

# 10

## Role of Entertainment Media in Promoting or Discouraging Tobacco Use

*Popular entertainment media are a powerful force in the lives of Americans. In particular, young Americans have been shown to spend an average of more than five hours per day exposed to a variety of media channels. This chapter examines the role of entertainment media in encouraging or discouraging tobacco use, including aspects such as*

- *Channels of media exposure, particularly for children*
- *Studies performed on tobacco use in the movie industry, ranging from trends in tobacco prevalence by movie type to issues such as how tobacco use is depicted, not portraying the health consequences of smoking, and brand-specific exposure*
- *Studies examining the influence of smoking in the movies on the social attitudes and behaviors surrounding smoking*
- *A summary of research on the portrayal of tobacco use in other media channels, such as television, music, magazines, and the Internet*
- *Current and future strategies for reducing public exposure to tobacco use in entertainment media, including policy interventions, efforts at industry self-regulation, and advocacy efforts aimed at both the public and the entertainment industry*

*The total weight of evidence from cross-sectional, longitudinal, and experimental studies indicates a causal relationship between exposure to movie smoking depictions and youth smoking initiation. Further research to better understand this relationship and to evaluate strategies to reduce youth exposure to tobacco portrayals in entertainment media is warranted.*

It's the movies that have really been running things in America ever since they were invented. They show you what to do, how to do it, when to do it, how to feel about it, and how to look how you feel about it.

—Andy Warhol (1928–87)

## Introduction

This chapter examines and summarizes what is known about the use of tobacco in entertainment media and its effect on tobacco use in the population. A detailed look at the influence of one of America's oldest entertainment media—the movies—is followed by a discussion of how today's overall media environment can influence tobacco use and steps that can be taken to reduce public exposure to tobacco use in the media. Given the continued rapid growth in media access, particularly among young people, reducing tobacco use in the media could serve as an important factor in changing social attitudes toward smoking.

It has long been believed that the entertainment industry has a profound impact on behavior, especially when it comes to what is perceived as fashionable. The entertainment industry produces stars who introduce large segments of the population to new products and behaviors depicted in mass media. To the extent that viewers form personal connections with these stars through their use of the media, the viewers' own behavior may be influenced. The entertainment industry also serves to maintain behaviors already established in the population.

This chapter begins with a look at the media environment and its evolution as a backdrop for examining media channels that could potentially model smoking behavior. Perhaps because television and movies are so prominent in people's leisure time entertainment, most of the research on the

impact of entertainment media on behavior focuses on these media. The next sections of this chapter describe what is known about the smoking images contained in movies and how viewing them affects attitudes and behavior. The text begins with the historical relationship between the tobacco and movie industries, both of which came of age during the early 1900s in the United States. The chapter also summarizes research on portrayal of tobacco in other forms of entertainment media including television, music, magazines, and the Internet. Finally, efforts to reduce audience exposure to tobacco-related media content are discussed, and overall chapter conclusions are drawn.

## What Are Entertainment Media?

Entertainment media include print media (books and magazines), audio media (radio and music), and audiovisual media (television, movies, Web-based media, and video/computer games). Just two decades ago, options for media delivery in the home increased with the introduction of the videocassette. Today, the options also include digital media (digital versatile discs [DVDs], compact discs [CDs], video games) and access to entertainment programming through cable/satellite and the World Wide Web. The Web provides unique entertainment options through Web sites that deliver everything from traditional venues, such as news, to options for playing interactive video games with multiple players and downloading podcasts of movies and television shows. The increase in home options for media and the multiplication of media viewing sites within the home (60% of U.S. households contain three or more television sets) have transformed home media viewing from a family event to a much more individualized and tailored pattern of media viewing among family members. For example, parents who grew up before video games or Music Television (MTV) may know little about the specific content of the video games their children

play or the music videos and other video podcasts their adolescents watch because the parents generally do not play or watch them.

Surveys of media availability in U.S. households reveal broad access to each of the home media channels, with electronic media gaining market share over traditional media venues. Two studies that surveyed representative samples of U.S. families with children found similar results. Roberts and colleagues<sup>1</sup> surveyed more than 3,000 families in 1999. Woodard and Gridina,<sup>2</sup> surveyed some 1,200 families one year later. The proportions of families with two or more media delivery devices were 88% for televisions, 58% for videocassette recorders, 85% for radios, 71% for tape players, 59% for CD players, 38% for video game players, and 21% for computers. In addition, most families reported having access to a wide variety of television channels, with about three-quarters of American families having cable/satellite television.<sup>1(p.9)</sup> The only media services strongly related to socioeconomic status were computer ownership and Internet access. All other products were equally distributed across socioeconomic groups. For example, the median number of televisions in households was 2.8 for families with incomes under \$25,000, 3.0 for those with incomes between \$25,000 and \$40,000, and 3.0 for families with incomes above \$40,000. The percentages with cable/satellite television access for these income groups were 71%, 73%, and 77%, respectively. However, the percentages with Internet access were 23%, 42%, and 58%, respectively.<sup>1(p.11)</sup>

## Media Use

The national surveys cited above also assessed media use by children and adolescents. These young Americans are considered most vulnerable to the effects of media messages, and much of the research discussed here addresses the effects of media on their use of tobacco. About one-half of U.S. children

have a television in their bedrooms (65% of children and adolescents older than age 7). Most adolescents also have a radio and a CD player in their bedrooms.<sup>1(p.13)</sup> About one-half of families report that the television is almost always on, and 58% watch television during mealtimes.<sup>1(p.15)</sup> Average media exposure among children is 5.3 person-hours per day (3.3 hours for 2–7 year olds and 6.4 hours for 8–18 year olds). Average media exposure is about one hour less for high-income families than for low-income families.<sup>1(p.19)</sup>

One study noted that children and adolescents distribute their time in using entertainment media in the following proportions: television, 46%; CDs and tapes, 12%; movies and videos, 11%; print media, 11%; radio, 10%; video games, 5%; and computer, 5%.<sup>1(p.20)</sup>

As children age, one-half of the additional time spent with media is due to an increase in television viewing; the remainder is due to increases in time spent watching taped television shows, taking trips to the movie theater, listening to the radio and music, and, for boys, playing video games.<sup>1(p.20–21)</sup> Note that television viewing comprises both the viewing of television programming (traditional programming and movies from movie channels) plus nontraditional venues such as MTV. Thus, the viewing of television programming and movies takes up more than one-half of the five to six hours that children use media each day.

All of these media have the potential to influence the attitudes and behavior of young consumers toward tobacco products. A large body of research exists on the impact of tobacco use in movies on attitudes toward smoking. This medium therefore serves as a valuable exemplar for further study in how various mass media might influence the potential for tobacco use. Thus, movies are the primary focus of this chapter. Later sections examine research findings regarding exposure to tobacco in other media. Together

with the existing body of knowledge surrounding the portrayal of tobacco use in movies, this chapter forms a base for future work on the impact of entertainment media on tobacco-related health issues.

## Historical Perspective: Movies

Examination of the role of entertainment media in tobacco marketing is increasingly becoming an area of active research. Most of this work has focused on portrayal of tobacco in movies. Quantitative studies suggest that youth exposed to on-screen smoking are more likely themselves to initiate smoking.<sup>3-9</sup> These reports should prompt more careful examination of the historical role that the entertainment industry may have played in the marketing of tobacco. Pierce and Gilpin<sup>10</sup> have identified four key periods in a historical analysis of tobacco marketing and smoking initiation among U.S. adolescents and young adults. Tobacco companies marketed cigarettes to men during the first period, from the inception of the industry's marketing practices in the 1880s to about 1920. By 1920, the market for men was established and considered mature.<sup>11</sup> The industry then turned its attention to increasing sales among women.<sup>12</sup> For the next two decades, the industry added to its marketing portfolio messages aimed at women. Campaigns explicitly targeted women, as exemplified by the Lucky Strike "Reach for a Lucky Instead of a Sweet" print media campaign during that period.<sup>13</sup>

This specific campaign focused on weight control. However, the cigarette also was positioned as a symbol of independence and equality for women. At about the same time, Chesterfield rolled out a campaign aimed at changing social norms regarding smoking, with an emphasis on the social interaction between men and women. The campaign was launched by a 1926 billboard depicting a man who is smoking, seated next



*Early Lucky Strike advertisement targeted at women*

to a woman who asks him to "blow some my way." The company also recognized the role movie stars play in establishing social trends and recruited prominent actresses of the time to endorse the brand in their print advertisements. Chesterfield advertisements regularly featured glamour photographs of a Chesterfield "girl of the month," primarily fashion models and Hollywood starlets. Some endorsers were actresses, including Joan Bennett, Claudette Colbert, Joan Crawford, Betty Grable, Rita Hayworth, Marion Hutton, and Rosalind Russell. During the late 1940s, the advertisements continued to feature glamorous women but also included male stars. Star endorsements during this period included Charles Boyer, Perry Como, Bing Crosby, Arthur Godfrey, Bob Hope, Dorothy Lamour, Virginia Mayo, Ethel Merman, Gregory Peck, Basil Rathbone, Ann Sheridan, Jo Stafford, and James Stewart.

From 1943 through 1946, advertisements for the Regent brand of cigarettes featured drawings of celebrities, including Fred Astaire, Diana Barrymore, Joan Blondell, Bing Crosby, Robert Cummings, Jinx Falkenberg, Arlene Francis, June Havoc, Celeste Holm, Guy Lombardo, Merle Oberon, and Jane Wyatt.<sup>14</sup> These advertisements provide historical evidence of a strong,



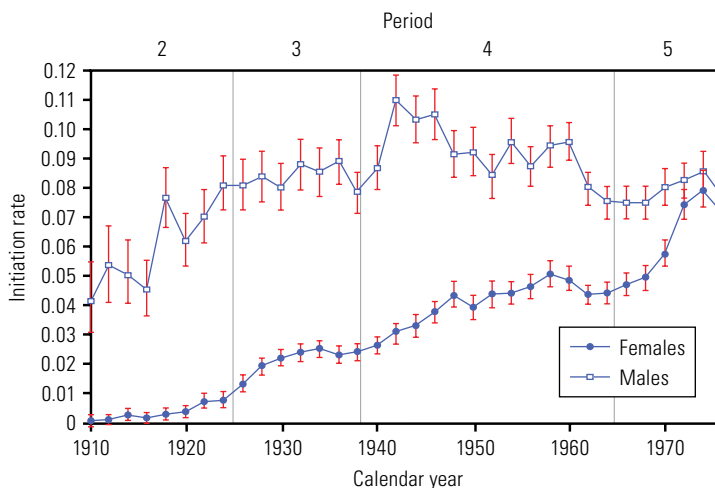
*Chesterfield cigarette advertisement featuring actress Joan Crawford*  
 Note: from Ladies Home Journal 1949

mutually beneficial relationship between the cigarette industry and the movie industry. It would be reasonable to assume that the stars were paid for their appearances in the advertisements as well as receiving nonmonetary benefits, such as increased exposure. Public relations specialists of

that era were beginning to perceive the potential power of celebrities and the media (including motion pictures) as ways to change social norms around smoking. The work by public relations pioneer Edward Bernays<sup>15</sup> is particularly relevant; for example, he sponsored, on behalf of the American Tobacco Company's Lucky Strike cigarettes, demonstrations in 1929 in which fashion models gathered on street corners to smoke their "torches of freedom."

The tobacco industry advertising campaign aimed at women is credited with the steady increase in cigarette smoking initiation rates among women during this period (1925–39) (figure 10.1). After 1939, and through the mid-1960s, tobacco marketing no longer focused on any particular subgroup.<sup>10</sup> However, smoking initiation rates among women continued to increase at the same pace as they did through the 1920s and 1930s. Attending motion pictures was a national pastime by 1940, with Americans spending almost one-quarter of their total recreation dollars on movies

**Figure 10.1 Smoking Initiation Rates Among U.S. Males and Females Ages 14–17 Years, by Year**



Note. From Pierce, J. P., and E. A. Gilpin. 1995. A historical analysis of tobacco marketing and the uptake of smoking by youth in the United States: 1890–1977. *Health Psychology* 14 (6): 500–08. Copyright © 1995 American Psychological Association. Reprinted with permission.

### Smoking: A Requirement of the Role

One case report describes an actor being introduced to smoking on the set of his first movie. In a *New York Times* Op Ed column,<sup>a</sup> Kirk Douglas states he never smoked during his Broadway career in the early 1940s. Mr. Douglas goes on to describe his first movie role, in 1946.

“My first picture was *The Strange Loves of Martha Ivers*, with Barbara Stanwyck and Van Heflin, in 1946. I was intimidated, but proud to be playing the role of Miss Stanwyck’s husband. I arrived at the set, very excited, to do my first scene with her. But I had spoken only a few lines when the director, Lewis Milestone, stopped the action and said, “Kirk, you should be smoking a cigarette in this scene.”

“I don’t smoke,” I replied timidly.

“It’s easy to learn,” he said, and had the prop man hand me a cigarette.

I continued with the scene, lighting and smoking my first cigarette. Suddenly, I began to feel sick to my stomach and dizzy.

“Cut,” yelled the director. “What’s the matter with you, Kirk? You’re swaying.”

I rushed to my trailer to throw up. But Mr. Milestone was right. It’s easy to learn to smoke. Soon I was smoking two to three packs a day.”<sup>a</sup>

<sup>a</sup>Douglas, K. 2003. My first cigarette, and my last. *New York Times*, May 16.

(compared with only 2% today). Weekly attendance at U.S. theaters was more than 90 million.<sup>16</sup> By 1940, depictions of actors and actresses smoking in movies were an established routine.

An example of how smoking depictions in movies might have affected the population’s social perceptions of smoking is the 1942 movie *Now, Voyager*, starring Bette Davis and Paul Henreid. Bette Davis plays a young Boston socialite who has been repressed and dominated by her mother. She smokes surreptitiously until she meets and falls in love with an older man (Paul Henreid) on a cruise.

The sequence is captured at the close of the voyage, when Henreid lights two cigarettes and hands one to his lover just before a parting embrace. Given the popularity of this movie and these stars at the time, this sequence may have influenced the socialization of women to take up smoking, in part by teaching men a novel way to offer a cigarette to a woman. Although no direct evidence supports an advertising motive

for such scenes, they mirror the romantic themes included in cigarette advertising at the time, as illustrated by the Lucky Strike advertisements from the mid-1930s.

The use of stars to endorse cigarettes in advertisements continued into the 1950s, with Chesterfield endorsements from women movie celebrities, such as Dorothy Lamour, Virginia Mayo, Ethel Merman, Ann Sheridan, and Jo Stafford. In addition to leading ladies, the advertising of the 1950s heralded new young stars, such as James Dean who depicted rebellious adolescent characters and consolidated the image of the “bad boy” smoker. In *Rebel Without a Cause*, the image of Dean smoking a cigarette was so intertwined with his character image that smoking was incorporated into publicity posters for his movies. Thus, smoking was promoted in another way—through publicity photographs and posters distributed worldwide (as the German rendition of the poster illustrates).

As television began to become a mass medium, the tobacco industry began



Scenes from *Now, Voyager* (1942)

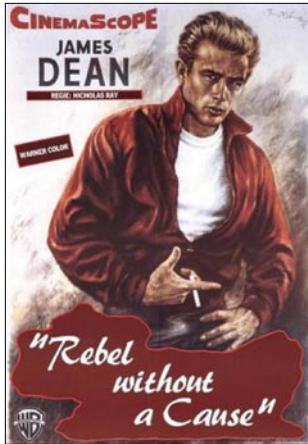


Magazine advertisements for Lucky Strike documenting thematic similarities between cigarette advertising and movie depictions of smoking

sponsoring television shows, providing cash to this fledgling entertainment industry before it had a sizable audience to attract other types of mainstream advertising.<sup>17</sup> Tobacco companies remained prominent sponsors until television advertising of tobacco was banned in the United States in January 1991. Television advertisements produced during the 1950s included endorsements by prominent movie stars. For example, John Wayne appeared in a number of Camel commercials during this period.

The extent to which the tobacco industry played a role in tobacco product placement in movies was speculative until specific evidence of financial links between the tobacco and

movie industries emerged upon the release of tobacco company documents.<sup>18</sup> Other documents indicate that several movie stars, including Pierce Brosnan, James Coburn, Roger Moore, and Charlie Sheen, were recruited to represent a James Bond type of figure in an advertising campaign for Lark cigarettes during the 1980s in Japan.<sup>19</sup> Chapter 4 describes in detail paid product placement of tobacco images in movies. Although these documents pertain to brand placements in movies produced during the 1970s and 1980s only, the practice probably preceded those decades. Schudson<sup>20</sup> argues that the practice of deliberately mentioning or picturing particular products in films occurred earlier. "In the 1930s and 1940s,



Promotional posters for *Rebel Without a Cause* (in English and German)

De Beers increased the role of diamonds in Hollywood films, just as cigarette manufacturers saw to it that leading actors and actresses smoked cigarettes in movies in the 1920s.<sup>20(p.101)</sup> It would be surprising if A. D. Lasker, Edward Bernays, and other public relations specialists of that era failed to recognize the potential power of motion pictures as a way to change social norms concerning smoking. As discussed below in “Movie Content,” smoking continues to be depicted in movies. Cigarette brands also appear, although movie scenes showing actors actually using a specific brand have declined.

In summary, the relationship between the media entertainment industry and the

tobacco industry dates back to the inception of the media industry. The first focus was on marketing cigarettes to the U.S. population by securing endorsements from prominent stars and through prominent depiction of smoking in motion pictures. There is no early evidence of paid placement of tobacco products in movies. However, it seems likely that the depiction of smoking in films contributed to the establishment of social norms that encouraged women to smoke as a mark of independence and equality, as a way to establish a conversation

(break the ice) between men and women, and in ways that paralleled other cigarette advertising themes at that time. Early movie images of male smokers as tough and independent also may have promoted to men the appeal of tobacco use. In addition, the entertainment industry was key in establishing the prototype of the rebellious adolescent cigarette smoker. This prototype continues to attract adolescents to smoking in the present.

## Movie Content

Content analysis refers to a research method in which coders systematically count and

### Tobacco Portrayal Goes Beyond the Movie Itself

Tobacco product exposure in movies is not necessarily limited to the actual film content. The depiction of smoking and brands in promotional photographs still occurs. For example, the photograph shown here, released with a set of promotional photos by Screengems Productions for the movie *Snatch*, was widely published in newspapers across the United States. The photograph shows Brad Pitt sitting at a desk with a pack of Marlboro Golds. Interestingly, no cigarette brand appeared in the actual movie. The practice of showing smoking and cigarette brands in movie promotional products has not been studied systematically. Therefore, it is difficult to determine how important these materials are from a communications standpoint.



Publicity photograph released with the movie *Snatch*, Screengems, 2000.



### Thank You for Smoking

Jason Reitman's 2006 satirical film, *Thank You for Smoking*,<sup>a</sup> based on Christopher Buckley's novel, highlights some of the realities of the relationship between the media and tobacco. The main character in the movie, Nick Naylor, is a spokesperson for the fictional Academy of Tobacco Studies run by cigarette manufacturers. Naylor suggests that declining rates of teen smoking can be turned around through the use of smoking in upcoming Hollywood films. He travels to Los Angeles to meet with an agent and negotiate the use of cigarettes in a futuristic film "where smokers and nonsmokers live in perfect harmony." Both Naylor and the agent acknowledge that the use of cigarettes by Catherine Zeta Jones and Brad Pitt will "sell a lot of cigarettes."

Real-life tobacco companies have been banned from sponsoring Hollywood films since the 1998 Master Settlement Agreement. However, the use of cigarettes in movies is still prominent, and studies examined later in this chapter show a positive correlation between exposure to on-screen smoking and smoking initiation rates for adolescents. One study<sup>b</sup> of 6,522 randomly selected participants suggests that exposure to on-screen smoking is the primary independent risk factor for teen initiation rates. So Naylor's prescription to have actors smoke on screen in order to "sell a lot of cigarettes" is, at least among adolescents, supported by academic research.

