2% of a sample of 10 to 15-year-olds had *not* been exposed to smoking in movies during an interval of about 1 to 2 years.[42]

Television

Young New Zealanders aged 6 to 17 years spend more time watching television than using any other medium, averaging more than 11 hours viewing per week.[40] *TV2* is the most popular mainstream television channel for those aged between 12 and 18 years, followed by *TV3* and *TV1*.[41]

The majority of popular television programmes are sourced internationally, with most popular programmes being American.[43] This confirms the need for an international perspective on research and tobacco control strategies relating to smoking portrayals in the media.

Music videos

New Zealand young people have access to numerous music programmes that show music videos. It is estimated that free-to-air music programmes on *TV2* and *TV3* attract between 1 and 3% of viewers aged between 8 and 17 years and *C4,* a free-to-air channel dedicated to music shows, attracts around 1% of this audience at peak viewing time.[43] Pay television music channels *Juice* and *J2* attract between 5 and 10% of the 12 to 18-year-old audience.[43]

Radio

Young people aged 15 to 17 years report spending more time listening to the radio than younger children.[40] The favourite music genres of Year 10 students (aged 14 to 15 years) are Hip Hop/Urban Pacifica, Grunge/Rock/Heavy Metal, and Reggae. Year 12 students (aged 16 to 17 years) record similar favourite genres, but are interested in a wider variety of music.[41]

Radio listenership figures show the most popular station for young people is the youth-oriented station *The Edge.* Young people aged 10 to 12 years listen to the radio more frequently than other age groups. It is not clear, however, if this reflects the listening preferences of child or parent. Older teens were most likely to listen to the radio on weekend afternoons and weekday evenings.[43]

Print media

Adolescents are avid consumers of magazines. In 2004, the most popular regularly-read magazines among Year 10 and Year 12 students were *Girlfriend* (38% and 25%, respectively) and *Dolly* (25% and 23%). Notably, however, 40% of Year 10, and more than half of Year 12 students, were not regular readers of any magazines featured on the list.[41] Adult-oriented magazines and those aimed at older teens, which are more likely to depict high-risk behaviours including smoking, are also frequently read by youth.[43]

Internet

Historically, New Zealanders have been high users of the internet. Uptake of broadband technology, however, has been relatively slow and the slower dial-up access affects the breadth and quality of the internet experience. Young people with broadband access use the internet more frequently, partake in more online activities, and are less likely to rank television as the preferred entertainment option, than those with dial-up access.[40]

The most common reason given by young people for accessing the internet is homework, followed by gaming, music, and other school-related activities. Younger children use the internet for fun and entertainment, while older children use it for communication and self-definition. Internet activities also vary by gender - boys do more gaming and downloading and girls more interacting and communicating with others.[40]

The ability to use the internet does not necessarily correlate with age. More than one-third of 9 to 11-year-olds and more than a quarter of 6 to 8-year-olds, while less than a quarter of 15 to 17-year-olds are highly experienced users. Boys are more likely to be experienced users than girls. For those who access the internet, four out of five 6 to 17-year-olds do so from home at least weekly and two-thirds access the internet at least monthly from school classrooms or school libraries.[40]

Although parents are concerned about children's online safety, the internet is also seen by many parents as a valuable tool for child development and entertainment. Children typically require parental permission to use the internet. Online purchasing and chat-room visits have low

> Teenagers aged 15 to 17 years spend an average of eight hours online each week and about half of New Zealand children aged 6 to 17 years who use the internet access it daily.[40]

acceptance among parents. Despite this, young New Zealanders' experience of purchasing online is growing. In 2005, 15% of New Zealanders aged 6 to 17 years purchased a product or service online, with those living in households with broadband were twice as likely to make purchases online.[40]

Tobacco portrayals in films

U.S. research shows that smoking in movies has increased to levels last seen in the 1950s, and that smoking is three times more prevalent in movies than in the general population. Specifically, smoking depiction in movies decreased from 1950 until about 1990, when depiction then rapidly increased again. Content analyses show tobacco use was present in up to 90% of American top box office movies from 1995 to 2005.[44] The presence of tobacco portrayal in films is not restricted to films aimed at adults. Research shows that by 2002, movies aimed at youth (with G/PG/PG-13 ratings) were more likely to portray tobacco impressions than R-rated movies.[45]