The correlation between on-screen smoking and smoking initiation rates has led to some tobacco control groups pushing for more restrictive ratings for movies portraying tobacco use. So far, these efforts have been unsuccessful. It is unlikely that these groups will switch to *Thank You for Smoking's* final tobacco control idea: digital replacement of cigarettes in classic films with candy canes, steaming mugs of cocoa, and drum sticks.

<sup>a</sup>Reitman, J. 2006. *Thank You for Smoking* [Motion picture]. United States: Fox Searchlight Pictures.

<sup>b</sup>Sargent, J. D., M. L. Beach, A. M. Adachi-Mejia, J. J. Gibson, L. T. Titus-Ernstoff, C. P. Carusi, S. D. Swain, T. F. Heatherton, and M. A. Dalton. 2005. Exposure to movie smoking: Its relation to smoking initiation among US adolescents. *Pediatrics* 116 (5): 1183–91.

characterize media inputs. Published content analyses examining depictions of tobacco use in entertainment media have focused almost exclusively on movies. Less information is available concerning tobacco-related content in other entertainment media.

### Study Selection

A number of content analyses have been conducted of portrayal of tobacco in popular movies. Fourteen peer-reviewed studies were identified as published in the medical literature (in English) by using a PubMed search strategy on MEDLINE with the following search terms and Medical Subject Headings (MeSH):

((“tobacco”[MeSH Terms] OR tobacco[Text Word]) OR (“smoking”[MeSH Terms] OR smoking[Text Word])) AND (movie[All

Fields] OR (“motion pictures”[MeSH Terms] OR motion picture[Text Word]))—  
103 records obtained, May 9, 2006.

A search of PsycINFO using the key words (“tobacco” OR “smoking”) AND (“movie” OR “motion picture”) and restricted to journal articles written in English identified no additional articles on movie content analysis than those already captured by the MEDLINE search (23 articles retrieved, by PsycINFO, May 9, 2006).

Citations in some of the above papers<sup>21</sup> identified one more peer-reviewed paper that examined tobacco as well as other health-relevant behaviors in movies. Further citations to a study by Mekemson and colleagues,<sup>22</sup> a Web-based report,<sup>23</sup> provide additional findings from the American Lung Association's “Thumbs Up!

Thumbs Down!” ongoing content analysis. Four additional published reports on this subject were identified that were of methodological quality comparable with the peer-reviewed studies.<sup>24–27</sup> These reports were commissioned by public agencies, including the White House Office of National Drug Control Policy and the U.S. Department of Health and Human Services’ Substance Abuse and Mental Health Services Administration;<sup>27</sup> Center for Tobacco Control Research and Education, University of California;<sup>26</sup> the Health Education Authority in the United Kingdom;<sup>24</sup> and the Massachusetts Public Interest Research Group (a nongovernmental, voluntary organization).<sup>25</sup> Table 10.1 summarizes the methods of movie selection and coding of tobacco use for the respective studies.

### Methodological Issues

Together, various studies have sampled and coded tobacco content in popular movies released from 1937 through 2003. However, the studies’ methodological differences make it difficult to compare the results. The most common criterion for selecting movies was based on their revenue status as “top box-office” movies, mostly in the United States. Some studies<sup>28–30</sup> selected a random sample of top box-office movies for a given period. Others coded the top 10,<sup>24,31</sup> 25,<sup>32,33</sup> 50,<sup>22</sup> 100,<sup>34</sup> 125,<sup>35</sup> or 200 movies per year,<sup>27</sup> or those grossing at least \$500,000 at the box office<sup>26</sup> for a given period of years. In general, the longer the period examined, the fewer movies per year were coded. Other studies have selected the movie sample based on genre or rating only (e.g., G-rated animated movies)<sup>36,37</sup> or a combination of rating and box-office revenue (e.g., top 10 PG movies and video rentals).<sup>25</sup> One study examining the prevalence of smoking among characters in contemporary American movies about American life in the 1990s relative to U.S. population smoking rates selected movies on the basis of box-office revenue, rating, genre, and time and

location of setting; that study excluded movies in which cigarette smoking was a central motif.<sup>38</sup>

Another study identified the “top 10” most popular actresses per year for a given period, then randomly sampled movies in which each played a leading role. A number of studies have excluded from their samples movies that were not set in the present—that is, period dramas and science fiction set in the future.<sup>21,38</sup> Despite sampling differences among some studies, most have used sampling criteria based on audience reach. Therefore, the media inputs they documented are likely to provide a valid indication of the amount and nature of on-screen tobacco content presented to viewers. Polansky and Glantz<sup>26</sup> extended their content analysis data to generating quantitative estimates of audience reach (see “Audience Reach” below).

Studies also vary in how they capture tobacco use, especially in terms of their unit of analysis. Many divided their movie samples into five-minute intervals and then counted the number of tobacco occurrences per five-minute interval of film.<sup>21,27–31,40</sup> Others viewed and coded movies as a whole, counting tobacco occurrences within movies.<sup>22,24–26,32–38</sup> Some included as one occurrence all smoking by one character during the course of a movie scene.<sup>32</sup> Others counted an occurrence every time a cigarette entered the screen.<sup>22</sup> These differences obscure comparisons in the absolute numbers of tobacco depictions reported among the studies. Moreover, it is not clear how well the various measures correlate or whether measurement affects trend analyses. However, Polansky and Glantz<sup>26</sup> found that parents’ qualitative ratings of the amount of smoking in movies (using a six-point ordinal scale ranging from “none” = no tobacco content through “extreme” = movie is full of tobacco scenes) bore a statistically significant correspondence with coding

**Table 10.1 Summary of Methods for Content Analysis Studies: Tobacco in Movies**

Authors	Publication year	Country	Movie years (release)	Movie criteria	Interrater reliability	Unit of analysis	Amount of smoking	Reported results of other variables
Goldstein et al. <sup>36</sup>	1999	U.S.	1937–99	All G-rated animation movies released by major production cos. ( <i>n</i> = 50)	Not reported	Whole movie	Presence of tobacco use; duration	SC, HC, Chg, TT
Thompson and Yokota <sup>37</sup>	2001	U.S.	1937–2000	All G-rated animated feature movies ( <i>n</i> = 81)	1 rater only	Whole movie	% movies depicting tobacco; duration of smoking scenes	SC, HC, Chg, CX, TT
McIntosh et al. <sup>38</sup>	1998	U.S.	1940–89	Random sample of 5 films per decade sampled from top 20 films per year for period ( <i>n</i> = 100)	Ranged from 0.74 to 0.94. At least 3 trained raters rated each film.	Whole movie	% of characters who smoked at least once in target films	SC, HC, Chg
Glantz et al. <sup>29</sup>	2004	U.S.	1950–59, 2001–02	Random sample of 20 top films released 1950–59, and 5 of top 20 films for 2001–02 ( <i>n</i> = 30)	One coder, cite validity of this approach as per Hazan et al. 1994 <sup>28</sup>	5-min intervals of movies	No. of tobacco incidents/hr of movie time	Chg, Brand
Hazan et al. <sup>28</sup>	1994	U.S.	1960–99	2 movies randomly selected from top 20 per year, for each year ( <i>n</i> = 62)	0.92 (sd = 0.07)	Each movie divided into 5-min intervals ( <i>n</i> = 1,505 5-min intervals)	% tobacco use per 5-min interval of movie (includes use and implied)	SC, HC, Chg, CX, TT (coded, but results not reported), Brand (coded, but results not reported)
Terre et al. <sup>21</sup>	1991	U.S.	1977–88	Top 20 movies per year ( <i>n</i> = 169)	95%	Each movie divided into 5-min intervals	Tobacco incidents	SC, HC, Chg, MT
Everett et al. <sup>31</sup>	1998	U.S.	1985–95	Top 10 movies per year ( <i>n</i> = 110)	Not reported	Each movie divided into 5-min intervals	Presence of tobacco use (includes use and implied)	SC, HC, Chg, CX
Dalton et al. <sup>32</sup>	2002	U.S.	1988–97	Top 25 movies per year ( <i>n</i> = 250)	At least 70% agreement on all measures	Whole movie	No. of tobacco occurrences; time of tobacco use	SC, HC, CX, TT, MT

*Note.* cos. = companies; SC = smoker characteristics; HC = health consequences; Chg = change over time; TT = type of tobacco; CX = context; min = minutes; no. = number; hr = hour; Brand = brand appearances; sd = standard deviation; MT = movie type; MSA = Master Settlement Agreement; +ve = positive verbal reference; -ve = negative verbal reference; sci-fi = science fiction.

**Table 10.1 Summary of Methods for Content Analysis Studies: Tobacco in Movies (Continued)**

Authors	Publication year	Country	Movie years (release)	Movie criteria	Interrater reliability	Unit of analysis	Amount of smoking	Reported results of other variables
Sargent et al. <sup>33</sup>	2001	U.S.	1988–97	Top 25 movies per year ( $n = 250$ )	Double coding of brand appearances, not reported	Whole movie	% of movies with tobacco use	Chg; pre–post MSA, Brand, MT
Stockwell and Glantz <sup>30</sup>	1997	U.S.	1990–96	Random sample of 5 from top 20 movies per year ( $n = 35$ )	One coder, not reported	Each movie divided into 5-min intervals	% tobacco use per 5-min interval of movie	SC, HC (antismoking signs or comments), Chg, CX (motivation to smoke), TT, Brand
Mackinnon and Owen <sup>24</sup>	1998	U.K.	1990 and 1995	Top 10 U.K. box-office movies for these years ( $n = 20$ )	Not reported	Whole movie? (not clear)	No. of smoking incidents	SC, HC (verbal references: +ve/–ve), Chg, CX, Brand
Escamilla et al. <sup>40</sup>	2000	U.S.	1993–97	For each top 10 actress, coded random selection of 5 movies in which they had leading roles ( $n = 50$ )	99% agreement on smoking variables	Each movie divided into 5-min intervals ( $n = 1,116$ 5-min intervals)	Occurrence of smoking in each interval coded % of 5-min intervals that depict smoking	SC, HC, CX, TT, MT
Mekemson et al. <sup>22</sup> American Lung Association of Sacramento <sup>23</sup>	2004	U.S.	1991–2000 (+1994–2003)	Top 50 U.S. movies per year (1991–2000; $n = 497$ ) (1994–2003; $n = 498$ )	All movies coded by 3 teen reviewers; kappa reliability scores >0.85	Whole movie	Tobacco incident counted each time tobacco appears on screen	SC, HC, Chg, CX, TT, Brand, MT
Roberts et al. <sup>27</sup>	1999	U.S.	1996–97	200 most popular movie video rentals for 1996 and 1997 ( $n = 200$ )	Not reported	Whole movie	Tobacco appearances (use and implied) frequency of tobacco reported/5-min movie interval	SC, HC, CX, TT, Brand, MT
Ng and Dakake <sup>25</sup>	2002	U.S.	1996–97, 1999–2000 (i.e., pre–post MSA)	Top 10 PG-13 movies and top 5 PG-13 video rentals for these years ( $n = 42$ )	Not reported	Whole movie	Length of tobacco use and tobacco appearance	SC (minors smoking), HC (–ve statements about tobacco use), Chg, CX (of brand appearances), TT, Brand, MT

Authors	Publication year	Country	Movie years (release)	Movie criteria	Interrater reliability	Unit of analysis	Amount of smoking	Reported results of other variables
Polansky and Giantz <sup>26</sup>	2004	U.S.	1998–2003	U.S. produced, English-speaking movies grossing at least \$500,000 at box office ( <i>n</i> = 776)	Not reported, although good correspondence with tobacco incident data in a study by Dalton and colleagues <sup>32</sup> for equivalent films	Whole movie	Qualitative descriptors of no. of tobacco incidents per movie	Chg, MT
Omidvari et al. <sup>41</sup>	2006	U.S.	1990–98	U.S. movies in top 10 weekly box-office list, excluding G-rated, animated, and sci-fi movies, movies not set in 1990s, and movies with cigarette smoking as a central motif ( <i>n</i> = 447)	Not reported	Whole movie	% of top 5 characters who smoke at least once in target films (excluding smoking by non-U.S. citizens or outside U.S.)	SC, MT
Stern <sup>35</sup>	2005	U.S.	1999–2001	Of 125 top-grossing movies per year, coded those where at least 1 adolescent was a central character ( <i>n</i> = 43)	Ranged from 0.77 to 1.00	Whole movie	% of major adolescent characters who smoke at least once in target films	SC, MT
Dozier et al. <sup>34</sup>	2005	U.S.	2002	100 top-grossing films in 2002 ( <i>n</i> = 100)	Ranged from 0.84 to 0.99.	Whole movie	% of movies with tobacco use, % of characters who smoke at least once in target films	SC, HC, CX, MT

Note. cos. = companies; SC = smoker characteristics; HC = health consequences; Chg = change over time; TT = type of tobacco; CX = context; min = minutes; no. = number; hr = hour; Brand = brand appearances; sd = standard deviation; MT = movie type; MSA = Master Settlement Agreement; +ve = positive verbal reference; -ve = negative verbal reference; sci-fi = science fiction.

conducted by Dalton and colleagues<sup>32</sup> of the number of tobacco incidents for a sample of 389 movies coded by both studies ( $p < 0.001$ ). This finding suggests a strong correspondence between the two different methods of coding the amount of on-screen smoking used in these studies.

The studies also vary in how rigorously they describe their coding procedure. Of the studies reviewed here, only eight reported interrater reliability agreement, with values ranging from 70% to 100% on key coding variables.<sup>21,22,28,32,34,35,39,40</sup> Most studies used adults to code movie content, the exception being the “Thumbs Up! Thumbs Down!” project.<sup>22,23</sup> The latter study trained teams of young people aged 14–22 years to code films according to a standard protocol. The adult coders in the study reported by Polansky and Glantz<sup>26</sup> were parents working for a parental review and screening service at ScreenIt.com, a movie content database.

The criteria for coding tobacco events also varied. Explicit depictions of tobacco use refer to instances in which the use of tobacco was directly portrayed (e.g., the actor smokes on screen). Incidental depictions of tobacco refer to those in which the use of tobacco was implied, without being explicitly portrayed (e.g., the actress is shown placing a cigarette pack in her handbag), or when smoking-related props were shown (e.g., an ashtray on a table in a movie set). Some content-analysis studies only coded explicit depictions of tobacco use.<sup>32,38</sup> Others differentiated between types of tobacco depictions.<sup>27</sup> Some counted explicit and incidental depictions of tobacco together as tobacco events.<sup>29,31</sup> Studies with broader criteria for a tobacco incident tended to report higher rates of depiction as a result of their more inclusive measure.

There is, however, considerable overlap in the content variables the studies attempted to assess (table 10.1). All quantified the amount of smoking in their movie samples.

Characteristics of smoking role models and depictions of contexts and consequences associated with smoking also have been recorded. Some studies examined the types of tobacco presented (e.g., cigarettes, cigars, chewing tobacco), the appearances of specific tobacco brands, and whether tobacco portrayal varied with movie release year, Motion Picture Association of America (MPAA) rating, or genre. Common themes recurred in the findings of these studies, despite their methodological differences. The results of these studies are summarized below.

### Tobacco Use in Movies

#### *Prevalence by Movie Type*

Mekemson and colleagues<sup>22</sup> found that most top box-office movies from 1991 to 2000 had some tobacco use. Polansky and Glantz<sup>26</sup> found that, of U.S. films released between 1999 and 2003, 80% included smoking. Similarly, content analyses of top box-office movies from 1988 to 1997 indicate that most movies (87%) portrayed tobacco use. However, tobacco use accounted for only a small proportion of screen time.<sup>32</sup> In 75% of movies, tobacco exposure accounted for less than 4% of total screen time. Cigarettes were the predominant form of tobacco used, followed by cigars, with little use of smokeless tobacco.<sup>27,32</sup> However, in children’s animated movies, cigar use was most common.<sup>36</sup> Tobacco use typically increased with the “adulthood” of the MPAA rating. R-rated movies contained more tobacco occurrences and were more likely to feature major characters using tobacco.<sup>22,26,27,32,34</sup> For U.S. movies released from 1999 to 2003, a higher proportion of R-rated movies included smoking (90%) compared with PG-13 (80%) and G/PG movies (50%). However, because of a decline in the total number of R-rated movies released between 1999 and 2003, a shift occurred in the total distribution of movies containing smoking. Most of the movies

released in 2002 and 2003 that contained smoking scenes had a youth rating (PG-13 or G/PG).<sup>26</sup>

Tobacco use was more common in dramas than in comedies, science fiction, or child and family genres.<sup>32</sup> Similarly, Dozier and colleagues<sup>34</sup> found that characters in comedies smoked less frequently than in other genres among 2002's top-grossing movies. The amount of tobacco use in movies did not have a significant association with the movies' box-office success.<sup>32</sup> This finding may suggest that including tobacco in movies provides no direct economic benefit to the entertainment industry. This notion is bolstered by experimental evidence that among adolescent moviegoers, stripping the smoking from a movie does not affect their satisfaction with the movie or willingness to recommend it to a friend.<sup>42</sup>

### ***Trends in the Amount of Tobacco Depicted in Movies Across Years***

Examination of changes over the years in the frequency of on-screen depiction of tobacco highlights some discrepancies between movie portrayals of smoking and the social reality of smoking. In a content analysis by Dalton and colleagues<sup>32</sup> of the top 25 box-office hits from 1988 to 1997, the rate of tobacco use among 1,400 major characters was 25%. This finding was not discordant with the prevalence of smoking among U.S. adults during that period. McIntosh and colleagues<sup>39</sup> found that the proportion of leading characters who smoked increased from 20% in the 1940s to 31% in the 1950s. The proportion then declined to 18% in the 1960s, 17% in the 1970s, and finally 12% in the 1980s. Omidvari and others<sup>38</sup> found that, among contemporary U.S. movie characters during the 1990s, smoking prevalence was similar to that in the general U.S. population. In these three studies, the proportion of characters who smoked does not appear

to exceed historical trends for smoking prevalence.

However, trends in the sheer frequency with which tobacco appears in movies across years do appear to be discordant with declining smoking rates in the actual population. In a sample of top box-office U.S. films from 1950 to 2002, the number of smoking incidents per 5-minute interval of film declined from 10.7 incidents per hour in 1950 to a minimum of 4.9 in 1980 to 1982 but increased to 10.9 in 2002.<sup>28-30</sup> Another study found that, after an initial drop in the frequency of depicting tobacco in the 1970s and mid-1980s, the rate subsequently increased.<sup>21</sup> Dalton and colleagues<sup>32</sup> found that the number of tobacco occurrences in top box-office U.S. movies remained constant between 1988 and 1997, despite declining trends for smoking prevalence in the actual U.S. population. Mekemson and others<sup>22</sup> found a weak decline in the amount of tobacco use per minute of film between 1991 and 2000. However, these rates appeared to increase again between 2001 and 2003.<sup>23</sup> MacKinnon and Owen<sup>24</sup> found that smoking was depicted more frequently in movies released in 1995 than in 1990.

The depiction of smoking in children's animated films did not decrease between 1937 and 1997.<sup>36</sup> Later analyses of the "Thumbs Up! Thumbs Down!" content analysis dataset<sup>23</sup> found that in PG-13 films, the total number of tobacco incidents depicted per year increased substantially between 2000 and 2003. Thus, the argument that on-screen smoking reflects social realism does not hold up as a reason for trends in the rate of smoking depiction in movies across the years. Movie content appears to be out of step with declining smoking rates in the U.S. population. These results raise questions about the role of films in amplifying notions of tobacco smoking being widespread. A number of movie content analysis studies observed a pattern of increased depiction

of smoking in the late 1980s and early 1990s. This time span follows the period during which there is documented evidence of paid tobacco product placement deals occurring in relation to film. Examination of trends in the rate of movie depictions of tobacco in relation to key tobacco-control events suggests these events have not precipitated marked reductions in on-screen tobacco portrayals.<sup>33,36</sup>

### ***Characteristics of On-Screen Smokers***

As indicated earlier, smoking prevalence among characters in films was not markedly discordant with smoking prevalence in the actual population (i.e., 25%).<sup>32</sup> However, Dalton and colleagues<sup>32</sup> found that the social characteristics of leading characters were atypical (e.g., attractive, high socioeconomic status) so the characters represented as smokers did not reflect the social reality of smoking. Hazan and colleagues<sup>28</sup> found that between 1960 and 1990, the prevalence of smoking among major characters with high socioeconomic status was nearly three times as high as among people of similar socioeconomic status in the actual U.S. population. In the 1980s, tobacco events involving young adults (aged 18–29 years) more than doubled compared with the previous two decades. However, tobacco events involving somewhat older adults (aged 30–45 years) fell by nearly one-half.<sup>28</sup> More recent movies tended to portray smoking by adults more often than smoking by adolescents. For popular movies from 1996 and 1997, smoking rates of 17%, 26%, and 25% were recorded for major characters aged younger than 18, 18–39, and older than 39 years, respectively.<sup>27</sup>

Stern<sup>35</sup> found an identical smoking prevalence (17%) among major teen movie characters for top-grossing films from 1999 to 2001. Dozier<sup>34</sup> found that only 2% of teenagers smoked in top-grossing films for 2002. The on-screen smokers tended to be adult, white, and male. Future studies

replicating sampling and coding methods over time will be necessary to confirm whether a significant decline has occurred in on-screen smoking among teen characters. Dalton and colleagues<sup>32</sup> found that only 3% of tobacco occurrences were adolescents smoking and that the typical smoker in movies was white, male, middle-aged, and of high socioeconomic status—traits possessed by most leading characters. Omidvari and colleagues<sup>38</sup> found that among leading American movie characters portrayed in the United States in the 1990s, smoking on-screen was associated with being male and of lower socioeconomic class.

The different findings of these studies in relation to the apparent class of on-screen smokers may reflect the different sampling methods used. Dalton and colleagues<sup>32</sup> and Dozier and colleagues<sup>34</sup> selected movies solely on box-office rating. Omidvari and others<sup>38</sup> selected a subset of top box-office movies based on a range of exclusion criteria (table 10.1). The findings of Dalton and colleagues provide an account of smoking prevalence among prominent movie characters during the 1990s across movies of all genres set in all eras. However, Omidvari and colleagues<sup>38</sup> evaluated smoking prevalence among U.S. movie characters in films of realistic genres set in the 1990s. These researchers focused on this subset of movies on the grounds that they were examining how movies portrayed smoking prevalence in contemporary life. Films set in the present may present smokers as more socially disadvantaged than did films in previous eras. The study by Omidvari and colleagues provides a useful snapshot of how contemporary on-screen smoking depictions compare with smoking prevalence in the general U.S. population. However, they do not represent a complete picture in terms of audience reach and impact of on-screen smoking (this was not their aim). As Glantz and Polansky<sup>43</sup> argue, there is no evidence that viewers, particularly adolescents, distinguish between portrayals of tobacco



in historical, contemporary, and futuristic films or between portrayals of tobacco in American and non-American films to which they are exposed.

The concern about the types of characters who are predominantly depicted as smokers in movies is that smoking is modeled by characters bearing aspirational traits—such as good looks, maturity, affluence, and power—similar to the sorts of images traditionally promoted in tobacco advertisements. Theories of media influence and persuasion predict that role models bearing such traits are the most influential to audiences.<sup>44,45</sup> As described later in this chapter, in “Effects on Attitudes, Beliefs, and Behavior: Movies,” some audience studies suggest that the sheer frequency of exposure (across all movie genres and settings) is important to media impact. Audience studies have not yet examined whether responses vary with the historical setting of smoking. Evidence is emerging, however, that responses vary with character traits of smoking models.

### ***Other Social and Emotional Imagery***

McIntosh and colleagues<sup>39</sup> found that in popular films from 1940 to 1989, smokers were depicted as more romantically and sexually active and marginally more intelligent than nonsmokers. However, smokers and nonsmokers did not differ in terms of their attractiveness, goodness, socioeconomic status, aggressiveness, friendliness, or outcome at film’s end. In movies released from 1988 to 1997,<sup>32,34</sup> smoking often is depicted (1) in association with intimacy and social activity; (2) as motivated by certain mood states (e.g., agitation, sadness, happiness, relaxation, pensiveness); or (3) in conjunction with other risk-taking behaviors (e.g., drug use or violence).<sup>32</sup> Among American movie characters portrayed as contemporary in the 1990s, smoking was more common among

antagonists.<sup>38</sup> Two cross-sectional surveys of movie content report that in movies released during the 1990s, smoking was increasingly associated with stress reduction and hostility.<sup>24,28</sup> It is unclear whether this shift in imagery reflects changes in social norms concerning smoking, cinematic style, or commercial factors.

### ***Health Consequences***

A key concern about depictions of smoking on screen is that the health consequences of smoking are rarely shown. Content analyses of children’s animated films released between 1937 and 1997 indicated that more than two-thirds of the films included tobacco use without clear verbal messages of any negative long-term health effects of smoking.<sup>36</sup> Similarly, Hazan and colleagues<sup>28</sup> found that most tobacco events in movies from 1960 to 1990 did not include health messages. Roberts and others<sup>27</sup> found that, among the 200 most popular movie rentals for 1996 and 1997, negative long-term health effects associated with substance use (smoking, drug use, or alcohol consumption) were rarely depicted (in less than 7% of movies). Similarly, an analysis by Everett and colleagues<sup>31</sup> of top box-office U.S. films from 1985 to 1995 indicated that on average only 3.5% of tobacco events were antitobacco, compared with 32.3% of tobacco events that were categorized as protobacco. In top-grossing films for 2002, most (92%) incidents involving tobacco were portrayed without consequences.<sup>34</sup>

In another study, youth viewers found that 74% of the top 50 movies between 2000 and 2003 that depicted tobacco contained protobacco messages.<sup>23</sup> Dalton and colleagues<sup>32</sup> found that negative reactions to tobacco use (e.g., comments about health effects or gestures such as coughing) were depicted in only 6% of tobacco occurrences. Escamilla and others<sup>40</sup> found that movies rated as PG/PG-13 were less likely than R-rated movies to contain negative messages

about smoking. In PG/PG-13 films, only 9 of 22 tobacco messages were antitobacco, compared with 21 of 31 messages in R-rated/unrated films. It is especially of concern that health effects may be more frequently omitted from movies targeted toward younger audiences. As demonstrated by social learning theory,<sup>45</sup> showing hazardous behaviors in the absence of negative consequences is likely to make viewers more inclined to mimic them than if the negative consequences were shown.

### **Brand Appearances**

Content analyses suggest that appearances of specific tobacco brands in movies occur frequently, despite a voluntary agreement on the part of the tobacco industry to stop paying for their brands to appear (the Cigarette Advertising and Promotion Code incorporated a voluntary ban on paid product placement circa 1991). In a 10-year sample of top box-office films from 1988 to 1997, the most highly advertised U.S. cigarette brands also accounted for the most brand appearances in the movies, and no decline occurred after 1991.<sup>33</sup> Most (85%) of the films contained some tobacco use, with specific brand appearances in 28% of the total film sample. Brand appearances were as common in films suitable for adolescent audiences as in films for adult audiences. Although 27 tobacco brands were depicted in the movies sampled, 4 cigarette brands accounted for 80% of brand appearances. The brands were Marlboro (40%), Winston (17%), Lucky Strike (12%), and Camel (11%). Other content analyses of movies sampled from the late 1990s have found that brand appearances for Marlboro occurred five to six times more frequently than those for other tobacco brands.<sup>24,27</sup> The U.S. film industry's use of the most heavily advertised tobacco brands (see chapter 4 for advertising expenditures by brand) in internationally distributed films suggests that film serves as a global advertising medium for tobacco, as about

one-half of box-office receipts for these films are from overseas.<sup>33</sup>

Often, brand appearances involve only glimpses of cigarette packaging in the ambient scene environment. A subset of brand appearance of particular concern, termed *actor endorsement*, is display of the tobacco brand while an actor handles or uses a product.<sup>33</sup> It is reasonable to single out actor endorsement, because the film industry does so in its negotiations for placements for various products, often asking for a higher payment when an actor uses a particular brand.<sup>33</sup> Table 10.2 is derived from an ongoing content analysis of the top 100 box-office hits and covers the years 1996–2002. The table lists all actor endorsement tobacco events captured during the seven-year period. The table documents 46 tobacco brand endorsement scenes from 43 of the 700 movies, thus giving a measure of the scope of the activity. Table 10.2 also illustrates that foreign cigarette brands are rarely depicted, the Marlboro brand captures most actor endorsements (25 of 46 endorsements), actor endorsement is not limited to one or two actors, and actor endorsement usually occurs only once or twice during the course of a movie. The one exception is the movie *28 Days*, which contains nine actor endorsements of Marlboro.

### **Audience Reach**

One issue limiting the utility of content analysis studies is that most do not include an estimate of reach. *Reach* typically is defined as the number of people who see a particular form of advertising.<sup>46</sup> Polansky and Glantz<sup>26</sup> estimated reach among adolescents for smoking in movies released at the box office between 1999 and 2003. They first estimated the number of smoking depictions contained in 776 movies released during this period by using data from ScreenIt.com (i.e., about 5,500 tobacco incidents in all movies). They then used box-office data

**Table 10.2 Brand Cigarette Use Depicted in Contemporary Movies**

Actor name	Brand endorsed	Number of endorsement scenes	Movie name	Year of release
Drescher, Fran	Marlboro	1	Jack	1996
Eldard, Ron	Marlboro	1	Sleepers	1996
Davis, Geena	Parliament	1	Long Kiss Goodnight, The	1996
Addy, Mark	Foreign Brand	1	Full Monty, The	1997
Carlyle, Robert	Foreign Brand	1	Full Monty, The	1997
Roberts, Julia	Marlboro	2	My Best Friend's Wedding	1997
Sheen, Charlie	Marlboro	1	Money Talks	1997
Franz, Dennis	Camel	1	City of Angels	1998
Newman, Paul	Camel	1	Twilight	1998
Sarandon, Susan	Camel	1	Twilight	1998
Hawke, Ethan	Kool	1	Great Expectations	1998
Cage, Nicolas	Marlboro	1	Snake Eyes	1998
Janssen, Famke	Marlboro	1	Rounders	1998
Keaton, Michael	Marlboro	1	Desperate Measures	1998
Reno, Jean	Marlboro	1	Godzilla	1998
Eastwood, Clint	Camel	2	True Crime	1999
Bujold, Genevieve	Foreign Brand	1	Eye of the Beholder	1999
Leguizamo, John	Marlboro	1	Summer of Sam	1999
Quaid, Dennis	Camel	1	Frequency	2000
Bullock, Sandra	Marlboro	4	28 Days	2000
Buscemi, Steve	Marlboro	1	28 Days	2000
Dooly, Mike	Marlboro	1	28 Days	2000
Pratt, Wendee	Marlboro	1	28 Days	2000
Santoni, Reni	Marlboro	1	28 Days	2000
Skye, Azura	Marlboro	1	28 Days	2000
Vaughn, Vince	Marlboro	1	Cell, The	2000
Carrey, Jim	Marlboro	1	Me, Myself & Irene	2000
Wilhoite, Kathleen	Marlboro	1	Pay It Forward	2000
Schwimmer, Rusty	Marlboro	1	Perfect Storm, The	2000
Fisher, Carrie	Marlboro	1	Scream 3	2000
Scott, Dougray	VF	1	Mission: Impossible II	2000
West, Dominic	Winston	1	28 Days	2000
Washington, Denzel	Kool	1	Training Day	2001
Barrymore, Drew	Marlboro	1	Riding in Cars with Boys	2001
Rockwell, Sam	Marlboro	1	Heist	2001
Zahn, Steve	Marlboro	1	Riding in Cars with Boys	2001
Germann, Greg	Parliament	1	Joe Somebody	2001
Crowe, Russell	Winston	1	Beautiful Mind, A	2001
de Matteo, Drea	Winston	1	Swordfish	2001
Hoechlin, Tyler	Bugler	1	Road to Perdition	2002
Johnson, Carl J.	Marlboro	1	Men in Black II	2002

Note. From a content analysis of the top 100 movies each year from 1996 through 2002.

from the National Association of Theatre Owners and Nielsen data on average audience share by age as well as the MPAA ratings to determine the number of children 6–17 years of age who purchased tickets to see these movies. The MPAA is the lobbying arm of the film industry. The researchers estimated that the thousands of smoking incidents in hundreds of movies multiplied by the number of tickets purchased to see these movies resulted in about 8.2 billion smoking depiction impressions for children and adolescents during the five-year period. Although these estimates are subject to error and may be overestimated, they are a general measure for the very large scale of exposure from a population standpoint. They also do not include viewings of movies as DVD releases or on television in the years following the theatre release dates.

## Effects on Attitudes, Beliefs, and Behavior: Movies

Content analysis studies are useful for documenting media inputs, but they do not provide evidence concerning audience responses to such content. This section reviews the results of research on audience responses to tobacco content in entertainment media. Most of the media-effects research on tobacco in entertainment media has focused on movies rather than on other forms of entertainment media. This section focuses, therefore, on the findings of that movie research.

### Qualitative Studies

Researchers taking a cultural studies approach to media research place a heavy emphasis on the subjectivity of interpretation of media messages. They tend to use qualitative methods to investigate interpretations of media among small numbers of audience members. These

studies provide informative descriptive data but do not provide conclusive information as to impact of the media. A search of PubMed identified seven such studies by using the following strategy:

```
((“focus groups”[MeSH Terms] OR focus
group[Text Word]) OR qualitative[All
Fields]) AND ((“tobacco”[MeSH Terms] OR
tobacco[Text Word]) OR (“smoking”[MeSH
Terms] OR smoking[Text Word]))
AND (movies[All Fields] OR (“motion
pictures”[MeSH Terms] OR motion
picture[Text Word]) OR media[Text Word]))
41 records obtained, May 9, 2006.
```

Five of the studies reported on focus groups conducted with adolescents;<sup>47–51</sup> one was on focus groups and interviews with college students;<sup>52</sup> and one was on interviews conducted with a convenience sample of writers, actors, directors, producers, studio executives, and others involved in the film industry.<sup>53</sup> Two additional relevant focus group studies were identified via citations in other papers by MacFadyen and colleagues<sup>54</sup> and the World Health Organization (WHO).<sup>55</sup> All of these studies used an acceptable qualitative research methodology.

Similar results concerning young people’s interpretations of smoking imagery in film have been found for focus group studies conducted with college students in India (8 groups,  $N =$  approximately 50)<sup>52</sup> and adolescents in Australia (16 groups,  $N = 117$ ),<sup>47</sup> New Zealand (approximately 10 groups,  $N = 76$ ;<sup>48</sup> and approximately 10 groups,  $N = 88$ ),<sup>49</sup> India (8 groups, number not reported),<sup>55</sup> and the United States (178 groups,  $N = 1,175$ ;<sup>51</sup> and 31 groups,  $N = 205$ ).<sup>50</sup> Young people reported that movies are an important source of information about smoking and that these images convey the notion that smoking is a normative, acceptable behavior; offers a means of stress relief; conveys a certain social image; and may serve as a marker of adult independence. Together, these

findings indicate that young people perceive images of smoking in movies as leading to positive social or personal consequences rather than as presenting information about the negative health consequences of smoking. Qualitative research further indicates that other mass media with a visual component (e.g., television, magazines) convey mainly protobacco information about smoking to youth audiences (12 groups,  $N = 70$  approximately,<sup>54</sup> and 178 groups,  $N = 1,175$ ).<sup>51</sup>

## Cross-Sectional Studies

Cross-sectional studies attempt to quantify the relationship between exposure to media and attitudes, beliefs, or behavior in population-based samples. One unpublished and eight published cross-sectional studies of the relationship between exposure to smoking in movies and adolescent smoking were identified. Articles from the medical literature were identified through the following PubMed search strategies:

1. (“Smoking”[MeSH] OR “Tobacco”[MeSH]) AND “Motion Pictures”[MeSH],  
79 records obtained, May 10, 2006
2. (“Smoking”[MeSH] OR “Tobacco”[MeSH]) AND (“movie star” OR “movie stars”),  
5 records obtained, May 10, 2006

Articles from the literature on psychology, marketing, and communications were identified by searching PsycINFO, using the following search strategy and limiting to articles in English:

KW=(smoking or tobacco) and  
KW=(movies or (motion picture)),  
26 records obtained, May 10, 2006

The studies were reviewed for inclusion of design characteristics that increased the reviewer’s confidence that the relationship demonstrated in the studies was a true media effect for the study sample and

that the findings were generalizable (see table 10.3 for summary scores of the studies). On the basis of these criteria, two cross-sectional studies were excluded from the review<sup>5,6</sup> because they included no controls for covariate influences. The remaining studies—seven published and one unpublished—involved four cross-sectional analyses of three U.S. samples<sup>7,9,56,57</sup> and one unpublished Australian sample of adolescents.<sup>58</sup>

As shown in table 10.3, researchers have tended to use two general measures of movie influence. One assesses the smoking status of favorite movie stars,<sup>4,9,56,58</sup> and the other relies on movie title recognition.<sup>3,7,57</sup> The first measure, smoking status of favorite movie stars, is an exposure measure that taps the self-concept and the prototypical smoker. People choose behaviors that are consistent with their self-concepts.<sup>59</sup> Self-concept ratings of adolescent smokers, as well as susceptible nonsmokers, are more similar to their ratings of the prototypical smoker than are the self-concept ratings of nonsmokers.<sup>60–62</sup> In theory, adolescents also may initiate behaviors as they modify their self-images. Behavioral depictions by favorite stars shape that process by determining what is “cool,” attractive, and grown up. To the extent that smoking portrayals are consistent with adolescents’ actual or ideal self-images or a prototype of the ideal group member (that is, appearing grown up), adolescents will be motivated to smoke to align their self-perceptions with personal ideals.<sup>63,64</sup>

In determining the smoking status of favorite stars, Distefan and colleagues<sup>4,56</sup> and Dixon<sup>58</sup> asked adolescents to list their favorite male and female movie stars. The researchers developed lists of the top 10 male and female actors and subsequently used content analysis to determine the on-screen smoking status for these individuals. The Distefan study also determined these stars’ real-life smoking status. Other

**Table 10.3 Summary of Results of Cross-Sectional and Longitudinal Studies: Smoking and Movies**

Study	Study design	Recruitment	Subjects	Country	Media influence measure
Distefan et al. 1999 <sup>56</sup>	Cross-sectional	Random digit dial	3,053 adolescents aged 12–17 years	U.S.	Chooses favorite movie star of ever (vs. never) smokers
Dixon 2003 <sup>58</sup>	Cross-sectional	School based	2,610 adolescents aged 12–18 years; attitudes assessed among subgroup of 1,858 never/experimental smokers	Australia	Movie smoking status of favorite star
Tickle and Sargent 2001 <sup>9</sup>	Cross-sectional	School based	632 adolescents aged 10–19 years; attitudes assessed among subgroup of 281 never smokers	U.S.	Movie smoking status of favorite star
Sargent and Beach 2001 <sup>7</sup> Sargent et al. 2002 <sup>57</sup>	Cross-sectional	School based	4,919 adolescents aged 10–15 years; attitudes assessed among subgroup of 3,766 never smokers	U.S.	Two-stage direct measure (movie title recog × amt of smoking)
Sargent et al. 2005 <sup>65</sup>	Cross-sectional	Random digit dial	6,522 adolescents aged 10–14 years	U.S. (national sample)	Two-stage direct measure (movie title recog × amt of smoking)
McCool et al. 2005 <sup>66</sup>	Cross-sectional	School based	3,041 adolescents aged 12–16 years	New Zealand	Perceived frequency of viewing films (cinema and video)
Dalton et al. 2003 <sup>3</sup>	Longitudinal	School-based recruitment with teleph F/U	2,603 adolescents aged 10–15 years at inception	U.S.	Two-stage direct measure (movie title recog × amt of smoking)
Distefan and Pierce 2004 <sup>67</sup>	Longitudinal	Random digit dial	2,084 adolescents aged 12–17 years at inception	U.S.	Movie smoking status of favorite star

*Note.* Teleph F/U = telephone follow-up; recog = recognition; amt = amount; S = sociodemographics; P = personality characteristics; Sch = school attachment and function; SI = other social influences (friend and family smoking); PS = parenting style; M = other media/advertising influences.