An analysis of six Australian top box office films in 2001 found that all contained at least one tobacco-related scene, with an average of 12 smoking scenes per film. Most scenes made smoking look socially acceptable and less than one-tenth involved an anti-smoking message or depiction.[46] In New Zealand, an analysis of the 10 highest-grossing films shown in New Zealand in 2003 found that seven contained at least one tobacco reference, with an average of 3.8 references per film.[47] The majority of these references were positive and characters smoking were seen as rebellious and independent.[47]

Research shows that the prevalence of smoking by Hollywood actors is higher than that in the general population.[48] The perception that smoking prevalence among lead characters, in addition to the presence of tobacco in background settings, is greater than would be expected in the general population has lead to concerns about the role of movies in amplifying, rather than simply reflecting, notions regarding the normative presence of tobacco. This

> "Movies are better than any commercial that has been run on television, or any magazine, because the audience is totally unaware of any sponsor involvement."
> *President of movie production company to RJ Reynolds, 1972.*[44]

perception has also raised the question of whether the tobacco industry plays a role in encouraging amplification.[35]

The presence of cigarettes in movies is an especially useful form of promotion for tobacco companies because, in addition to promoting smoking to cinema audiences, movies are also broadcast to a wider audience through television. Further, movies do more than act as promotional vehicles for tobacco products in the U.S.. With half of all box office receipts generated offshore, internationally released films serve as a global advertising medium for the tobacco industry.[16]

Although there is some acceptance in Hollywood that there has been an increase in tobacco depictions in recent years, some attribute this trend to the popularity of 'gritty' images and an increase in independent films (which, because of tight budgets, were thought to accept payment from tobacco companies). Interviews with directors,

actors, writers, producers, studio executives, and other workers in Hollywood's entertainment industry revealed a lack of belief that product placement is a major factor in decisions to use tobacco in movies. Rather, there is consensus that when tobacco *is* portrayed only the *brand* used would be determined by placement deals or donations, if at all.[49]

The same Hollywood representatives argued that the most likely reasons for using tobacco are motivated by the actor, writer, or director. Actors seem to have an important influence in decisions to use tobacco and a significant reason for smoking on screen is that the actor smokes in real life. Tobacco is also used for character development, to set a mood, or set a scene's atmosphere. The cigarette was seen as a flexible prop that acts as a ubiquitous social signifier. For example, cigarettes could create images such as sexiness and sophistication, or convey a wide range of emotions - the most often mentioned were rebelliousness, recklessness, coolness, toughness, weakness, nervousness, indifference and social inferiority.[49]

A content analysis of the 10 most popular Hollywood actresses' films found that smoking depictions were greater for younger actresses, who may serve as role models for young people.[48]

Focus group research conducted with young Aucklanders found that whether young people believed or articulated disbelief about product placement in movies, the use of tobacco images was considered normal and acceptable.[50] Participants stressed they were not personally affected by on-screen smoking portrayals and would not be persuaded to smoke because of it. However, they could cite incidences of others copying actors and were concerned that younger and/or naïve children might not be so astute and could be drawn into smoking experiences to imitate characters on screen.[50]

> A teenage character who smoked was likely to convey an image of rebelliousness, whereas an older character would show addiction, self-destruction, and a lack of control. Cigarettes would show women as sexy and sophisticated and cigars would show status or fashionableness.[49]

Tobacco portrayal in film has been shown to impact on the level of smoking initiation among young people. For example, a longitudinal U.S. study followed a group of young people aged 10 to 14 years who had never smoked to see if movie exposure affected their level of smoking initiation.[42] Information about potential confounders was also collected (e.g., personality variables, parental smoking, peer smoking, receptivity to tobacco promotions, parenting characteristics). Approximately 1-2 years later the same young people were interviewed about their smoking behaviour and movie exposure. Exposure to smoking in movies was related to smoking initiation risk and there was a dose-response relationship. After controlling for all factors,

52.2% of smoking initiation was attributed to the young people's exposure to smoking in movies. Among those who had parents who did *not* smoke, the risk of smoking initiation increased when exposure to smoking in movies increased.[42] Another study with a similar methodology found that the risk for smoking initiation attributable to seeing smoking in movies was 38%.[51] Taken together, these studies provide preliminary evidence to suggest that exposure to smoking in movies accounts for between one-third and one-half of youth smoking initiation.[42,51]