<sup>a</sup>Statistically significant relation ( $p < .05$ ) between movie smoking exposure and this outcome after covariate adjustment.

<sup>b</sup>Significant correlation (no covariate adjustment).

<b>Validity, reliability</b>	<b>Additional outcome measures</b>	<b>Smoking outcome measure</b>	<b>Measure of association</b>	<b>Association size</b>	<b>Covariate adjustment categories</b>
Not reported	Susceptibility <sup>a</sup>	0	0	0	S, P, Sch, SI, M
Not reported	Intentions	Index	Adjusted proportional odds	1.16 <sup>a</sup>	S, Sch, SI
Not reported	Susceptibility <sup>a</sup>	Initiation	Adjusted odds	1.5 <sup>a</sup>	S, Sch, SI, M
3-week test–retest (average percent agreement) 92%. Correct recall of titles seen up to 1 year prior = 90%. Recalls having seen a sham title 3%.	Susceptibility <sup>a</sup> Norms—adult <sup>a</sup> Norms—peer Positive expect <sup>a</sup>	Initiation	Adjusted odds	1.7–2.7 <sup>a</sup>	S, P, Sch, PS, SI, M
3-week test–retest (average percent agreement) 92%. Correct recall of titles seen up to 1 year prior = 90%. Recalls having seen a sham title <2%.	0	Initiation	Adjusted odds	1.7–2.6	S, P, Sch, PS, SI
Cronbach’s alpha = 0.65	Norms—movies <sup>a</sup> Nonchalance—movies <sup>a</sup> Norms—peer <sup>b</sup> Judgment—peer <sup>a</sup> Intentions	0	0	0	S
3-week test–retest (average percent agreement) 92%. Correct recall of titles seen up to 1 year prior = 90%. Recalls having seen a sham title 3%.	0	Initiation	Adjusted relative risk	2.0–2.7	S, P, Sch, PS, SI, M
Not reported	0	Initiation	Adjusted odds	1.3 <sup>a</sup>	S, Sch, PS, SI, M

researchers<sup>9</sup> asked adolescents to name their favorite stars and determined smoking status in recently released movies for any star chosen by five or more adolescents. One problem with favorite star measures was the loss of sample size due to the great diversity of stars adolescents chose as “favorite.” Adolescents were excluded if their chosen star did not make the top 10 list—51% were excluded in the Distefan study,<sup>56</sup> and 37% were excluded by Dixon<sup>58</sup>—or because fewer than five adolescents chose the star (50% excluded in a study by Tickle and colleagues).<sup>9</sup>

All studies have examined associations between stars’ on-screen smoking status and adolescents’ attitudes toward smoking. Two used an adolescent smoking measure termed *susceptibility to smoking*, which captures an individual’s inability to rule out smoking in the future or to rule out smoking if a peer offers cigarettes; this measure has been found to be a strong predictor of future smoking.<sup>68</sup> Distefan and colleagues<sup>56</sup> determined the favorite movie stars for a random sample of California adolescent smokers. They found that adolescent never smokers who preferred the favorite star of smokers were more likely to be susceptible to smoking. The favorite stars of smokers also were more likely to have smoked on screen and in real life. Tickle and colleagues<sup>9</sup> determined favorite movie stars for a school-based sample of northern New England adolescents. Among never smokers, those choosing stars who smoked were significantly more likely to be susceptible to smoking. For each of these studies, the adjusted odds ratio (OR) was the measure of association with smoking and susceptibility to smoking. For the study by Distefan and colleagues, the adjusted OR was 1.3 for adolescents who chose a favorite star among smokers. For the study by Tickle and others, the adjusted OR was 4.8 if the star had smoked in two or more recent movies. Dixon<sup>58</sup> found no relationship between the on-screen smoking status of favorite stars

and intentions to smoke in a sample of Australian adolescent never smokers and experimental smokers.

It is unclear whether the lack of association for intentions observed in Dixon’s study in contrast to the U.S. studies is due to a cultural difference in responsiveness to on-screen smoking by stars or due to methodological differences between the studies. For example, the Australian adolescents in Dixon’s study may have been less susceptible to the influence of smoking in movies because it did not resonate with their other media exposure in relation to tobacco. Unlike in the United States, most direct forms of tobacco advertising are illegal in Australia. Cross-cultural surveys using identical methods would be necessary to test these hypotheses.

Two studies<sup>9,58</sup> also examined whether the smoking status of favorite stars was linked with adolescent smoking. Overall, the relationship between favorite stars’ smoking and adolescent smoking was statistically significant in both cases. Dixon<sup>58</sup> estimated the effect on a smoking uptake index with a proportional odds model (adjusted proportional OR = 1.16). Tickle and colleagues<sup>9</sup> estimated the effect on trying smoking with a logistic regression (adjusted OR = 1.5 [95% confidence interval (CI), 1.01–2.32] for adolescents whose favorite stars smoked in two recent movies and 3.1 [95% CI, 1.34–7.12] for adolescents whose favorite stars smoked in three or more movies). Dixon separated the effect by whether the favorite actor was male or female and the gender of the subject. She found that the association was significant for male actors’ smoking, and only in girls. Tickle and colleagues found no such gender-based interactions.

The second approach to measuring exposure to smoking in movies is a two-stage method that directly estimates exposure to smoking in movies.<sup>3,7</sup> The first stage involves



content analysis to determine the amount of smoking contained in the movie sample of interest. Because adolescents cannot be surveyed on all movies, the second stage of this method requires special survey techniques that present the adolescent with a movie title list (Sargent and colleagues<sup>7</sup> chose to include 50 titles) that was randomly selected from the larger content-analyzed sample (table 10.4). This method has the advantage that exposure to smoking in movies can be estimated directly and in an unbiased fashion for all adolescents in the survey sample.

The method relies on adolescents' ability to recall accurately whether or not they had seen a movie, when prompted by the movie title, and has been extensively validated by Sargent and colleagues.<sup>65</sup> As a test of face validity, these researchers evaluated whether box-office success was related to the probability adolescents would say they had seen a movie. In their cross-sectional study, there was a high correlation ( $r = -0.73$ ) between the box-office success of the top 100 movies released the year before the survey and the percentage of adolescents who had seen these films. Two of the movies included were foreign films not released in the United States and served as a validation against false reports. Of the students queried regarding the two foreign films, only about 1% or less reported that they had seen the unreleased movies. These were the two lowest viewing rates reported for the survey. To further evaluate validity, Sargent and colleagues<sup>7</sup> recontacted the 49 students

who participated in their longitudinal pilot study. As part of the pilot, students were called once a month for 12 months; they were asked at each interview what movies they had seen in the past week. One year after the final interview, adolescents were asked whether or not they had seen items on a list of 50 movies. Each list contained up to 30 movie titles they reported having seen the previous year (average = 19), 10 false movie titles with real stars, 10 false movie titles with false stars, and other real movie titles to complete a list of 50. As shown in table 10.4, adolescents had excellent recognition of the movies they had seen and were very unlikely to report seeing false movies, even when associated with real actors.

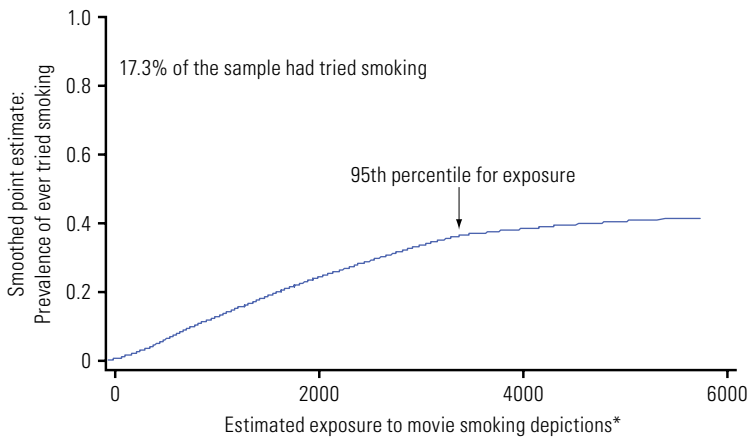
Sargent and colleagues<sup>57</sup> used the direct method described above to estimate exposure to smoking in movies from a sample of 601 popular contemporary movies among 4,919 adolescents in northern New England. The movie exposure measure provided an estimate of lifetime exposure to smoking scenes from the 601 movies. The subjects had seen an average of 30% of the movie sample; in these, they were exposed to an average of 1,160 depictions of smoking in movies (interquartile range 640–1,970).<sup>69</sup> A smoothed curve for the dose response shows a direct linear relationship between higher exposure to smoking in movies and higher rate of smoking through most of the exposure range, with the dose response flattening out past the 95th percentile of exposure (figure 10.2).

**Table 10.4 Validity of Adolescents' Recognition of Movie Titles**

Movie category	Have you seen this movie? (ascertained in 2001)		
	Yes	No	Don't know
Adolescent reported seeing it in 1999	87.2%	12.6%	0.6%
False movie title, real actors	2.7%	96.7%	0.5%
False movie title, false actors	3.0%	96.4%	0.6%
Other movies	41.1%	54.2%	4.6%

*Note.* Data derived from research by Sargent, J. D., M. O. Beach, M. A. Dalton, and T. F. Heatherton.

**Figure 10.2** Lowess Smoothed Curve Showing Cross-Sectional Relationship between Exposure to Movie Smoking Depictions and Adolescent Smoking Initiation in a Study of Northern New England Adolescents



Note. Based on sample described in Sargent, J. D., M. L. Beach, M. A. Dalton, L. A. Mott, J. J. Tickle, M. B. Ahrens, and T. F. Heatherton. 2001. Effect of seeing tobacco use in films on trying smoking among adolescents: Cross sectional study. *British Medical Journal* 323 (7326): 1394–97.

\*From 601 popular contemporary motion pictures.

There was almost no smoking among adolescents with little exposure to movies, and smoking peaked at almost 40% above the 95th percentile. The relationship between viewing smoking in movies and adolescent smoking remained after a broad range of confounders was controlled.<sup>57</sup> The measure of association was the adjusted OR, with the adjusted odds of trying smoking being 1.9 (95% CI, 1.3–2.7), 2.6 (1.8–3.7), and 2.5 (1.7–3.5) for quartiles 2, 3, and 4, respectively, compared with quartile 1. The effect of moving to a higher category of exposure to smoking in movies was similar to the adjusted OR for having siblings who smoke (1.7 [95% CI, 1.3–2.1]); the effect was higher than the effect of having parents who smoke (1.3 [95% CI, 1.1–1.6]) or owning tobacco-branded merchandise (1.2 [95% CI, 0.97–1.5]) and lower than the effect of having peers who smoked (5.1 [95% CI, 4.0–6.4]).

The relationship between exposure to smoking in movies and attitudes toward smoking also was assessed among never smokers in the northern New England

sample.<sup>57</sup> Exposure to smoking in movies was associated with susceptibility to smoking, an indexed measure of positive expectations for smoking, and normative beliefs about adult smoking. The measure of association was the adjusted OR. Ranges (for the three higher quartiles) for the effect size for the association with exposure to smoking in movies were 1.2–1.7 for susceptibility to smoking, 1.2–1.4 for the endorsement of adult smoking as normative, and 1.2–1.4 for the endorsement of positive smoking expectations. Exposure to smoking in movies was not associated with normative beliefs about peer smoking, a finding that is consistent with the predominantly adult nature of depictions of smoking in movies. This finding is consistent with content analyses showing that movies rarely depict adolescent characters as smokers.<sup>32</sup>

Sargent and colleagues<sup>65</sup> used the direct method described above to estimate exposure to smoking in movies from a sample of 532 popular contemporary movies among a nationally representative sample of

6,522 U.S. adolescents. Adolescents' level of exposure to smoking in movies was divided into quartiles. Compared with adolescents in quartile 1, the adjusted ORs for having tried smoking were 1.7 (95% CI, 1.1–2.7) for quartile 2, 1.8 (95% CI, 1.2–2.9) for quartile 3, and 2.6 (95% CI, 1.7–4.1) for quartile 4 after controlling for potential confounders. This association between exposure to smoking in movies and smoking initiation was similar in size to the association with parent and sibling smoking (adjusted odds of smoking 1.8 [95% CI, 1.5–2.3] and 2.3 [95% CI, 1.8–2.9], respectively) and held true within broad racial and ethnic categories, and regardless of residential location. The association was lower than the association with peer smoking (OR 3.3 [95% CI, 2.6–4.2]). An adjusted attributable risk fraction indicated that among 38% of adolescents who had tried smoking, exposure to smoking was an independent, primary risk factor for smoking initiation.

In addition to the measures of smoking status and movie title recognition, a third measure of movie influence—used in a single study—asked adolescents their perceived frequency of viewing movies. Using this crude estimate of exposure to on-screen smoking, McCool and colleagues<sup>66</sup> examined a sample of 3,041 New Zealand adolescents. The self-reported frequency of movie exposure was positively associated with perceived smoking prevalence among adolescents and among people in movies, and with nonchalance/apathy concerning smoking in films, when controlling for demographic variables. These researchers did not find a statistically significant association between exposure to film and smoking intentions (“smoking expectations”). However, path analytic techniques revealed that certain smoking belief variables that bore a direct association with movie exposure also were significantly associated with smoking intentions, leading the authors to argue that

exposure to movies had an indirect effect on intentions, through its influence on mediating cognitions. Thus, this study, like that of Dixon,<sup>58</sup> failed to find a statistically significant association between the movie exposure measure and smoking intentions. Owing to differing methods in the studies, it is not clear whether the lack of association observed with intentions is because on-screen smoking does not directly affect smoking intentions, whether the two studies that examined intentions used measures of exposure to media that lacked specificity in quantifying actual exposure to on-screen smoking, or whether the tobacco control environments in those countries (Australia and New Zealand) “dampen down” the protobacco effects of on-screen smoking. Inter-country surveys that use identical methods (including more direct measures of on-screen smoking) would be necessary to test these hypotheses.

The cross-sectional surveys not included (because of the lack of controls for confounding) are still interesting, because they suggest that an association between exposure to smoking in movies and youths' smoking also occurs in non-Western countries. However, because of the limitations of these studies, further research is needed to establish more clearly the effect of smoking depicted in movies on adolescents in non-Western countries. A survey of 1,338 Thai adolescents (aged 14–17 years) found that exposure to American movies was related to heightened levels of smoking-related behavior but not to smoking intentions.<sup>6</sup> In addition, a survey of more than 1,700 Hong Kong adolescents indicated that viewing a greater number of movies was significantly associated with being more likely to have ever smoked and with intentions to smoke.<sup>5</sup>

## Longitudinal Studies

Longitudinal studies attempt to quantify the relationship between exposure to

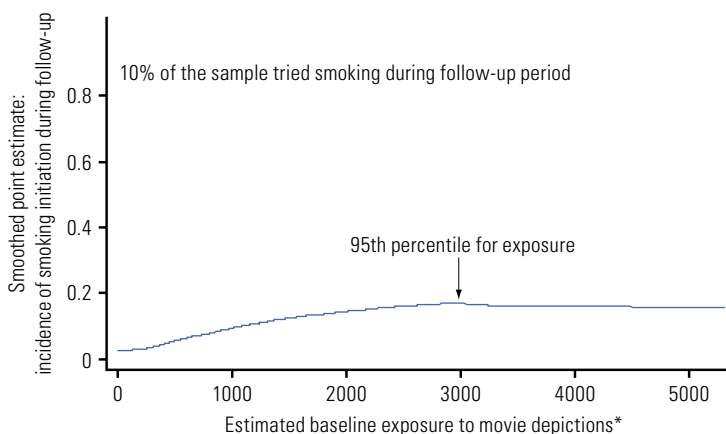
media and behavior in population-based samples by using multiple-wave survey designs. These studies have the advantage of determining more clearly whether the exposure precedes the adoption of the behavior. Never smokers in two U.S. samples were followed longitudinally to determine which persons initiated smoking in the future as a function of baseline movie exposure.<sup>3,4</sup> A longitudinal study published in 2004 examined the status of smoking in movies by favorite stars (assessed at baseline) as a predictor of trying smoking in the future.<sup>4</sup> This study identified “favorite stars” who smoked in at least two movies during the three-year period prior to the survey. Consistent with Dixon’s cross-sectional study,<sup>58</sup> female, but not male, adolescents who chose stars who were smokers were significantly more likely to initiate smoking during the follow-up period.

Initiation of smoking also was determined for never smokers in the study of northern New England adolescents in which exposure to smoking in movies was estimated

directly.<sup>3</sup> Figure 10.3 shows a smoothed curve for the dose response. As shown in the cross-sectional sample, there was a direct linear relation between higher exposure to smoking in movies and a higher rate of smoking through most of the exposure range. The dose response flattened past the 95th percentile of exposure. Smoking during follow-up was almost zero for adolescents with minimal exposure to smoking in movies at baseline and approached 20% for adolescents in the highest exposure range.

The effect persisted when controlling for a large set of covariates, including other social influences, advertising influences, personality characteristics (e.g., rebelliousness), and parenting style. The effect size, measured as adjusted relative risk of smoking initiation, with baseline movie exposure categorized into quartiles, was 2.0 (95% CI, 1.3–3.2), 2.2 (95% CI, 1.4–3.4), and 2.7 (95% CI, 1.7–4.3) for quartiles 2, 3, and 4, respectively, compared with quartile 1. This range of relative risks was similar in magnitude to the relative

**Figure 10.3** Lowess Smoothed Curve Showing the Longitudinal Relationship between Exposure to Movie Smoking Depictions and Adolescent Smoking Initiation in a Study of Northern New England Adolescents



*Note.* Based on sample described in Dalton, M. A., J. D. Sargent, M. L. Beach, L. Titus-Ernstoff, J. J. Gibson, M. B. Ahrens, J. J. Tickle, and T. F. Heatherton. 2003. Effect of viewing smoking in movies on adolescent smoking initiation: A cohort study. *Lancet* 362 (9380): 281–85.

\*From 601 popular contemporary motion pictures.

risk of smoking associated with having parents who smoke (1.6 [95% CI, 1.2–2.0]), and higher than the relative risk associated with friends' smoking (1.1 [95% CI, 0.87–1.5]) or ownership of tobacco-branded merchandise (1.1 [95% CI, 0.85–1.5]). It is also notable that the estimates of the effect of viewing smoking in movies on smoking initiation in both longitudinal studies were almost identical to estimates obtained for the cross-sectional samples. This finding suggests that exposure to smoking in movies and its effect on adolescent smoking persist over time.

Taken together, these cross-sectional and longitudinal studies provide strong support for a direct association between exposure to smoking in movies and attitudes toward smoking and smoking initiation. The cross-sectional study of attitudes among never smokers<sup>57</sup> suggests that exposure to smoking in movies enhances perceptions about the utility of smoking and increases adolescents' intentions to try smoking. The longitudinal studies provide evidence of a temporal association—that is, exposure to on-screen smoking precedes smoking behavior among adolescents. The strongest associations have been demonstrated in studies using a direct measure of exposure. Cigarette smoking by a favorite movie star has a weaker association, probably because tobacco use by favorite stars is not a true measure of exposure to all smoking depicted in movies but instead taps the much narrower effect mediated by the adolescent's identification with his or her favorite star. If this is the case, the gender findings in the studies by Dixon<sup>58</sup> and Distefan and colleagues<sup>4</sup> indicate that, in relation to movies, identification processes are more important in determining smoking onset for girls than they are for boys.