Tobacco portrayals on television and radio

Television

There is little doubt that television plays a role in socialisation and evidence is mounting that television viewing is an indicator and predictor of youth smoking behaviour. The evidence also suggests a dose-response relationship between television viewing and smoking initiation.[8]

However, research findings that support the association between television viewing and smoking initiation present a complex picture. Although research findings repeatedly corroborate the link between the two, the mechanism is not completely clear. Television may lead young people to initiate smoking through depictions of smoking behaviour, possibly because of the number of instances of tobacco use in popular shows. Alternatively, television may act as a substitute for activities that build resilience, or television may displace opportunities for family and social bonding that have been found to protect against high-risk behaviours, such as smoking and alcohol use.[53]

> Young teens who watch television for more than five hours per day are nearly six times more likely to begin smoking than those who watch for less than two hours per day.[52]

A U.S. content analysis of four consecutive episodes from 42 top-rated television programmes found that tobacco was seen or mentioned in 22% of episodes. Almost a quarter of tobacco portrayals expressed a negative statement about smoking, by criticising either the habit or the environment in which the smoking occurred, whereas positive statements about smoking occurred in only four episodes. Despite more negative associations with smoking, television smoking portrayals, like smoking in movie portrayals, were more often associated with important, positive characters than peripheral, negative characters. Major characters were shown smoking in 11% of all episodes.[12]

> Television professionals interviewed about smoking portrayals believed television portrayals of tobacco are almost always associated with negative character traits.[49]

An Australian content analysis of 54 television programmes commonly watched by young adults found half contained at least one tobacco-related scene.[46] Eight out of ten of these scenes were classified as socially acceptable. Of the 54 programmes included in the study, 54% originated in Australia and 46% were made in the U.S.[46]

> Up to 17% of smoking in New Zealand's adult population could be attributed to week-night television viewing of more than two hours per week between the ages of 5 and 15 years.[10]

In New Zealand, smoking in programmes on television occurs in both New Zealand-made and internationally-produced programmes. This includes during programmes popular with youth. A 2004 study of tobacco imagery on New Zealand television found that 25% of TV programmes included at least one scene with tobacco imagery, and the majority of these scenes (77%) involved someone smoking.[54] Tobacco imagery depiction occurred at a rate of approximately 1.5 scenes per hour. Further, 90% of tobacco depiction was neutral or positive and there were very few critical, or anti-tobacco, advertisements screened. Finally, the researchers concluded that there had been little variation in the amount of tobacco imagery on New Zealand television in the past decade.[54]

In addition, young people are often exposed to tobacco company branding and logos through television coverage of international sporting events.[55] An analysis of four major sporting events held in Australia, and televised on free-to-air television channels, found that the three international events (F1 motor racing, Indy car racing, and Motor bikes 500cc Grand Prix) featured tobacco sponsorship. Cigarette brands appeared at a rate of 110 exposures per hour, almost two per minute.[46]

Radio

Research about the presence of tobacco-related words on radio is scarce. An Australian analysis of 16 different radio programmes popular with youth (24 hours of broadcast in total) found only six (37%) mentions of smoking or tobacco by announcers or in news broadcasts. Of 275 songs analysed, drawn from songs played on the 16 sampled radio programmes and the top 20 chart singles, only 3% contained reference to tobacco in the lyrics.[46]

Tobacco portrayals in magazines and print media

New Zealand's ban on tobacco advertising means that it is unlikely that New Zealand young people will see tobacco advertisements in New Zealand-generated print media. Young people may, however, see tobacco advertisements in publications from countries that allow tobacco advertising.[8] Young people may also see depictions of smoking and editorial comment about tobacco use in New Zealand print media, as neither are covered comprehensively by the Smoke-free Environments Act 1990.

Magazines

To date, there do not appear to have been studies that investigate tobacco depiction in magazines read by New Zealand youth. Anecdotal evidence, however, suggests that tobacco depiction is a substantial problem in some New Zealand magazines. Several magazines with a high youth readership regularly display photos of celebrities smoking and interviews or editorial referring to smoking behaviour. Magazines with a focus on celebrities, fashion, and/or music appear more likely to include smoking depictions.[56]

An analysis of 73 Australian magazines from a range of categories found that 96% contained at least one tobacco reference, with an average of 6.4 references per magazine.[46] Approximately half of the references were written, the remaining were visual. Approximately nine out of ten portrayed smoking as socially acceptable. These findings are similar to a sample of internationally-produced magazines.[46]

International research has found that cigarette brands popular with teens are more likely to be advertised in magazines with high youth readership and these magazines are not necessarily ones targeted directly at youth.[8] Even when paid tobacco advertisements are not used, adult magazines with high youth readership often portray editorial images of smoking. These have the potential to be more powerful than traditional print advertising of tobacco. The images are attractive, sociable, reassuring, and support young people's perceptions of smoking.[14]

> Studies have found that young people tend to reject overt, authoritative influences on their behaviour but are susceptible to subtle, editorial content that does not tell them to behave in particular ways and provides attractive reflections of their own lives.[14]

Moreover, a study with British youth found that the presence of cigarettes and smoking in images from fashion pages of youth magazines affected how the image was rated.[57] People in images including smoking were rated as being more wild, druggy, and depressed than images which did not contain smoking.

Tobacco companies also produce their own magazines which are distributed free to customers via company databases. These magazines are full-feature glossy alternatives to regular retail magazines and use design elements and colours of the brand being promoted.[58]

Graphic novels and comic magazines are a popular medium for some young people, with circulation increasing in New Zealand. An evaluation of top Japanese comic youth magazines found smoking appeared in almost a quarter.[59]

News media

In an analysis of 219 editions of Australian newspapers, 84% contained at least one tobacco-related reference, with an average of three references per edition. More than nine out of 10 references were non-advertising. Further, 70% of *written*, non-advertising references to tobacco portrayed smoking as socially acceptable, compared with 95% of *visual*, non-advertising references.[46]

In Australia and the U.S., the amount of news coverage of tobacco issues and tobacco control are lower when the media group is owned by individuals or groups associated with tobacco companies. The lack of news coverage is likely to influence the agenda for parental and social discussions about smoking, as well as affect the behaviour of teens – there is evidence that teens are less likely to indulge in behaviours if adverse effects are extensively reported.[13]

Cigarette consumption may be linked to the number of weekly news stories about tobacco – a doubling of news coverage highlighting adverse effects is estimated to have the same impact as a 10% increase in price.[13]

Tobacco portrayals in music videos

Research has found that young people's perceptions, interpretations, evaluations of, and responses to social stimuli, and their beliefs, values, and attitudes, are reinforced and guided by music lyrics and videos. Music videos portray lifestyles that may be emulated by young people in the process of defining themselves as individuals, making their group associations known, and providing the backdrop for their social settings. For these reasons, music videos shown on television can be more effective than advertisements in generating recall and promoting brand awareness.[61]

> "Music not only reflects teen experience, it also defines it."
>
> *Peter Zollo, President of Teenage Research Unlimited.*[60]

A content analysis conducted by the U.S. Office of National Drug Control Policy found that tobacco appeared in more than one-fifth of music videos and was explicitly used in five out of six of these. Although the percentage of music videos portraying tobacco is relatively low when compared with content analyses of movies and television, when tobacco was portrayed it was more often by a lead character and presented in the context of everyday life. There was also less likelihood of negative consequences of tobacco use being portrayed in music videos.[60]

> The consumption of tobacco in music videos may increase acceptance of smoking as normative and encourage initiation. Music videos may act as a form of 'super-peer'.[17]

Fewer tobacco images are seen in music videos on New Zealand and Australian television, than in the U.S. An Australian study of 460 music videos (29 hours) selected from a popular music programme found that 15% depicted smoking or tobacco.[46]

In New Zealand, an HSC-commissioned content analysis of free-to-air and pay television music videos screened on New Zealand television showed tobacco was present in 6% of all music videos surveyed, with approximately 4% showing smoking (see Table 1). New Zealand music videos were less likely than those from overseas to portray smoking or other risky behaviour. The authors speculated that the HSC-sponsored *Smokefreerockquest*, in which many New Zealand artists have competed, may have influenced New Zealand artists to be more sensitive about tobacco portrayals than international artists.[62]

> Visual references to tobacco in music videos were twice as likely on subscriber television as free-to-air.[62]

Table 1: Visual references to tobacco in music videos.[46]