## Experimental Studies

Experimental research enables media content variables of interest (e.g., smoking

versus nonsmoking footage) to be manipulated and allows controlled assessment of audience reactions to such content. This method overcomes a key limitation of cross-sectional studies—the inability to control for unknown or unmeasured confounders. In experimental studies, randomization of subjects to exposure categories is used to control for known and unknown confounders. The limitations of experimental studies are that the viewing conditions tend to be nonnaturalistic and it generally is feasible to assess only short-term responses to relatively brief media exposure. Nonetheless, these studies complement the cross-sectional studies and provide further insights into the impact on audiences of movie depictions of tobacco and tobacco use.

The PubMed and PsycINFO searches reported under cross-sectional studies yielded two experimental studies<sup>42,70</sup> and two quasi-experimental studies<sup>71,72</sup> assessing reactions to depictions of tobacco in movies. The latter two studies are best classified as quasi-experimental, as they assessed naturalistic exposure to whole movies among actual cinema audiences.<sup>71,72</sup> The strength of these studies was their larger audience sample size relative to the other studies. Their limitation was that viewers were not randomly allocated to conditions. The authors identified two further peer-reviewed experimental studies: one published<sup>73</sup> and another conducted as part of a doctoral dissertation.<sup>58</sup>

Table 10.5 summarizes the methods and findings of the respective experimental studies assessing reactions to on-screen portrayals of tobacco. Most designs of the studies included an experimental manipulation that compared audience responses to movie footage depicting smoking (intervention) with responses to movie footage that did not depict smoking (control). Some studies included further experimental manipulations, such as varying

**Table 10.5 Summary of the Methods and Results of Experimental Studies Assessing Responses to On-Screen Tobacco Use**

Study	Subjects	Subgroups examined	Methods		
			Country	Stimulus movie	Experimental manipulation
Jones and Carroll 1998 <sup>73</sup>	51 college students	<i>n</i> = 40 females, <i>n</i> = 11 males	Australia	Video clips (role plays, not actual movie footage)	Smoking compared with nonsmoking footage
Pechmann and Shih 1999 (study 1) <sup>42</sup>	607 ninth graders, nonsmokers	—	US	Scenes from <i>Reality Bites</i> and <i>Wild at Heart</i>	Smoking compared with nonsmoking footage x high compared with low positive arousal elicited by scenes
Pechmann and Shih 1999 (study 2) <sup>42</sup>	232 ninth graders, nonsmokers	—	US	Whole movie <i>Reality Bites</i>	Smoking compared with nonsmoking footage x prefilm antismoking advertisement compared with no advertisement
Gibson and Maurer 2000 <sup>70</sup>	120 college students	<i>n</i> = 36 smokers, <i>n</i> = 84 nonsmokers	US	20-minute clip of <i>Die Hard</i>	Smoking, nonsmoking footage
Hines et al. 2000 <sup>74</sup>	151 college students	—	US	6 scenes from 6 popular films	Smoking compared with nonsmoking footage
Dixon et al. 2001 <sup>71</sup>	383 adult cinema patrons <sup>a</sup>	<i>n</i> = 192 who completed follow-up interview within 2 weeks of seeing movie	Australia	Whole movie	Antitobacco message ( <i>The Insider</i> ) compared with control film ( <i>Erin Brokovich</i> )
Edwards et al. 2004 <sup>72</sup>	2,038 female adolescent cinema patrons <sup>a</sup>	<i>n</i> = 186 smokers, <i>n</i> = 1,852 nonsmokers	Australia	Whole movies (depicting smoking)	Prefilm antismoking advertisement compared with no advertisement
Dixon 2003 <sup>58</sup>	374 seventh and eighth graders	—	Australia	2 x 5 minute clips from popular movies	Smoking compared with nonsmoking footage of different character types

Note. — = variable not assessed; ns = variable not significantly affected by experimental manipulation.

<sup>a</sup>Quasi-experimental study, using subject's self-selected cinema exposure.

\**p* < .05. \*\**p* < .01. \*\*\**p* < .001. Variable significantly affected by experimental manipulation (lowest *p* value achieved for variables in this response category).

the level of emotional arousal for the sample movie footage (study 1)<sup>42</sup> or varying the social characteristics of the characters in the movie footage.<sup>58</sup> Two studies assessed whether exposure to an antismoking advertisement (intervention) before viewing a movie that featured smoking promoted different audience responses compared with responses to viewing a movie without such an advertisement (control). One study assessed whether including antitobacco content within the movie<sup>71</sup>

(intervention) produced a different audience response than the response to viewing a movie that did not contain such content (control). Most of the studies used actual movie footage or whole movies for their stimulus material, often with some editing performed to achieve the experimental manipulation. The exception, the study by Jones and Carroll,<sup>73</sup> used video clips of role plays produced specifically for the study. For studies using actual movie footage as stimuli, the strength is that

Response variables							
Ratings of the movie	Ratings of characters	Ratings of actors	Beliefs about smokers	Beliefs about personally smoking	Personal intentions to smoke	Arousal	Beliefs about the tobacco industry
—	** (females) ns (males)	—	—	—	—	—	—
—	—	—	**	*	—	**	—
*	**	—	**	*	*	**	—
—	* (smokers) ns (nonsmokers)	* (smokers) ns (nonsmokers)	* (nonsmokers)	—	ns (nonsmokers)	—	—
—	***	—	—	—	*	—	—
—	—	—	—	—	* (completed follow-up within 2 weeks of movie)	—	***
ns (smokers) *** (nonsmokers)	—	—	—	—	* (smokers) ns (nonsmokers)	—	—
—	**	—	ns	*	ns	—	—

the stimuli represent those the viewers might be exposed to in the “real world.” The disadvantage of this method is that to achieve the intended experimental manipulation (e.g., smoking versus nonsmoking footage), it is not always possible to obtain directly comparable control footage.<sup>58</sup> Conversely, studies using nonprofessionally produced footage can more readily produce stimuli that are identical, with the exception of the experimental manipulation.<sup>73</sup> However,

the footage is of nonprofessional quality, limiting generalization of the results to the likely effects on audiences of “real world” movie viewing.

Most of the studies consisted of a posttest-only design in their assessment of the audience’s tobacco-related attitudes, beliefs, and intentions. Only one<sup>71</sup> used pretest and posttest assessments of smoking-related beliefs, which would have increased the power to detect the effects of the media

manipulation within subject analyses. However, several of the studies did include a pretest assessment of participants' smoking status and demographic characteristics. This information enabled examination of responses as a function of key audience subgroups or inclusion of these variables as covariates in data analyses.<sup>70,74</sup>

The main methodological difference between the studies related to their respective sample sizes. The smallest audience sample consisted of approximately 40 subjects, with about 20 viewers per condition.<sup>73</sup> The largest audience sample consisted of 2,038 subjects, with about 1,000 viewers per condition.<sup>72</sup> Despite these marked differences in sample size, even the smaller studies found some statistically significant effects of the experimental manipulation on viewers' responses.

To help inform the assessment of the effect sizes of these experimental studies, the authors examined meta-analyses of effect sizes observed in experimental research assessing the effects of violent media depictions on viewer aggression<sup>75</sup> and of thin media models on body dissatisfaction.<sup>76</sup> The meta-analysis of media violence studies found a mean effect size for laboratory experiments of approximately 0.25 (95% CI, 0.23–0.28) and for field experiments approximately 0.2 (95% CI, 0.15–0.25). The absolute values for effect sizes in the body image studies were of a similar magnitude. The mean effect size across studies was  $-0.31$  (95% CI,  $-0.40$  to  $-0.23$ ). (The positive direction of the effect in the violence studies reflects increased aggression following exposure to violent movie content. The negative direction of the effect in the body image studies reflects more negative body image perceptions following exposure to thin models in the media.)

To determine the effect sizes observed in experimental research assessing audience

reactions to smoking in films, power calculations were performed, using the results observed in studies in which significant effects of the experimental manipulations were found on smoking-related beliefs and intentions, with the use of *Power and Precision* software. To perform such calculations comparing mean response scores postintervention, it was necessary to specify means, standard deviations, and cell sizes for each experimental condition. This process was possible for all of the experimental studies, except for two that did not publish standard deviations with their results.<sup>42,70</sup> The effect sizes achieved were within a range similar to those observed in the above meta-analyses of media experiments on other health topics (absolute values 0.1 through 0.8). The strongest effect size, 0.8 (95% CI, 0.41–1.19), was observed in the study by Jones and Carroll<sup>73</sup> for the effects of a video character's on-screen smoking status on perceptions of that character's social characteristics. According to Cohen's<sup>77</sup> effect size conventions, this observation would be viewed as a "large" effect for social science research. The effect sizes observed for more self-referent beliefs about smoking (e.g., intentions) tended to be "small" (range: 0.1–0.3), as might be expected for studies assessing reactions to a brief media exposure. However, it is theoretically plausible that recurrent, naturalistic exposure to movie images of smoking have a larger cumulative effect on viewers' propensity to smoke, and the findings of cohort studies<sup>3,4</sup> are consistent with this hypothesis.

### ***Effects of On-Screen Smoking on Viewers' Smoking-Related Beliefs***

Theories of media influence predict that role models bearing favored social attributes are likely to be especially persuasive.<sup>44,45</sup> Several experimental studies have assessed whether stars who smoke on screen promote prosmoking beliefs among audiences.<sup>42,70,74</sup>



Results of experimental studies suggest that viewing movie characters who are smoking enhances viewers' perceptions of how socially acceptable smoking is. Pechmann and Shih<sup>42</sup> found that exposure to movie scenes of popular, young stars smoking (versus nonsmoking) prompted adolescent viewers to report that adolescent smokers had higher social stature. This finding was replicated in a second experiment that assessed reactions to a whole movie (*Reality Bites*) depicting smoking compared with an edited version of the movie that excluded smoking depictions. Similarly, Gibson and Maurer<sup>70</sup> found that, among nonsmoking college students, viewing a movie clip of a leading male character smoking (versus a comparable clip in which this character does not smoke) resulted in a greater willingness to become friends with a smoker. However, further analyses revealed that this effect was most marked for viewers low on "need for cognition" (a trait predicted to render someone more susceptible to persuasion via the peripheral route).<sup>78</sup> This finding suggests that some people may be more susceptible than others to the persuasive impact of movie depictions of smoking.

Dixon<sup>58</sup> found evidence suggesting that adolescents who watched footage of movie adult characters smoking on screen perceived adult smoking prevalence in the "real world" to be higher than did adolescents who watched footage of nonsmoking movie characters. This effect occurred irrespective of the social characteristics of the on-screen smokers that students viewed. Together, these findings suggest that movie depictions of smoking may promote perceptions that smoking is a normative behavior in the real world. These findings are of concern, since social learning variables, "especially peer smoking and approval, prevalence estimates, and offers/availability"<sup>79(p.1171)</sup> have been found to be strongly predictive of smoking onset.

Exposure to on-screen smoking also has been found to influence viewers' beliefs about the social consequences of personal smoking. Pechmann and Shih<sup>42</sup> digitally changed the image frame to edit smoking out of the 1990s film *Reality Bites*. Comparing adolescents' responses to the original versus the nonsmoking version of the movie, they found that adolescent never smokers exposed to the original version showed enhanced perceptions of how their social stature would be viewed by others if they were to personally smoke. The video manipulation had no significant effects on participating adolescents' perceptions of how popular, vital, or poised they would look if they were to smoke. Dixon<sup>58</sup> found that beliefs about the social consequences of personal smoking were affected differentially, depending on the social characteristics of the on-screen smoker. Among adolescent viewers, attractive, high-status characters who smoked on screen promoted positive beliefs about the benefits of smoking. However, unattractive, low-status characters who smoked on screen detracted from such beliefs.

Pechmann and Shih<sup>42</sup> also found that exposure to the original version of *Reality Bites* promoted increased personal intentions to smoke among adolescent never smokers. For older viewers, two studies (with sample sizes of 150 or more) found a significant effect of on-screen tobacco depictions on personal intentions to smoke.<sup>71,74</sup> However, another study (examining a smaller subgroup of 84 nonsmokers) did not find such an effect.<sup>70</sup> Hines and colleagues<sup>74</sup> found that college students who viewed movie scenes in which the main characters smoke were more likely than those who viewed nonsmoking scenes to indicate a likelihood to smoke in various situations in which smoking is likely to occur. This effect persisted with controls for the smoking status of the participant. Furthermore, among male viewers who were regular or occasional smokers, the

smoking film footage also promoted a higher current desire to smoke. In contrast, the study by Gibson and Maurer,<sup>70</sup> with less statistical power, found that nonsmoking college students were no more likely to report intentions to smoke in the future after exposure to movie footage of a leading character smoking (versus nonsmoking). However, the direction of the trend in the overall cell means was toward smoking scenes promoting slightly higher scores on intentions. Because the sample size for this analysis was small ( $N = 84$ ), it is likely that this study had insufficient power to detect a small or moderate effect size, if it existed.

Dixon and colleagues<sup>71</sup> found that viewing a movie that portrayed the tobacco industry in a negative light and included information on the negative health consequences of smoking within the story (*The Insider*) promoted a short-term reduction in intentions to smoke among adult smokers and former smokers. Content analyses suggest that portrayal of information about the negative health consequences of smoking is a rare phenomenon. Experimental research indicates, however, that inclusion of such information in a movie can promote an antitobacco message. Dixon and colleagues<sup>71</sup> also found that viewing *The Insider* promoted more negative views among audience members of the tobacco industry's business conduct. These results have some parallels with findings of evaluations of public responses to antitobacco media campaigns exposing industry manipulation. Surveys indicate that cigarette consumption declined in association with California's Proposition 99 media campaign.<sup>80</sup> Moreover, evaluation results for Florida's "truth" campaign advertisements show evidence of a decline in youth smoking and a relationship between youth smoking behavior and changes in youth attitudes toward the tobacco industry's manipulation.<sup>81</sup> Chapter 12 on the effectiveness of mass media in discouraging smoking includes details of these antismoking campaigns.

Pechmann and Shih<sup>42</sup> found that showing youth an antismoking advertisement immediately before viewing a movie depicting popular young stars smoking inoculated them against the prosmoking influence of the movie footage. The advertisement also generated more negative thoughts toward the leading movie characters, but it did not detract from the ratings of the movie's overall action or storyline, or from the likelihood of recommending it to a friend. In fact, those who saw a movie preceded by an antismoking advertisement rated the movie storyline more favorably than those who saw a movie without such an advertisement. These findings are of great practical importance in providing evidence concerning the efficacy of one possible strategy for reducing the negative impact on-screen smoking has on youth audiences. That is, screening an antismoking advertisement before the movie immunized young viewers against the prosmoking effects of the movie, without detracting from their overall enjoyment of the movie.

This approach was subsequently evaluated using a quasi-experimental study of 2,037 female adolescent moviegoers in Australia who had self-selected to see movies depicting smoking.<sup>72</sup> The intervention group who viewed an antismoking advertisement before the movie was compared with a control group who did not view an antismoking advertisement screened before the movie. Among nonsmoking viewers, those who saw an antismoking advertisement before the movie showed stronger disapproval of smoking by characters in the movie. Among viewers who were current smokers, those who saw the antismoking advertisement showed significantly reduced intentions for future smoking. The antismoking advertisement did not affect nonsmokers' intentions to smoke. Most nonsmoking subjects (95%) in both conditions reported they were unlikely to be smoking at this time next

year. The results of these two studies suggest that screening antismoking advertisements before movies depicting smoking is an effective strategy for reducing the prosmoking persuasive effect of on-screen tobacco use by movie stars.

### ***Effects of Smoking Depictions on General Reactions to Movies***

In discussing audience reactions to smoking in movies, it also is relevant to examine responses from the perspective of audiences' entertainment experience. Evidence is mixed as to whether audience perceptions of movie characters are affected by their on-screen smoking. Pechmann and Shih<sup>42</sup> found that, among adolescent never smokers, there were no significant differences in the number of negative, neutral, or positive thoughts about the leading characters in a movie as a function of whether scenes of their smoking were viewed. Similarly, Gibson and Maurer<sup>70</sup> found that, among college students who were nonsmokers, viewing movie scenes of a leading male character smoking (versus nonsmoking) did not markedly affect their ratings of that character. However, among college students who were smokers, viewing such movie scenes led them to rate the male actor and the character he played as more likeable when he smoked, compared with when he was not depicted as a smoker. Reactions appear to vary, however, depending on the movie character's gender—smoking by females may be associated with negative character traits. Hines and colleagues<sup>74</sup> found that female characters depicted as smokers were rated less favorably on a range of social characteristics (e.g., attractive, sexy, popular), but they found no such effects for male characters. Smoking by female characters also led audience members who were occasional smokers or nonsmokers to perceive themselves as less similar to the character. Jones and Carroll<sup>73</sup> found that young women who viewed a

young female smoking rated her as more outgoing, more sophisticated, not as easy to manipulate, and less emotional about breaking up with her boyfriend than those women who viewed a control video in which the young female did not smoke. In a study examining reactions to different movie character depictions of smokers, Dixon<sup>58</sup> found that adolescents associated smoking by female antagonists with low social status. Ratings of the male characters did not differ in this way. Together, these results suggest that audience members may identify more with movie characters of similar smoking status. Moreover, on-screen smoking by female characters appears to carry some negative social connotations.

Pechmann and Shih<sup>42</sup> found that, in more general reactions to on-screen smoking, viewing movie scenes depicting smoking evoked higher levels of positive arousal than did viewing similar scenes without smoking. Despite the effects of smoking on viewers' emotional arousal, Pechmann and Shih<sup>42</sup> found that adolescents' ratings of a movie's action or storyline or their willingness to recommend the movie to friends was no different for a version of the movie that edited the smoking out of the scene, compared with the original version of the movie. This finding has relevance to filmmakers in suggesting that excluding smoking from films does not detract from their overall appeal. This argument is further corroborated by Dalton and colleagues.<sup>32</sup> They found that the amount of tobacco use depicted in movies is not significantly associated with box-office success. Pechmann and Shih<sup>42</sup> also found that, for adolescent viewers who were shown an antismoking advertisement before viewing a movie depicting smoking, the effect of smoking depictions in the movie on arousal, perceptions of a smoker's social stature, and personal intent to smoke were eliminated. This finding and those of Edwards and colleagues<sup>72</sup> imply that

showing antismoking advertisements before movies with smoking could modify the effect of prosmoking movie depictions on the audience's smoking behavior.

### Conclusions Concerning Media Effects Research

The findings from experimental studies contribute to the understanding of how vicarious learning effects may occur in response to smoking behavior symbolically modeled in movies. Along with the results of cross-sectional and longitudinal population-based studies, experimental research indicates that images of smoking in film can influence people's beliefs about social norms for smoking, beliefs about the function and consequences of smoking, and ultimately their personal propensity to smoke. Certain movie depictions may be more likely than others to promote prosmoking beliefs. Audience members' responsiveness to such imagery may vary as a function of their personal characteristics (especially smoking status and gender). Experimental studies found many statistically significant effects—of a similar magnitude to the effects observed in experimental media research on other health topics—for only brief exposure to movie images of smoking.

Across the different study designs used to assess audience responses to on-screen tobacco use, there is considerable convergence in findings. Protobacco film content has been found to promote prosmoking beliefs and intentions in both experimental and cross-sectional studies. Exposure to on-screen smoking has been associated with smoking behavior in cross-sectional studies and predictive of smoking behavior in longitudinal studies. A similar convergence of findings across different study types was observed in a meta-analysis examining the effects of media violence on aggression.<sup>75</sup>

## Tobacco Content in Other Media

### Television

Television began a close relationship to the tobacco industry in the 1950s. As it became clear that smoking was a cause of cancer, and with the elimination of cigarette advertising in the broadcast media in 1971, tobacco use also dropped out of network television in the United States. This resulted, in part, from the Public Airways Act.<sup>82</sup>

Several authors have analyzed content samples of prime time television programming for smoking depictions. Breed and De Foe's<sup>83</sup> content analysis of prime time U.S. television dramas and situation comedies produced between 1950 and 1982 found a steady drop in the use of cigarettes over the three decades. In the period before the release of the first Surgeon General's report (1950–63), nine times more cigarettes were used per hour than for the season 18 years later. Several authors have found that television smoking is more common in dramas than in other genres.<sup>83,84</sup> Table 10.6 lists the number of smoking acts per hour observed in samples of television dramas selected for content analyses of television programming. The studies used similar coding methods but differed slightly in their methods of sampling television content. Taken together, the results suggest that the rate of smoking in prime time television dramas declined dramatically from 1950–63 (4.52 smoking acts per hour) to 1981–83 (0.35 smoking acts per hour). However, studies conducted in 1984 and 1993 found slightly higher smoking rates (1.01 and 1.20 smoking acts per hour, respectively). A content analysis of television drama aired on Japanese television between 1995 and 1996, however, found a rate of smoking depiction (4.22 per hour) similar to that found on U.S. television in the 1950s.<sup>85</sup>

**Table 10.6 Number of Smoking Acts per Hour of Television Drama for Different Content Analysis Studies Conducted in the United States**

Year of programming	Smoking acts per hour	Study
1950–63	4.52	Breed and De Foe 1984 <sup>83</sup>
1964–70	2.43	
1971–77	0.70	
1981–82	0.35	
1976–77	0.71	Fernandez-Collado et al. 1978 <sup>86</sup>
1976–77	2.19	Greenberg et al. 1984 <sup>87,a</sup>
1977–78	2.66	
1984	1.01	Cruz and Wallack 1986 <sup>88</sup>
1993	1.20	Hazan and Glantz 1995 <sup>89</sup>
1998–99	Not reported	Christenson et al. 2000 <sup>90</sup>

<sup>a</sup>Unlike the other studies, this one did not restrict its sample to prime time television.

Christenson and colleagues<sup>90</sup> analyzed content of 168 episodes of top-rated television dramas and situation comedies broadcast from 1998 to 1999. Tobacco was used in 19% of episodes. Comparing these results with those obtained in their content analysis of movies,<sup>27</sup> they concluded that young viewers were considerably less likely to view smoking on television than in movies.

Gerbner and colleagues<sup>84</sup> found that, in a 10-year sample of prime time dramatic television and a 3-year sample of television commercials, the prevalence of smoking

among major television characters was quite low: 11% of males and 2% of females smoked. Similarly, Cruz and Wallack<sup>88</sup> found that smoking was more prevalent among male than female television characters. Fernandez-Collado and colleagues<sup>86</sup> found that in a sample of prime time dramatic television from 1976 to 1977, fewer smoking incidents occurred per hour during television programming with the largest child audiences. Similarly, Christenson and others<sup>90</sup> found that in television programs from 1998 to 1999, tobacco was used less frequently in TVG-rated episodes (6%)

### Smoking Shifts to the Bad Guys

Social trends can influence not only the quantity of tobacco portrayal on television but also the context in which it is portrayed. For example, Breed and De Foe observed a shift over time in the manner of portraying smoking on television. Between 1950 and 1963, “all kinds of adults—heroes and heroines as well as villains—were seen smoking.”<sup>a(p.263)</sup> Between 1971 and 1982, however, the typical smokers on television were villains or insecure characters; by the 1980s, scenes parodying cigarette smoking began to emerge. Cruz and Wallack, however, found that in prime time television in 1984, the majority of male smokers (70%) were in strong and enduring roles, with a minority viewed as antagonists.<sup>b</sup>

<sup>a</sup>Breed, W., and J. R. De Foe. 1984. Drinking and smoking on television, 1950–1982. *Journal of Public Health Policy* 5 (2): 257–70.

<sup>b</sup>Cruz, J., and L. Wallack. 1986. Trends in tobacco use on television. *American Journal of Public Health* 76 (6): 698–99.

compared with TVPG-rated (20%) and TV14-rated (24%) episodes. In their total sample of television episodes, 8% of adult major characters used tobacco and no characters younger than 18 years of age were portrayed smoking. Byrd-Bredbenner and colleagues<sup>91</sup> found that during 1998 prime time children's television programming, depiction of tobacco was rare (shown in 2% of scenes), typically portrayed as a background activity performed by adults, mostly men.

Tobacco portrayal in prime time television is less common than in movies. Only a minority of portrayals (23%) express negative statements about smoking, almost none (less than 1%) mention or portray negative consequences of smoking, and none of the major characters depicted as smokers made on-screen attempts to quit smoking.<sup>90</sup> These content analyses relate primarily to television programming in the United States. The studies document some smoking content but not to the extent seen in movies.

Three studies have examined the association between television viewing and smoking. One examined the association between viewing and smoking initiation for a sample of U.S. adolescents.<sup>92</sup> The authors examined smoking initiation among 592 adolescent never smokers enrolled in the National Longitudinal Study of Youth and for whom data on television viewing were available at baseline (1990, when subjects were 10–15 years of age). Initiation of smoking during the following two years was examined as a function of baseline television viewing, controlling for several socioeconomic and demographic factors (ethnicity, household poverty, marital status, number of children in the household), maternal factors (education, measured intelligence, employment), and child factors (gender and baseline child aptitude test scores). Children who watched more than five hours of television per day (above mean exposure) had significantly higher adjusted odds of smoking initiation (adjusted OR of 5.99) during the follow-up

observation period than did those who watched less than two hours per day. A cross-sectional survey of adolescent smokers in Belgium found a positive, curvilinear association between television viewing volume and smoking volume; the relationship was stronger for higher levels of viewing.<sup>93</sup> This association occurred in a multivariate regression analysis that controlled for other predictors of adolescent smoking. Adolescent smokers who watched five or more hours of television per day smoked 60–147 more cigarettes per week than those who watched one hour or less. Another longitudinal study of a New Zealand birth cohort<sup>94</sup> found an association between higher exposure to television during childhood and smoking in young adulthood. This study controlled for childhood socioeconomic status and parental smoking.

These studies suggest the possibility that television viewing could be linked with smoking initiation and maintenance. If a social influence effect is assumed, it is not clear how much of the effect is mediated by smoking seen in television programming versus smoking depicted in televised movies, because movies comprise a substantial share of television programming. Additionally, in the longitudinal study by Dalton and colleagues<sup>3</sup> on the relationship between exposure to smoking in movies and adolescent smoking initiation, self-report measures of exposure to daily television were not associated with smoking initiation after controlling for other social influences (exposure to smoking in movies, friend smoking, family smoking). Therefore, the argument for a social-influences link between exposure to smoking in television programming and adolescent smoking is not as well established as is the link for exposure to smoking in movies.

### **Popular Music**

Roberts and colleagues<sup>27</sup> analyzed the content of lyrics for the 1,000 most

popular songs from 1996 and 1997. They found tobacco references were relatively uncommon in song lyrics (3% of songs). Tobacco references occurred more frequently in rap song lyrics than in other musical genres (7% of rap songs compared to 4% of alternative rock songs and 2% or less of other music genres). Similarly, a content analysis by DuRant and others<sup>95</sup> of a sample of music videos ( $N = 518$ ) televised during 1994 found that rap music videos (30%) were most likely to depict smoking, followed in order by adult contemporary (23%), rock (22%), country (12%), and rhythm and blues (11%). A small number of videos ( $N = 11$ ) contained 10 or more instances of smoking behavior. The results in these two studies suggest that visual references to tobacco in popular music videos are more common than verbal references to tobacco in popular song lyrics. However, because these studies used different sampling methods, the results are not directly comparable.

DuRant and colleagues<sup>95</sup> found that portrayal of tobacco use was more common in music videos televised on MTV (26%) than on other networks (Video Hits 1 [VH1], 23%; Black Entertainment Television, 17%; and Country Music Television, 12%). Few videos contained branded tobacco advertising, and most of those were on MTV ( $N = 4$ ) and VH1 ( $N = 3$ ). In music videos that portrayed smoking, the lead singer was twice as likely to smoke as a background singer or musician. Smokers in music videos were mostly young adults (76%) and were more commonly Caucasian and male. Smoking scenes tended to have a positive emotional tone, but they were no more likely to contain sexual content than were videos that did not depict smoking.

## Magazines

Numerous studies have examined the amount and nature of tobacco-related content in high-circulation magazines, particularly magazines for women and young people. Recognizing that magazines

can present both positive and negative images and messages about smoking, these studies have focused on two key questions. First, what coverage do magazines give to smoking and health, and is this coverage related to whether they accept tobacco advertisements? Second, what is the nature and extent of positive images of smoking in editorial material, such as fashion pictures? Both questions are addressed below, and further discussion of the first question appears in chapter 9 in the section “Tobacco Industry Influence on News Reporting.”

Between 1967 and 1979, coverage of the health hazards of tobacco smoking in major women’s magazines in the United States was generally uncommon. Whalen and colleagues<sup>96</sup> found that editors of such magazines frequently encouraged health writers to avoid the subject of tobacco. Those magazines that did run frequent articles on smoking and health did not accept tobacco advertising. Warner and others<sup>97</sup> found, in a sample of 99 U.S. magazines published between 1959 and 1996, strong statistical evidence that cigarette advertising in magazines was associated with diminished coverage of the hazards of smoking—especially in magazines directed toward women. These studies’ findings suggest that financial dependence on tobacco industry advertising may have influenced editorial policy. In the United States, between 1996 and 1999, popular general interest and health magazines covered tobacco less than other health topics, and this discrepancy was more marked in the latter group.<sup>98</sup> The authors argue that the relatively low coverage of tobacco and its hazards presents readers with a skewed account of the importance of smoking as a threat to their health relative to other health issues.

A survey of the tobacco policies of the most widely read European women’s magazines published in 1996 found that most of the magazines accepted cigarette advertisements, but a minority reported

having published a major article on smoking and health.<sup>99</sup> Magazines that accepted tobacco advertising were slightly less likely to have covered smoking and health compared with magazines that did not accept tobacco advertising. Other apparent obstacles to coverage of the health effects of smoking mentioned by editors were their opinions about smoking, their perceptions of their readers, a perception that the smoking story had been “done,” or, in some countries, a general ignorance of the subject. In contrast, nearly half of the magazines allowed editorial images of smoking, such as models smoking on fashion pages and celebrities smoking in feature articles.

In a study of popular Australian magazines, Chapman and colleagues<sup>100</sup> found, after the introduction of a ban on tobacco advertising in print media in 1991, an initial increase in incidental depictions of smoking (6 months after the ban), followed by a reduction in such depictions in the subsequent 18 months. The authors found that photographs of smoking were infrequent in Australian magazines, with a mean of one incidental depiction of smoking per 147 pages. These findings indicate that, in Australian magazines produced in the context of bans on paid tobacco advertising, incidental magazine content presents nonsmoking as normative. In contrast, a study of cigarette advertising and health aspects of smoking in British magazines, before and after the introduction of a voluntary restriction on cigarette advertising in 1986, found that while the proportion of magazines accepting cigarette advertising decreased, the new restrictions did not cover the most popular magazines; thus, protobacco content remained prevalent in the highest circulation magazines.<sup>101</sup> Furthermore, editorial coverage of the health aspects of smoking was low and did not increase following the voluntary ban.

A content analysis of the most popular British young people’s style magazines

published in 1999 found major differences between young women’s and young men’s magazines.<sup>102</sup> Young men’s magazines carried considerably more tobacco advertising and positive images and coverage of smoking in editorial pages than did young women’s magazines. In addition, very few young men’s magazines carried any smoking-or-health coverage. Editorial images of smoking were most frequent in features about personalities, such as an interview accompanied by a picture of the celebrity smoking. Second most common were smoking images in fashion pictures that included both posed as well as pseudo “real-life” fashion shots. Similar, though less prevalent, were smoking images in “slice of life” items about “real” people out having fun, for example, at nightclubs and music events. The amount of prosmoking coverage in the three most widely read young men’s magazines in 1999 averaged more than eight pages per issue, an increase of more than 400% since 1991.<sup>102,103</sup>

Content analyses found that print media coverage of cigars also increased during the 1990s. In a sample of high-circulation U.S. newspapers and magazines, articles focused on cigars increased substantially between 1987 and 1997.<sup>104</sup> The articles tended to portray cigars and the tobacco industry favorably but rarely mentioned the health risks of cigar smoking. Between 1992 and 1998, a significant upward trend occurred in cigar images and images of women smoking cigars in U.S. women’s magazines with the highest readership of adolescent girls.<sup>105</sup> Wenger<sup>104</sup> found that cigar “lifestyle” magazines recurrently presented content that associated cigars with business stories, social events (including fundraisers for charities), and celebrities. Of the celebrities and public figures quoted or described in the articles, most (87%) were portrayed as having favorable attitudes toward cigars. Only 1% of cigar-focused articles focused primarily on the health effects of cigars. Cigar use was



presented as normative behavior and as a key element of a successful lifestyle.

The second question addressed in research on tobacco-related content in magazines is the nature and extent of positive images of smoking conveyed in fashion pictures. Magazines have a potentially important influence on the social image of smoking, as they often have high readerships; are targeted toward and therefore tailored to appeal to different audiences on the basis of age, gender, ethnicity, and socioeconomic status; and are printed so they remain available for longer periods than other media (as reflected in the often high ratio of readership to circulation). Of particular concern are magazines aimed at young people. As discussed earlier, adolescence is a period of considerable change and transition during which young people engage in the active construction of their adult identities, not only about who a young person wants to become, but also how an image can be projected in particular social contexts.<sup>106</sup> Young people's magazines, by promoting certain styles, brands, and images, not only help create the latest fashions but define what and who is "in." To appeal to young readers, these magazines attempt to embody attitudes and values by incorporating them into fashion spreads and articles that tap into and articulate what it means to be a young person today. Thus, it is theorized, both the extent to which magazines show smoking images and the types of such images may be important in influencing young people's perceptions of the desirability of adopting a smoking identity and consequently affecting their behavior. So far, however, very few studies have explored how young people engage with magazine images of smoking or the effect of such images.

Two British studies used different methods to explore this question. A study by Amos and colleagues examined whether young people perceived smoking and nonsmoking images

differently.<sup>107</sup> Young people rated perfectly matched (other than the presence or absence of a cigarette) smoking and nonsmoking fashion pictures taken from youth and style magazines on a range of attributes. The study found that the presence of a cigarette affected how the pictures were rated and that the nature of this effect differed between pictures. In general, the smoking images were rated as being more "druggy," wild, and depressed. Identical nonsmoking images were rated as being more healthy, rich, nice, fashionable, slim, and attractive. On the surface, the smokers' attributes were negative, but some of the attributes represented images that young smokers aspired to and admired. Smokers, especially males, identified more strongly with the smoking images and attributes than did nonsmokers.<sup>107</sup>

The second study, by MacFadyen and colleagues, used focus groups of first-year college students, all smokers, to explore perceptions of smoking images in youth style magazines and the relationship between these perceptions and their own smoking images and identities.<sup>54</sup> The research found the students perceived this imagery to be, on the whole, attractive, sociable, and reassuring. There was considerable synergy among the image of smoking, the personality of the magazines, and respondents' self-images. The most popular magazines had personalities that were similar to the students' image of smoking—carefree hedonism, risky behavior, and antipolitical correctness. This finding suggests that the display of smoking in these magazines was likely to reinforce positive perceptions of smoking and contribute to the belief that smoking is a normative and important part of student culture.

The findings by MacFadyen and colleagues are similar to those from an Australian study that used focus groups to explore secondary school (both smoker and nonsmoker) students' perceptions of smoking images in magazines and films.<sup>47</sup> Smoking in

magazines and films was perceived as normal and acceptable. Additionally, the young people felt that most of the images used in the study portrayed smoking positively in terms of mood attributes, such as being in control or confident. Such positive images of smoking portray smoking in a way that young people interpret as being a normal part of life.

### Internet

Hong and Cody<sup>108</sup> conducted a content analysis of protobacco Web sites ( $N = 318$ ). These sites were predominantly e-commerce sites (50%), followed by hobby/recreation sites (19%), erotic/fetish sites (15%), other tobacco-related sites (8.8%), corporate sites (5.7%), and smoker's rights/lobbyist sites (2.5%). Ribisl and colleagues<sup>109</sup> also conducted a content analysis of protobacco Web sites ( $N = 30$  sites). However, their sample excluded sites for individuals or organizations that manufacture or sell tobacco products. Despite the different sampling criteria used in these studies, they yielded similar findings. On e-commerce sites and sites featuring hobbies, recreation, and "fetishes," imagery depicting smoking in association with glamour, relaxation, leisure, sex, or alternative lifestyles was prevalent; negative health effects of smoking were rarely depicted or mentioned.<sup>108,109</sup>

The models portrayed on such sites were predominantly young (18–34 years old) and Caucasian in appearance. Females tended to be portrayed as attractive and slim while males appeared more average in appearance.<sup>108</sup> Hong and Cody argue that, in addition to portraying predominantly young role models, many protobacco Web sites contained features characteristic of the Web sites young people frequent. For example, they contain content related to "shopping, hobbies and recreation (including entertainment), sites featuring celebrities and sites featuring sex or sexually arousing visuals."<sup>108(p.291)</sup> Both studies found that,

despite sexually explicit content and/or the capacity to order tobacco-related products online on a number of these sites, most do not require age verification procedures. Ribisl and others also found that one-third of such Web sites featured smoking stories that "instructed would-be smokers on the merits of smoking and provided reasons for resuming smoking for those who have already quit."<sup>109(p.74)</sup>

Further information on the use of the Internet in tobacco marketing appears in chapter 4.

### Other Entertainment Media

Smoking content in newer forms of entertainment media, such as increasingly realistic video games (e.g., cigar smoking in the video game *Halo 2*), has been largely ignored despite the widespread use of these games (see chapter 4). T-rated (teen-rated) video games comprised 28% of video and computer sales in 2002.<sup>110</sup> In a content analysis of T-rated video games, Haninger and Thompson<sup>111</sup> found that 5 (6%) of 81 games showed tobacco use (either a character used tobacco or a tobacco product otherwise appeared in the game). It is unclear what social normative effects (e.g., smoking norms) are associated with playing these games. However, in domains other than smoking, the games have influenced behavior in children and young adults. For example, playing violent video games has been shown to increase aggression in children and young adults.<sup>75</sup> More research is needed on these influences. Assessing whether tobacco is portrayed in a negative or positive light also is important. Haninger and Thompson<sup>111</sup> state that a character in the video game *Shadow of Destiny* decides to quit smoking cigarettes because, he says, "I don't want to die," reinforcing negative health consequences of cigarette smoking.

The effects of smoking by people performing in live concert and theater venues also

might be studied. Some research on a live theater production to encourage nonsmoking has been reported.<sup>112</sup> However, the effects of characters smoking on stage during live theater performances have not been examined. Some of the other entertainment venues in which smoking influences have been understudied include smoking by musicians in live concerts, depictions of smokers in comic books,<sup>113,114</sup> and (noted earlier) smoking images in movie promotional material.

## Efforts to Reduce Exposure

### Legal/Policy Issues: Artistic or Commercial Speech?

One of the foundations of democratic society involves freedom to express a diversity of views (see chapter 8). Expression of diverse viewpoints is valuable for enabling communicators to espouse a cause or position and defend it. The expression of diverse viewpoints provides audiences with material on which to base informed judgments about the world around them. This freedom applies not only to political commentary but also to commentary on behaviors within the culture. Thus, most free societies give artists and other communicators the ability to reflect on, depict, and comment on their perception of the world around them. In the United States, this freedom is incorporated into the constitution as the First Amendment of the Bill of Rights.