Classification	Category	Total Videos	Any Visual Reference	Percent
TV Provider	Free to air	283	11	3.9
	Pay TV	281	23	11.4
Genre (vs. all others combined)	Rock	187	9	4.8
	Pop	148	2	1.4
	Hip-Hop	129	14	9.5
	R&B	57	6	10.5
	Other (incl. Electronic)	43	3	7.0
Nationality of Artist	NZ	111	2	1.8
	Other (USA/UK/Other)	453	32	7.1

Similar to U.S. research, the New Zealand content analysis found that tobacco was most often portrayed in hip-hop music videos. This is cause for some concern, as rap/hip-hop is one of the fastest growing music genres emulated by alienated youth in both the U.S. and in New Zealand.[63] However, this finding should be interpreted with caution as ambiguity exists in music genre definition.

Tobacco portrayals on the internet

The internet and other electronic media are important media for encouraging (and discouraging) tobacco use. The internet provides access to tobacco products and stimulates demand through advertising. There are sites devoted to smoking culture, lifestyle and teen smoking clubs, tobacco retailing, as well as both smoking and anti-smoking chatrooms.

There is little information on how frequently youth visit internet smoking sites. A study of 15 to 16-year-olds in England found only 4% of non-smokers and 8% of those who had ever smoked reported exposure to smoking-related internet sites.[64]

Lifestyle websites

The smoking lifestyle websites most popular with young people are often those that celebrate smoking by featuring pictures and information about movie stars who are smokers. Websites also include chatrooms, tips about smoking, and associations of tobacco with sexual images and alcohol. Social Cognitive Theory predicts that young people will be encouraged to smoke by viewing these sites, as they provide role models and positive associations with smoking.[64]

Tobacco retail websites

The internet acts as a retail outlet where young people can purchase cigarettes. While many e-commerce websites have notices restricting access to the site to those over 18, there is very little verification of age, either at purchase or on delivery. Research in California in 1999-2000 found that 2% of under 18-year-olds attempted to buy cigarettes online. Attempted internet purchases were more likely made by younger respondents, males, frequent smokers, and those who had less opportunity to obtain tobacco products from retail and social sources.[33]

> Tobacco e-commerce sites rarely display health warnings, minimum age of purchase or age verification notices, which are legal requirements for cigarette retailers.[11]

New Zealand under-18s can access retail websites to purchase cigarettes. In doing so, they may circumvent price increases, advertising bans, and health warnings designed to reduce youth smoking initiation.

Smokers' rights websites

Smokers' rights websites promote the freedom of choice to smoke and criticise government interference and control. These sites tend to concentrate on debunking tobacco control research and facts and figures and are, therefore, unlikely to be widely attractive to youth.

Anti-smoking websites

There are a number of anti-smoking websites that are targeted at young people (e.g., notobacco.org, tobaccofree.com). The websites typically contain information about education, support, quitting tips, and also testimonials from other young people about the negative effects of smoking.

Combating media portrayals of tobacco

Key approaches to combating media portrayals of tobacco include countering them and working to reduce them.

Countering media portrayals

Teenagers are particularly vulnerable to pro-smoking images when there is a lack of clear and consistent anti-smoking messages to counteract them. U.S. research has identified that family, peers, school, television, and movies are primary sources for both pro- and anti-smoking messages.[65]

Mass media campaigns

Mass media campaigns are a popular approach to counter-marketing. There is strong evidence that mass media can be effective in reducing tobacco use among adolescents, and are particularly effective when combined with other interventions such as school and/or community health programmes.[66] Mass media campaigns can be effective beyond reducing youth smoking initiation, with additional benefits including the reduction of tobacco use among the general population and increased adult cessation.[11]

Counter-marketing campaigns tend to take a health effects approach or a psychosocial approach. A health effects approach provides young people with information about the short- and long-term effects of smoking, whereas a psychosocial approach raises awareness of pressures to smoke, such as peer pressure or tobacco industry manipulation, and teaches skills to help resist smoking.[66]

An example of a mass media campaign is the Massachusetts campaign, which began in 1993. The campaign aimed to de-normalise smoking by convincing youth that smoking by their peers was not the norm. The campaign had a significant effect on denormalising youth smoking. Young people exposed to the campaign had an accurate perception of youth smoking rates.[67]