Interviews conducted by Shields and colleagues<sup>53</sup> with film industry representatives illustrate the value producers and actors place on freedom of speech and their fears about censorship. The movie industry does not welcome public health strategies that advocate for restricting the freedom to depict

tobacco use in its films. However, paid product placement deals between some movie production companies and tobacco companies, and contracts precluding unattractive movie depictions of smoking,<sup>18</sup> reveal that some in the entertainment industry have been compensated by the tobacco industry to add branded smoking and other signage to their artistic output. Given the history of product placement in movies and the similarities between the social imagery of smoking in movies and in tobacco advertising, it is likely that the social iconography of smoking in films derives in large part from images of smoking that the tobacco industry cultivated strategically.

In the past, the American movie industry was not afforded the First Amendment protections it now enjoys in the United States<sup>115</sup> and was subject to censorship at both state and local levels. The movie industry fought censorship, arguing that it interfered with First Amendment speech. But in 1915, in *Mutual Film Corporation v. Industrial Commission of Ohio*, the U.S. Supreme Court determined that motion pictures did not constitute part of the “press” and therefore were not entitled to First Amendment protection from censorship. This case arose in response to the passing of a statute creating a Board of Censors that had to approve all motion pictures prior to their exhibition. Localities continued to censor movies until 1952, when the Supreme Court granted full First Amendment protection to movies in *Joseph Burstyn, Inc. v. Wilson*. At that time, there was little or no product placement in movies, but this is no longer the case. Paid product placement is an integral commercial element in almost every movie. Given the increasing number of product placements in movies, the question is now whether or not depictions of brands in movies should be reclassified as commercial speech, which would be subject to a lower level of First Amendment protection.

Self-regulation by eliminating cigarette brands already is happening in some movie production companies. For example, Robert Reiner requires justification for smoking scenes in movies he produces for Castle Rock Entertainment.<sup>116</sup> As a WHO document on this issue states, “The film industry cannot be accused of causing cancer, but they do not have to promote a product that does.”<sup>117</sup> In contrast to violence, which may be linked with box-office success, the evidence indicates that the inclusion of smoking is not necessary for the commercial success of movies.<sup>32,42</sup>

Product placement deals are not the sole reason for on-screen smoking. The decision to portray a character as a smoker may arise from a range of motives, such as a desire to make the character seem realistic, reliance on cigarettes as a prop, and personal smoking behavior of an actor.<sup>53</sup> Nevertheless, movie characters for the most part represent the affluent and most powerful segment of society.<sup>3,28</sup> When these actors smoke, whether they play the bad or good guy, the risk is that adolescents will emulate the behavior.<sup>3,4</sup>

### Movie Rating Systems

In most countries, movie rating systems exist to protect children from exposure to forms of media society deems harmful or objectionable. The rationale for most rating systems is that society wishes to protect children from seeing media that may have undue influence on their behavior. Most countries have government-sponsored censor boards charged with evaluating the appropriateness of entertainment media for children. The procedures of government-sponsored censor boards are subject to regulation by government and to revision if new data arise regarding a media threat to children. Governments in some countries have attempted to regulate smoking content in entertainment media. In 2001, Russia’s lower house of parliament passed a bill to ban images of people smoking in movies

and television programs unless smoking is an essential part of the action.<sup>118</sup> The Indian Government had planned to impose a ban on smoking scenes in new films and television serials in July 2006.<sup>119</sup> Thailand’s Film Censorship Board has censored depictions of smoking in movies. For example, the release of the movie *Som + Bank* (Bangkok for Sale) was delayed, as the board required that the images of smoking be blurred out.<sup>120</sup> In other countries, efforts are under way to incorporate smoking into government censorship and movie rating systems. For example, the Lung Association in Ontario, Canada, has called upon the government to censor smoking.<sup>121</sup> Some countries also censor aspects of films considered offensive to most adults in their societies. For example, many Arab countries do not allow movies that depict use of tobacco and alcohol to be shown in public places, because doing so violates mainstream religious beliefs (personal communication from R. Kelishadi, M.D., Isfahan University of Medical Sciences, Isfahan, Iran, to J. Sargent, 2004).

Because of unique protections on First Amendment speech in the United States, this country does not have censor boards. Instead, the United States is the only country that allows its film industry to rate its own motion pictures. Rating is done through the MPAA. This rating system, established in November 1968, has undergone only minor changes. In the voluntary MPAA rating system, most producers allow their films to be subjected to review by a rating board. Movies are rated primarily according to what the board determines parents would find objectionable (or what Congress might regulate). In its explanation of the ratings system, the MPAA lists violence, nudity, sensuality, language, and drug use as factors the board considers when rating movies. Board members must have parental experience, and the board president is chosen by the MPAA’s president. The MPAA and the National Association of Theatre Owners presidents jointly set decisions regarding rating criteria.<sup>122</sup>

The MPAA promotes the ratings system as a guide to parents. Some might argue that the real purpose of the voluntary movie ratings system is to protect the studios from more intrusive government regulation. In that regard, the film industry has operated in much the same way as the tobacco and alcoholic beverage industries, with the former changing its voluntary rating standard, the Cigarette Advertising and Promotion Code, only when Congress was considering stricter regulations (see the section “Failure of Self-Regulation” in chapter 3).

## Voluntary Efforts

### *Tobacco Industry*

#### **Voluntary Advertising Standards**

U.S. tobacco companies’ voluntary Cigarette Advertising and Promotion Code was modified in 1990 to prohibit paid product placement. The tobacco industry initiated the voluntary ban on paid product placements in the same year that the U.S. Federal Trade Commission conducted an inquiry into product placement activities of various tobacco firms. Little change occurred in the prevalence of cigarette brand appearances after the initiation of the voluntary ban.<sup>33</sup> Moreover, the frequency of on-screen smoking increased in the 1990s, compared with the 1970s and 1980s, suggesting that the ban had little impact on either on-screen product placement or smoking practices.<sup>28–30</sup>

#### **Master Settlement Agreement**

In 1998, the U.S. Master Settlement Agreement (MSA) prohibited participating cigarette manufacturers (e.g., Brown & Williamson, Lorillard, Philip Morris, R.J. Reynolds) from product placement activities. The settlement bans payments to promote tobacco products “in any motion picture, television show, theatrical production or other live performance, live or recorded performance of music, commercial film or video, or video game.”<sup>7123(p.18)</sup> The MSA also prohibits participating tobacco companies

from directly or indirectly targeting youth in marketing. No studies have yet been published on cigarette brand placements in movies since the signing of the MSA. However, a number of movies released after this agreement have included cigarette brand placements. Because the U.S. attorneys general are charged with enforcing the MSA, the continued appearance of cigarette brands in movies has become a topic of interest. So far, the tobacco industry has denied violating the MSA by obtaining cigarette brand placements; the denials are in response to several inquiries by the state attorneys general (for more information, see the statement by J. Joseph Curran, Jr., Attorney General of Maryland in appendix 10A).

### *Movie Industry*

Before describing efforts by some in the movie industry to limit the depiction of smoking, it is necessary to describe the industry. Although the industry changes from year to year with buyouts and mergers, the U.S. film industry in 2004 was organized around seven major production companies that finance and distribute motion pictures: Buena Vista Pictures (Disney), Sony Pictures, Metro-Goldwyn-Mayer, Paramount Pictures, Twentieth Century Fox, Universal City Studios, and Warner Brothers Entertainment. Many of the names seen in movies are subsidiaries of these companies. For example, Miramax is a subsidiary of Buena Vista Pictures. These large studios hire production executives responsible for financing their major in-house movie efforts. Many independent film producers also make movies. For independent movies to be successful, the producer must partner with one of the major studios for the widespread distribution of the film. Other players in the industry (the artists) are organized through guilds, bodies that serve as financial advocates for their constituents (directors, actors, screenwriters, etc.) in much the same way that labor unions act on behalf of their members.

The MPAA represents the domestic interests of the major studios, and the Motion Picture Association represents the international interests. The president of the MPAA is also the chief lobbyist for the industry in Washington, D.C. When approached by the state attorneys general in August 2003, Jack Valenti, the MPAA president at the time, sponsored a series of meetings that included himself, the NATO president, and various guilds. However, Valenti declined to incorporate smoking into the MPAA rating system. (For more information on the dialogue between the state attorneys general and the motion picture industry, see the statement by Maryland Attorney General Curran in appendix 10A.) Four years later, in February 2007, the Harvard School of Public Health recommended that the MPAA take action to “eliminate the depiction of tobacco smoking from films accessible to children and youth.”<sup>124</sup> In May 2007, 31 attorneys general wrote a letter to major movie studio heads supporting this recommendation and stating the dangers of exposing children to smoking depictions in movies. In a response released that same month, former congressman Dan Glickman, Valenti’s successor as president of MPAA, stated that the MPAA would begin to consider smoking depictions when rating movies. However, a letter to the MPAA in June of 2007 from U.S. Senators Durbin, Kennedy, and Lautenberg described MPAA’s new policy as “not enough to curb the influence of smoking in the movies on the health of children.”<sup>125</sup> Six months after the new policy began, Polansky, Glantz, and Titus reported that there was no substantial change in the percentage of G, PG, or R-rated movies that included smoking depictions compared with the same time period in each of the four previous years.<sup>126</sup>

### **Efforts to Induce/Promote Change**

A number of interested government and citizen groups have attempted to exert influence on media policy and production in relation to tobacco use and other

health behaviors in entertainment media, particularly movies. Their strategies can be broadly categorized as collaborative or confrontational.

### ***Collaborative Approaches***

The Council for Excellence in Government and the University of Southern California, Annenberg School for Communications, Norman Lear Center, published a review of all efforts to engage the entertainment industry in developing prosocial messages into entertainment.<sup>127</sup> The report, *How Pro-Social Messages Make Their Way into Entertainment Programming*, summarizes these programs and provides a guide to some of the following discussion.

### **Office on Smoking and Health**

The Office on Smoking and Health (OSH) is a division of the National Center for Chronic Disease Prevention and Health Promotion of the Centers for Disease Control and Prevention (CDC). The OSH maintains a Web page that encourages members of the public to work with the entertainment industry to promote accurate depiction of tobacco use and health information in movies, television, and other media.<sup>128</sup> By “accurate,” the group means that movies should show the health consequences of smoking. Since 1997, the OSH has developed a collaborative relationship with the entertainment industry to achieve three strategic aims: (1) educate and provide accurate science and resources to the creative community for television programming and films containing tobacco-related themes; (2) develop public relations campaigns and provide media training for volunteer celebrity advocates who want to use their public profile to advance tobacco-free lifestyles; and (3) develop educational materials, with the cooperation of the entertainment industry, that can be used in schools and by health partners to teach and reinforce messages about the dangers of tobacco use. The approach is to encourage the entertainment industry to deglamorize

and denormalize tobacco and its use. It is not clear how successful the group has been in persuading individuals in the entertainment industry to reduce or eliminate smoking.

### **Seeking Tobacco Alternatives with Realistic Solutions Project**

The American Lung Association of Sacramento-Emigrant Trails initiated the Seeking Tobacco Alternatives with Realistic Solutions (STARS) project in 1998. The aims of the project were to work

with the entertainment industry to reduce the unintentional glamorization of smoking in film and television, provide media education to the general community regarding pro-tobacco messages, and conduct research regarding the impact of the tobacco industry on the entertainment community and acts to reduce this impact.<sup>129(pp.10-11)</sup>

With support from the California Tobacco Control Program, STARS produced an award-winning documentary, *Cigarettes, Cinema, and the Myth of Cool*.<sup>129</sup> This film features writers, directors, and actors speaking about social responsibility and smoking in movies. During the course of the project, a Blue Ribbon Advisory Committee regularly convened; the committee included Hollywood directors and producers. It is not clear that progress was made during the project in eliminating smoking from movies, and the project ceased in 2003 because of lack of funds. However, STARS did result in a well-regarded documentary that showed both sides of the debate over smoking in film.

### **Entertainment Industries Council**

The Entertainment Industries Council (EIC) is a nonprofit organization that aims to provide information, awareness, and understanding of major health and social issues among the entertainment industries and to audiences at large. The EIC was founded in 1983 by entertainment industry leaders. The EIC has three areas of focus:

“First Draft,” a technical resource service that provides information on request; “Spotlight on Depiction,” resources for writers; and “Generation Next,” educational resources for film students. In addition, the EIC annually presents the PRISM awards, a nationally televised awards show recognizing the accurate depiction of drug, alcohol, and tobacco use and addiction in film, television, interactive, music, video, and comic book entertainment.<sup>130</sup> Established in 1997, the PRISM awards honor productions that are powerfully entertaining and realistically show substance abuse and addiction. The Robert Wood Johnson Foundation, the OSH, the National Institute on Drug Abuse, and the CDC are among the groups that jointly sponsor these awards. The intent of the PRISM awards is to encourage artists to “make the most of their rights to free creative expression, while at the same time showing the reality of substance abuse and addiction on screen, in song and on the page.” The awards serve to communicate and reward realistic depictions of substance use. However, it is not clear to what extent the awards foster change or even to what extent directors and screenwriters are aware of them or use the resources the EIC provides.

### **Attorneys General/Master Settlement Agreement**

The state attorneys general have an interest in reducing youth smoking as part of their involvement in the MSA (see appendix 10A, a statement from Maryland Attorney General J. Joseph Curran Jr., for details on this initiative). To this end, they have begun to collaborate with the movie industry with the aim of decreasing the prevalence of depictions of smoking in movies. The underlying concern raised by the attorneys general is the role movies play in smoking by youth. In August 2003, 28 state attorneys general, led by Mr. Curran, approached Mr. Valenti, the MPAA president, asking the organization to reduce smoking in movies. A letter from Mr. Valenti then invited the attorneys general to a series

of discussions on the issue (see letters in appendix 10B). This letter may have been the first public statement made by a movie industry spokesperson on smoking in movies, despite many press inquiries as a result of scientific publications that linked smoking in movies with teens' smoking. The initial dialogue resulted in a series of meetings among scientists, several attorneys general, and movie industry leaders. In May 2007, 31 attorneys general once again approached the MPAA, NATO, and major studio heads to decrease depictions of smoking in movies directed at youth.<sup>131</sup> It also led to a hearing convened in April 2004 by the Senate Committee on Commerce, Science, and Transportation, to consider the impact of smoking in movies on children. The Senate hearing is evidence of an expanding demonstration of substantial interest in major political institutions in the United States regarding tobacco use in movies and its potential impact on children. In addition to meeting with industry representatives, the attorneys general have addressed the tobacco industry with respect to movie brand appearances. Assistant Attorney General Dennis Eckhart of California sent letters to the legal counsels of tobacco companies whose brands appeared in movies after the MSA. In each case, the letters prompted communication between counsel for the tobacco industry and counsel for the movie industry to verify that there was no violation of the MSA in the form of a payment to place the brand (see example in appendix 10C). This legal activity was a sign to tobacco companies that they are being monitored. It is also possible that, as a result, the motion picture industry will act upon requests by tobacco companies not to have their brands used in movies.

### ***Confrontational Approaches***

#### **Smoke Free Movies and the Rate Smoking "R" Public Health Campaign**

Smoke Free Movies is a public health campaign started by Stanton A. Glantz in

2001.<sup>132</sup> The campaign aims to reduce the impact of smoking in movies on adolescents through four specific, voluntary changes in movie industry policy:

*Rate new smoking movies R.* Any film that shows or implies tobacco use should be rated R. The only exceptions should be when the presentation of tobacco clearly and unambiguously reflects the dangers and consequences of tobacco use or is necessary to represent smoking by a real historical figure.

*Certify no payoffs.* The producers should post a certificate in the credits at the end of the movie declaring that nobody on the production received anything of value (cash money, free cigarettes or other gifts, free publicity, interest-free loans, or anything else) from anyone in exchange for using or displaying tobacco or its use.

*Require strong antismoking advertisements.* Studios and theaters should require a genuinely strong antismoking advertisement (not one produced by a tobacco company) to run before any film with any tobacco presence, regardless of its MPAA rating.

*Stop identifying tobacco brands.* There should be no tobacco brand identification and no presence of tobacco brand imagery (such as billboards) in the background of any movie scene.

The aim of the Smoke Free Movies campaign is to create a groundswell of support for these policy aims within the public health community and, eventually, among public policymakers to bring pressure to bear on the industry. By 2004, the campaign gained the endorsement of many mainstream health organizations, including WHO, the American Medical Association, the American Academy of Pediatrics, and the American Heart Association. The Smoke Free Movies media campaign began by rolling out a



[ ONE IN A SERIES ]

# An R-rating for smoking: Why it's reasonable, effective, and *inevitable*.

Smoking appeared in 77% of movies rated PG-13 over the last five years. Research shows movies are the biggest pro-smoking influence on children today, more powerful than traditional tobacco advertising. 590,000 kids every year start smoking because of exposure to smoking on screen; as adults 100,000 of them will die from it. A common-sense change to Hollywood's rating system can cut this death toll by 60% or more.

## WHY IT'S TIME TO RATE SMOKING "R":

Research published last June in one of the world's leading medical journals confirms a decade of findings: smoking in movies recruits over half of all new teenage smokers in the United States.

The effect of movie smoking on kids is clear and direct: the more they see, the more likely they are to start smoking. The teens most powerfully influenced are the children of non-smoking parents.

The good news: the less smoking teens see in the movies, the less likely they are to light that first cigarette.

Because kids get 62% of their exposure to movie smoking from G, PG, and PG-13 movies, rating smoking "R" will reduce smoking rates proportionally.

Of the 590,000 kids each year who now start smoking because of what they see on screen, 100,000 a year will eventually die from tobacco-related disease.

Averting 62% of those deaths a year is equal to ending all U.S. deaths from drunk driving, AIDS, violent crime and illegal drugs. Worth doing? Well, yes.



*"R" FOR RESPONSIBLE. The MPAA claims the First Amendment is the reason it won't rate smoking "R." But it R-rates offensive but perfectly legal language now. Surely it doesn't consider its own age-classification system censorship? After all, the First Amendment prohibits the government from banning movies, not voluntary, responsible rating choices by the studio-controlled MPAA.*

## HOLLYWOOD CAN DO IT TOMORROW.

It's no stretch to make the "R" cover smoking. It already covers other legal activities, while giving parents "cautionary advance warning," says the MPAA.

When it rates 4-letter words "R," for example, the MPAA is distinguishing between talk appropriate for kids and speech intended for adult audiences.

It doesn't censor. It age-classifies.

Treat smoking the same way. If a studio decides it's vital for a character to smoke, it can accept an "R" rating just as it does now for cursing or removing a bra—two legal activities that kill nobody at all.

That's no bar to creativity. Studios would still be free to make all the smoking films they want. Many smoking films are already rated "R" for other reasons.

Kids could still see them, too, if their parents take them—that's what an "R" rating means. Real progress is when "R" takes smoking out of the G, PG and PG-13 films that kids are exposed to most.

In fact, only an "R" can keep smoking out of new youth-rated movies, cut teen smoking rates, and save 62,000 lives a year.

## A MILLION TOBACCO DEATHS LATE...

The studios have been stalling public health groups on this issue for more than a decade. "Dialogue" has only produced more on-screen smoking, more real-life addiction, billions for tobacco companies.

That's why medical professionals, including L.A. County's own Department of Health Services, now join socially-responsible shareholders and thousands of young people across the country to demand that smoking be rated "R."

Smoking on screen poses the single greatest public health danger to America's children. Chief executives of the seven major studios and their corporate parents could reduce the danger by 60% or more tomorrow.

The "R" is inevitable. Why not now?

Learn more about the "R" at [SmokeFreeMovies.ucsf.edu](http://SmokeFreeMovies.ucsf.edu)



Example of a Smoke Free Movies advertisement

controversial print advertising campaign in March 2001 that was aimed at members of the movie industry. The campaign was designed to raise awareness about the effect of smoking in movies on adolescent smoking; to place responsibility for change on studio executives, theater owners, and actors; and to suggest government oversight.<sup>133</sup> Along with the advertising campaign, Smoke Free Movies has organized and maintains a network of public health activists at state and local levels. These groups have developed awareness campaigns aimed at youth (in New York, Texas, and Vermont, among others), have engaged in a national letter-writing campaign to movie stars, and have encouraged other forms of activism, such as e-mail messages to movie executives.