The Florida Truth campaign, launched in 1998, used a tobacco industry manipulation approach to promote anti-tobacco messages. The campaign portrayed the tobacco industry as predatory, manipulative and untruthful, and highlighted its targeting of young people. Evaluations of the campaign found significant increases in anti-tobacco attitudes and decreases in tobacco use. Results from the Florida Youth Tobacco Survey showed youth smoking rates reduced in the first two years following the introduction of the campaign and reduced more quickly than youth smoking rates in the rest of the U.S.[66]

School and community programmes

School-based programmes aimed at reducing smoking initiation are most successful when they are relatively intensive. Further, school and community programmes that include other strong influences in students' lives are more successful at reducing youth smoking initiation than programmes that are solely school-based. Multi-faceted long-term programmes can influence decisions not to smoke not just through school years but throughout life.[28] School-based programmes that emphasise social influences appear to fare better than those focused on improving young people's self esteem or those that teach health risks and negative consequences of tobacco.[28]

A number of school-based programmes have been implemented in the U.S., including *Project Toward No Tobacco Use*. Based on the Social Influences model, students were taught refusal skills, skills to counteract indirect pressures to smoke such as peer pressure and advertising, and given facts about the health effects of tobacco use. A two-year follow-up study found that the programme continued to have a significant impact on reducing weekly smoking rates after the students entered high school. Smoking initiation was reduced by more than half for those who were exposed to the full programme.[28]

Media programmes and education

Media literacy can teach pupils and parents to examine media messages more critically by considering the symbolism used to convey them. This leads to greater understanding of topics and how they are portrayed, and results in personal changes such as improvements in self-esteem, self-expression, and taking responsibility for one's own life. Little evaluation of this work has been done, but work to date suggests this is a promising direction that may have a significant impact on the role the media plays in adolescents' health.[2]

Australia, Canada, and New Zealand have incorporated extensive media literacy curricula into their schools. To date, research indicates that it is unclear whether media skills lead to more critical interpretations of smoking portrayals or impact on smoking attitudes. Further empirical research is required.[52,68]

> **'Thumbs Up! Thumbs Down!'**
> This project by the American Lung Association of Sacramento-Emigrant has young people between the ages of 14 and 22 analysing tobacco content in movies. Each week, the youth review the top 10 current box office movies for tobacco content.[69]

Media advocacy is the practice of encouraging the media to report stories from a public health perspective. Media advocacy programmes are designed to use media coverage to focus attention on policy-level influences on health problems, rather than individuals' problem behaviours. Case studies indicate that media advocacy campaigns can influence news coverage and increase public awareness of an issue, as well as garner support for public policy solutions.[2]

Entertainment-education builds on Social Learning Theory. It presents an idea and provides lessons on the rewards of the new behaviour and disadvantages of the old behaviour in an entertaining context (e.g., drama). Embedded messages in entertainment media are a potentially powerful way of influencing teens' choices, because they are subtle and not authoritative, and so audiences are less likely to resist the message.[2]

Movies

Using cinemas for anti-smoking campaigns has the potential to reach large target audiences cost-effectively. Anti-smoking advertisements can alter people's perceptions that smoking content in movies is justified.[70]

Anti-smoking advertisements shown before a movie that contains smoking portrayals appear to be effective in countering perceptions of smoking as normative and there is some evidence that an effect is more pronounced for girls.[52]

A New Zealand experiment carried out in 2004 found that anti-smoking advertising prior to a movie decreased the acceptability of smoking in movies, and increased awareness of the pervasiveness of smoking in movies. There was, however, no immediate effect on reducing intentions to smoke.[71]

Moreover, the execution and theme of an anti-smoking advertisement is important.[72] That is, anti-smoking advertisements are not the same in their ability to engage with youth. An Australian campaign, e*very cigarette is doing you damage*, evoked strong negative emotions and had an affect on reducing intention to smoke and increase quit attempts.[73] Other research suggests that advertisements describing the health effects were rated as better and more thought-provoking by youth than ads about cessation, industry manipulation, or uncool themes.[72]

There is some suggestion that anti-tobacco films themselves may affect smoking intention and behaviour. Screening an anti-tobacco industry movie *The Insider* resulted in reducing intention to smoke in a sample of Australian cinema goers, although the participants were not specifically a youth sample.[74]

Restricting access to movies

Given evidence that the amount of exposure to smoking in movies is positively related to smoking initiation among youth, one possible mechanism to reduce initiation is to restrict the types of movies that young people see.

Parental restriction of young people's exposure to R-rated movies has been shown to reduce young people's exposure to smoking in movies.[75,76] A study followed a group of students aged 10 to 14 years over time. Even after controlling for other potential factors (e.g., parental style, personality), the rate of smoking initiation decreased as parental restriction of R-rated movie watching increased.[75] The usefulness of this strategy, however, may be limited given the increasing representation of tobacco and smoking in movies with P/PG/PG-13 ratings aimed at youth.[45]

Print media

In New Zealand, there are restrictions on advertising tobacco in magazines. There are, however, no restrictions on portraying smoking and many magazines with high youth readership regularly publish pictorial and editorial depictions.[56]

In New Zealand, the HSC developed an intervention that sought to reduce smoking depictions and increase smokefree and health messages in key youth magazines, by establishing relationships with decision-makers at the magazines. Many magazines that were approached have adopted smokefree policies, however, ongoing work is required to ensure these policies are maintained.[56]

Moreover, research showing that children and teenagers often read popular magazines aimed at adults emphasises the importance of encouraging decision-makers in adult magazines to avoid tobacco portrayals.[37]

Tobacco industry smoking prevention programmes

As advertising opportunities are decreasing, the tobacco industry has increasingly focused on presenting itself as a responsible corporate. Delivering youth smoking prevention programmes is one initiative. A resource kit produced by Philip Morris – *I've got the power* – was introduced in New Zealand schools in 1999.[37]

In New Zealand, British American Tobacco provides funding to the Life Education Trust, which educates primary and secondary school students about health, and the He Papa Pounamu programme which targets at-risk youth.[77]

Studies show that industry prevention campaigns do not use strategies found to be effective in influencing youth smoking – positioning smoking as a 'choice', while failing to mention the health effects of smoking or to denormalise smoking. It has been argued that the real purpose of the industry's campaigns is to create allies with policymaking and regulating bodies to prevent further tobacco controls.[78]

Reducing media portrayals

Regulation

New Zealand has several bodies charged with regulating or classifying the content of advertising and publications. These include the Broadcasting Standards Authority, New Zealand on Air, the Office of Film and Literature Classification, and the Advertising Standards Authority. None of the first three agencies has a stated policy about tobacco content in television programmes, movies shown on television, music videos shown on television, or movies shown in New Zealand.

The Advertising Standards Authority has a tobacco code, and advertising must comply with the Smoke-free Environments Act 1990. Concern about tobacco portrayals in New Zealand media tend to be referred to the New Zealand Ministry of Health for investigation under section 22 of the Smoke-free Environments Act 1990. There are, therefore, few existing regulatory tools in New Zealand that can be used to combat portrayals of tobacco in the media when these portrayals are not covered by the Smoke-free Environments Act 1990.

Furthermore, the rapidly-changing nature of the New Zealand media environment may make it difficult to strengthen the framework for regulation of tobacco portrayals. As new technologies provide an ever-increasing number of ways for content to be conveyed to New Zealanders, traditional boundaries between types of media are becoming blurred and sources of media content are increasingly outside of New Zealand's current regulation framework. In this environment, the regulatory emphasis may need to move from dictating standards to informing audiences about the nature of the content available and empowering them to make judgements.[79]

Requests to remove tobacco portrayals

A qualitative research study asked interviewees about effective ways to approach the movie industry to reduce tobacco portrayals.[49] Most interviewees said that neither outside pressure nor top-down pressure would be beneficial. It was suggested that such actions could be counter-productive, as creative people would react against pressure impacting on their creative freedom.[49]

Funding options

New Zealand Film Commission funding is only available for films with significant New Zealand content and makes no mention of restrictions on any specific objectionable content.[80] Other options could include establishing grants for non-smoking movies, introducing conditional funding, or including a smoke-free clause in funding agreements.

Film classification

There is substantial evidence that, due to downwards ratings creep, films rated as suitable for teenagers show more smoking scenes than R-rated films. Revising the film classification system could reverse this trend. However, there is little public support for incorporating smoking as objectionable criteria when sex, violence, and drug-taking are considered much more harmful.[80]

Self-regulation

Efforts to raise awareness of tobacco control research, implicating movies in contributing to rising teen smoking rates, may seem less censorious than other measures. Given the likelihood that much tobacco use in movies is director/actor-driven, rather than a result of product placement agreements, advocacy could be influential.[35]

Recommendations for further research

There are large gaps in our knowledge about tobacco in the media and youth smoking uptake. In general, research to examine the association between media and youth smoking has been based on market research. There is a lack of peer-reviewed research, which is the international standard to ensure quality of research findings. The lack of research on media and youth smoking means that there is no definitive evidence about which interventions are most effective to counter the effect of media.

Gaps in our understanding of this issue in the New Zealand context that would benefit from further research include:

1. Information on which media are most influential in terms of smoking initiation. U.S. teens who were asked which media would be most effective for advertisers to reach them, ranked radio and magazines first, followed by cable television, timeslots before movies in cinemas, then other television.[2] New Zealand youth chose television when asked which medium they would not be able to live without.[40] However, research does not appear to have been carried out to determine in *which* media tobacco portrayals are most effective at encouraging smoking uptake.

2. The influence of different types of tobacco portrayals on smoking initiation. Much of the existing research on tobacco in the media has focused on the role of the tobacco industry and the use of tobacco portrayals to promote smoking. This has meant that tobacco portrayals are generally assumed to be positive and to have a positive (that is, reinforcing) influence on smoking initiation. There are, however, many instances in the media, particularly on television, where references to tobacco emphasise the negative aspects of smoking. Future research could delineate whether negative portrayals of tobacco reduce the likelihood of taking up smoking, or whether negative portrayals are as much a risk factor for smoking initiation as positive portrayals. Similarly, it would be useful to know whether there is any difference between visual, verbal, and aural references to tobacco in their influence on smoking behaviour.

3. The extent to which tobacco portrayals are present in youth and adult magazines with high New Zealand youth readership. Although tobacco advertising is banned in New Zealand magazines, tobacco portrayals are not. Furthermore, tobacco advertising and portrayals are often present in international magazines that are read by New Zealand youth. It would be useful to know how prevalent tobacco portrayals are in New Zealand magazines with high youth readership and how prevalent tobacco portrayals and advertising are in international magazines read by New Zealand youth.

4. The effectiveness of counter-marketing in movies in a New Zealand context.
Anti-smoking advertisements shown before a movie containing smoking portrayals have been effective in the U.S. in countering perceptions of smoking as normative.[52] However, counter-marketing advertisements shown in New Zealand in 2004 appeared to be less successful, as there was not a reduction in the intention to smoke.[71] Further research is required to identify the reason for this difference and to recommend ways that movie counter-marketing can be used effectively in movies in a New Zealand setting.

5. The feasibility of running a "Truth-style" youth multi-media campaign in New Zealand. There is considerable evidence of the effectiveness of youth counter-marketing campaigns that focus on tobacco industry manipulation.[66] As there is far less documentation of tobacco industry activity in New Zealand than in the U.S., it would be useful to know whether or not a campaign focused on the New Zealand tobacco industry would be feasible.

6. The impact of media literacy on smoking behaviour. Media literacy is believed to lead to a greater understanding of topics and how they are portrayed by the media. However, it is unclear whether media skills will lead to young people developing more critical interpretations of smoking portrayals or impact on their attitudes to smoking. Further research in this area would be useful.

7. Ways to reduce media portrayals through regulation. In New Zealand it is unusual for legislation other than the Smoke-free Environments Act 1990, or regulations other than those made under that Act, to be used to reduce media portrayals. Further research is required to identify whether any of the Codes or requirements of the Broadcasting Standards Authority, New Zealand on Air, the Office of Film and Literature Classification or the Advertising Standards Authority could be applied to reduce media portrayals in New Zealand. For example, whether the Films, Videos, and Publications Classification Act 1993 could be amended to require the Office of Film and Literature Classification to classify films with excessive smoking as restricted or objectionable.

8. Use and impact of pro-smoking internet sites. There are a number of internet sites that openly promote smoking and embrace the smoking lifestyle. Social Cognitive Theory predicts young people will be encouraged to smoke by viewing these sites because they provide a constant stream of role models and positive associations with smoking.[64] It would, therefore, be useful to know how many young New Zealanders visit these sites and the impact these sites have on smoking behaviour.

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