The most controversial policy aim of Smoke Free Movies is the R rating for smoking. This policy aim has been under the control of the movie studios and theater owners, the two entities that run the MPAA rating system. From the original perspective of the movie industry, the movie rating system was designed for concerned parents and was not designed in relation to public health considerations. However, the ratings do include violence. After the Columbine High School shootings in 1999, public health considerations were added when efforts by President Clinton, the Senate, and public health experts led to changes in the movie industry's depiction of violence in R-rated films. The movie industry deleted the most violent scenes from soon-to-be released films and increased restrictions on how R-rated movies are marketed. From a public health perspective, limiting the portrayal of tobacco in movies is important because of its link to adolescent smoking (see earlier discussion) and the severity of the health consequences of smoking compared with some other depictions of behavior (e.g., using foul language).

Another issue that has been raised is whether the balance between adolescents' desire to see R-rated movies and parental attempts to limit viewing of these movies weighs in favor of higher or lower exposure rates for R-rated movies among young adolescents. If adolescents successfully circumvent attempts by parents and theaters to restrict their exposure to these movies, their viewing rates would be expected to be similar to other rating categories. The R rating for the smoking campaign, in this case, would be futile and possibly even counterproductive. If view rates for R-rated movies are in fact lower among young adolescents, then the argument could be made that rating movies with smoking R could limit adolescent exposure despite making them "forbidden fruit." To shed light on these possibilities, researchers<sup>7,134</sup> examined the reach of movies, as determined by MPAA ratings, for a sample of young adolescents.

The adolescents were part of an already published cross-sectional survey of 4,946 students, 10–14 years of age, attending 15 junior high schools in New Hampshire and Vermont.<sup>7,134</sup> Each student was surveyed on whether he or she had seen a randomly selected subsample of 50 movies, drawn from 601 popular contemporary movies (based on year of release and box-office success). Almost 50% of the movies were rated R. Because movies were randomly selected, each title appeared on an average of 470 surveys (standard deviation of seven). Therefore, it was possible to determine accurately the percentage of adolescents who had seen each title (termed *reach* in the marketing literature). G-rated movies were seen by most of the adolescents, with a median reach of 67% of adolescents. As the rating becomes more restrictive toward adolescents, reach drops. This is especially true for the transition from PG-13 rating to R rating, for which the median and interquartile ranges for reach drop substantially. Whereas the

75th percentile for reach in PG-13 movies was more than 60%, the 75th percentile for R-rated movies barely exceeded 30%. These data provide convincing evidence that movies in the R-rating category are seen by many fewer young adolescents compared with movies that are not rated R. This result is probably because parents restrict access (see below) and because theaters generally enforce the R-rating as part of their participation in the MPAA ratings system.

Would the R rating for smoking have a substantial immediate impact on adolescents' exposure to smoking in movies? Smoke Free Movies is calling for the R rating to be applied only to new movies. Most adolescents' exposure to R movies is through seeing older movies on video and DVD. The prospective R rating for smoking would therefore substantially cut exposure to depictions of smoking at theaters that air new releases and would have a more pronounced impact over time because of the cumulative effects of the rating change. On the other hand, if the R rating for smoking caused parents to pay less attention to the ratings system, it could result in the reach of R-rated movies increasing among younger adolescents. Because of these concerns, it may be wise to also consider, along with implementation of this policy change, surveillance of R-rated movie viewership among adolescents and inclusion of a motivational effort to convince parents to take the ratings system literally and seriously.

## Other Potential Strategies

### ***Parental Supervision of Entertainment Media***

Most media exposure occurs in the household. Therefore, parental supervision of their children's access to media could affect the children's exposure to media

depictions of smoking, and some evidence supports this idea. Most research involves restriction of access to movies in the R-rated category.

### **R-Rated Movie Restriction**

The prevalence of smoking depicted in movies increases with high levels of movie rating. In a sample of 250 contemporary movies, Dalton and colleagues<sup>32</sup> showed that the median number of smoking depictions was 8.5 for R-rated movies, 4 for PG-13-rated movies, 3.5 for PG-rated movies, and 1 for G-rated movies. About one-half of the movies produced in 1990 were R rated, and that percentage dropped to one-third after 2000. Thus, by restricting access to R-rated movies, parents reduce movie exposure overall by a factor of one-third to one-half and eliminate movies that contain the highest concentration of smoking.

Two studies examining the effect of parental R-rated movie restriction on adolescent smoking were identified. The studies of a sample of Vermont and New Hampshire children aged 10–14 years at baseline assessed parental restriction of R-rated movies through the question, "How often do your parents allow you to watch movies or videos that are rated 'R'?" (never, once in a while, sometimes, all the time). In the cross-sectional study,<sup>135</sup> 90% of the 4,544 students were younger than 14 years of age. However, only 16% reported they were never allowed to watch R-rated movies. One-third (31%) indicated that their parents never restricted them from viewing R-rated movies. Thus, restriction of R-rated movies was not a major focus for most of the parents of the children in this sample. Among adolescents who reported R-movie restriction, exposure to R-rated movies was about one-eighth as high as that for adolescents who reported no restriction. Exposure to PG-13 movies was also reduced by about 50%. Thus, reports of R-rated parent restriction seemed to be associated with lower exposure to such movies.

Importantly, initiation of alcohol consumption and tobacco use was much lower in adolescents reporting movie restriction, even after controlling for a number of other covariates. These variables included sociodemographics, social influences (smoking by friends and family), personality (sensation seeking, rebelliousness), and parenting style (authoritative parenting). Compared with adolescents with no R-rated movie restriction, the adjusted relative risk (95% CI) for smoking initiation was 0.74 (0.65–0.85) for adolescents with partial restriction and 0.29 (0.19–0.45) for those who were completely restricted from viewing R-rated movies.

The never smokers in the cross-sectional study were followed up one to two years later. Smoking incidence (10% tried smoking during the observation period) was examined as a function of parental R-movie restriction at baseline.<sup>8</sup> Adolescents allowed to see R-rated movies at baseline were three times more likely to try smoking (relative risks adjusted for a full set of covariates) compared with those who were never allowed to watch R-rated movies. The effect was stronger for adolescents from nonsmoking families, among whom only 3 of 399 with complete R-rated movie restriction tried smoking. In this group, the adjusted relative risk of smoking given no R-movie restriction was 10. Students were asked again about movie restriction at follow-up. Most reported no change in restriction status, indicating that many parents are able to continue enforcing restriction as adolescents age during junior high school. Moreover, compared with adolescents reporting no change, relaxation of restriction was associated with higher risk of smoking in each of the baseline restriction categories. This longitudinal study provides strong evidence that supports interventions to motivate and assist parents in enforcing media restrictions as a smoking prevention measure aimed at young adolescents.

### Devices That Restrict Access

This is a rapidly changing area as technology offers parents more control of the home media environment. The shift toward automated control of home media was spearheaded by the television V-Chip, a device that enables parents to block television channels and also to block based on television and movie ratings. In the Telecommunications Act of 1996,<sup>136</sup> Congress required manufacturers of televisions to include a control device that could be used by parents to block unwanted programming. In the words of the legislation, the device

enables parents to block programming based on identifying programs without ratings,

is available to consumers at a cost which is comparable to the cost of technology that allows parents to block programming based on common ratings, and

will allow parents to block a broad range of programs on a multi-channel system as effectively and as easily as technology that allows parents to block programming based on common ratings ...

Since 2000, the V-Chip is included on all televisions distributed in the United States with screens larger than 13 inches. In addition to the V-Chip, many modern video and DVD players contain software that gives parents the ability to block television programs by rating, so that their children cannot play material above a certain threshold rating. Given the prevalence of this kind of technology and the interest in protecting children from the ill effects of media, one would have expected a number of interventions involving the V-Chip. Yet a MEDLINE search on “V-Chip” conducted in September 2004 yields only four articles, and a search on PsycINFO yields only six—none of which involves cross-sectional or interventional data. Although this technology is in its infancy, the potential benefits of

widespread application are clear. One study examining the effect of a blocking device that restricted television time showed that mean daily television time for children in the intervention dropped, as did their increase in body mass index.<sup>137</sup> This randomized clinical trial provides strong evidence for a powerful intervention effect.

### **Internet**

It may be too early to consider interventions aimed at the Internet as relatively little is known about how people use it. In a study published in 2004, a sample of underage adolescents were asked to purchase cigarettes over the Internet.<sup>138</sup> The authors reported that 29 of 30 subjects were able to make a purchase by using a parent's credit card, and 75% received the product in the mail. This study shows that access to cigarettes by minors is possible. However, as yet the prevalence of such purchasing behavior among the adolescent population is unknown.

Hong and Cody<sup>108</sup> recommend the following actions to counteract the presence and influence of tobacco on the Web: (1) online tobacco retailers should be required to use age verification and should not sell tobacco products without a bona fide age check; (2) consumer awareness information on the hazards associated with smoking should be displayed for visitors to protobacco Web sites; (3) popular portal sites for the general public and adolescents should be encouraged to provide links or banner advertisements to sites on tobacco cessation or to provide educational material on the health effects of smoking; and (4) tobacco control advocates should use the Web more proactively to advocate smoke-free, healthy environments (e.g., work to have a more noticeable Web presence and use some of the engaging, interactive features that appeal to audiences). By 2004, however, Congress had not passed any restrictions on Internet purchases.

## **Efforts to Modify Response to Exposure**

### **Antitobacco Advertising in Theaters**

As described in the experimental studies section, there is some evidence that showing an antitobacco advertisement before a movie with smoking blunts the movie's effect on attitudes. On the basis of this evidence, one aim of Smoke Free Movies is to require the distributing production studio to pay for antitobacco advertising in theaters. Another possibility raised in discussions between the representatives of the National Association of Attorneys General and the movie industry is attaching an antismoking message ahead of any videotape or DVD that contained smoking. This action would cost the industry little or nothing. In 2007, at least one major studio executive announced that the studio planned to add anti-smoking PSAs on DVDs of future films that feature cigarette smoking.<sup>139</sup>

As noted earlier, through the impetus of state attorneys general, the possibility of communications about smoking depictions in movies has been raised with the president of the National Association of Theatre Owners as well as owner-members. Because movies appeal strongly to adolescents, movie theaters may be ideal places for antitobacco advertising campaign messages. However, the source of funding for such a campaign is unclear.

### **Media Literacy**

Media literacy refers to educational approaches to help viewers better understand media inputs. Some counteradvertising campaigns and contests, discussed in the section "Media Activism" in chapter 11, can be considered a form of media literacy. Critical viewing skills are a

major component of most media literacy educational programs.<sup>140</sup> From the standpoint of persuasion theory,<sup>44,78,141</sup> these programs aim to affect the way the recipient processes media information. Many of the media images viewers see are processed implicitly, without much thought. In theory, adolescents are affected in a cumulative fashion by the images of smoking in the media. As they see literally thousands of depictions of smoking—by affluent characters and without portrayal of negative health effects—in movies, television, and tobacco marketing materials, over time, they associate smoking with positive expectations. By teaching about the mechanisms by which media persuade, media literacy programs should cause the recipient to become a more effortful processor of the media—for example, to be more skeptical of commercial messages and images.<sup>141</sup> An adolescent who is knowledgeable about the role of product placement in marketing and the persuasive power of movie images of smoking will be more resistant to automatically accepting the positive expectancies associated with the image.

Media literacy has great appeal as theory. However, only scant evidence suggests that these programs have short- or long-term effects on adolescents. One study was identified that evaluated a youth tobacco use prevention intervention that included media literacy skills among high school students.<sup>142</sup> Using a quasi-experimental design, the investigators assigned 448 students in 15 classes in three schools to receive the intervention; 161 students in 5 classes in one school served as a control group. The intervention curriculum included health education (consequences of tobacco use, social norms, parental use of tobacco), media literacy skills training (media analysis, media production, product presentation, and media advocacy), and skills training in resisting peer influence. The investigators measured preintervention (one week before intervention) and postintervention (one week

after the intervention) knowledge about health consequences, protobacco attitudes, and use of tobacco. The intervention was associated with significantly higher knowledge scores, a decrease in protobacco attitudes, and a decrease in current tobacco use. Limitations of the study include measurement of short-term outcomes only and inability to attribute attitudinal and behavior change to the media literacy component of the intervention.

Another study examined the effect of a media literacy curriculum on attitudes toward alcohol use in a sample of third-grade students. Austin and colleagues<sup>143</sup> examined the immediate and delayed effects of a media literacy program on alcohol in 246 third-grade students. They proposed a model in which more critical attitudes toward televised portrayals of alcohol use (less perceived realism, less identification, less desirability) would affect alcohol expectancies and, ultimately, behavior. Students were randomly assigned to one of four groups according to two factors: pretest/no pretest and treatment/no treatment. Outcomes were measured immediately and at three months posttest. Children in the intervention group watched a 28-minute videotape *Buy Me That*, which *Consumer Reports* produced for children and which discusses techniques used by advertisers to make products look appealing. The videotape was followed by a guided discussion of four advertisements (two for beer and two for soda pop). Outcomes surveyed included understanding of persuasive intent (“Ads on TV tell the truth”), realism (“Real people act like people in ads”), social norms (“Most teens drink”), similarity (“I do things that people in ads do”), desirability (“People in beer ads are popular”), identification (“I want to have my life like people in beer ads”), and expectancies (“Drinking makes you happier”). Results of the experiment generally were very supportive of the notion that media literacy training has a strong

immediate effect on raising skepticism toward advertising and decreasing participants' intent to engage in the behaviors depicted in advertisements. Some of these effects persisted, albeit to a lesser degree, at delayed posttest.

These studies suggest that media literacy may have a role in training children to resist entertainment messages. However, this intervention area is still very little studied, especially considering the extent to which this practice already has been implemented in educational settings. Until better data are available regarding the long-term effectiveness of media literacy, emphasis—especially for young children and adolescents—should be directed at reducing exposure.

## Summary

Content analyses of popular entertainment media indicate that portrayal of tobacco use is common in movies and is often modeled by stars bearing favored social attributes. The negative health effects of tobacco use are rarely depicted. Tobacco portrayal appears to be less common in popular television and music than in movies. Tobacco exposure in online media is an area for further study.

The results of cross-sectional and longitudinal studies assessing audience responses to portrayals of tobacco use in movies are remarkably consistent in showing an association between seeing smoking in movies and more positive attitudes toward smoking and adolescent smoking initiation. The population-based data include cross-sectional samples from different regions of the United States, Australia, New Zealand, and Asia, and a nationally representative sample of U.S. adolescents—all supporting a link between viewing smoking in movies and adolescent smoking.

The two published longitudinal studies show an independent link between exposure to smoking in movies at baseline and smoking initiation in the future; estimates of the effect size are consistent with their cross-sectional counterparts. The experimental studies examine short-term responses, generally supporting an effect of seeing movie stars smoking on screen on attitudes such as favorable ratings of smokers and intent to smoke in the future. The experimental studies suggest also that the findings among adolescents may be applicable to young adult college students. As a whole, this rich research base provides strong support for the notion that smoking in entertainment media plays a causal role in smoking initiation among adolescents, and this role warrants action at the individual and societal levels.

Still more research is needed on the important role of popular entertainment media, such as movies, in influencing young people to initiate smoking. Research has not yet determined the role entertainment smoking may play in maintaining experimental smoking or in prompting relapse among smokers who have quit. In addition, no published intervention studies have evaluated whether adolescents' exposure can be decreased by motivating parents to restrict access or by teaching adolescents to process depictions of smoking in movies with more skepticism.

Such research should continue to inform the ongoing effort to reduce exposure through media to tobacco use and/or counteract the effects of such exposure. Numerous efforts already have contributed to reducing tobacco use in the media. These efforts include policy interventions such as tobacco advertising and product placement restrictions, public education, and advocacy efforts targeting entertainment providers. In the future, research on trends—ranging from encouraging increased parental responsibility to controversial initiatives

such as R ratings for movies featuring tobacco use—will continue to build on this base of knowledge. Continued efforts to reduce exposure to tobacco through media may potentially affect social attitudes and behavior toward smoking, which in turn may have a long-term effect on the public's disease burden attributable to tobacco use.

### Conclusions

1. Children and adolescents in the United States have heavy exposure to entertainment media, with an average of 5.5 person-hours of media use per day. Tobacco use often is integrated into entertainment media programming, especially in movies.
2. Portrayals of tobacco in movies include images of tobacco use and images of tobacco product brand names and logos. Depictions of smoking are pervasive in movies, occurring in three-quarters or more of contemporary box-office hits. Cigar use also is commonly depicted in movies, but use of smokeless tobacco is not. Smoking is more common in movies rated for adults (i.e., R-rated), but depiction of smoking is not related to box-office success. Identifiable cigarette brands appeared in about one-third of movies released during the 1990s. In contrast to its frequent depiction in movies, tobacco use is found in about 20% of television shows and 25% of music videos.
3. Smoking prevalence among contemporary movie characters is approximately 25%, about twice what it was in the 1970s and 1980s. In contrast, smoking in the general population has declined since the 1970s. Smokers in movies differ from smokers in the general population: the former are more likely to be affluent and white. The health consequences of smoking are rarely depicted in movies.
4. Cross-sectional studies show that, among adolescents, exposure to smoking in movies is associated with initiation of smoking, independent of several other factors such as smoking by friends and family. Cross-sectional studies also indicate that among adolescent never smokers, exposure to smoking in movies is associated with more positive attitudes toward smoking.
5. Two longitudinal studies demonstrate that adolescents with higher exposure to smoking in movies at baseline are 2.0 to 2.7 times more likely to try cigarette smoking in the future. More studies are needed on the role exposure to smoking in movies plays in adolescents' smoking beyond the initiation phase.
6. Experimental studies show that images of cigarette smoking in film can influence adolescent and adult viewers' beliefs about social norms for smoking, beliefs about the function and consequences of smoking, and their personal intentions to smoke. Protobacco movie content (e.g., stars smoking, absence of health consequences portrayed) appears to promote prosmoking beliefs and intentions. The effects observed for experimental studies of smoking in movies on viewers' smoking-related beliefs are of a similar magnitude as those observed in experimental media research on other health topics (e.g., effects of media violence on viewers' aggression).
7. Experimental studies indicate that antitobacco advertisements screened before films can partially counter the impact of tobacco portrayals in movies.
8. The total weight of evidence from cross-sectional, longitudinal, and experimental studies, combined with the high theoretical plausibility from



the perspective of social influences, indicates a causal relationship between exposure to movie smoking depictions and youth smoking initiation.

9. One longitudinal study indicates that parental steps to reduce the exposure of never smokers (aged 10–14 years) to R-rated movies, which have higher numbers of smoking events, produced a corresponding reduction in their smoking initiation.
10. Efforts to reduce media exposure to tobacco include restrictions on tobacco advertising and product placements, advocacy targeted to entertainment providers, media literacy interventions aimed at the general public, continued dialogue with key stakeholders in the entertainment industry, and proposed self-regulation by the movie industry (e.g., tobacco-related ratings).

## Appendix 10A. Statement by Attorney General Curran of Maryland on Role of the State Attorneys General

EFFORTS OF STATE ATTORNEYS GENERAL  
TO SEEK MOVIE INDUSTRY COOPERATION  
IN REDUCING YOUTH EXPOSURE TO SMOKING IN MOVIES

By

J. JOSEPH CURRAN, JR.

ATTORNEY GENERAL OF MARYLAND

TOBACCO LITIGATION & THE 1998 MASTER SETTLEMENT AGREEMENT (MSA)

When I filed Maryland's lawsuit in 1996 against the nation's largest tobacco companies, as did my fellow Attorneys General from across the country, we sought restitution for the billions of dollars paid by our states to treat tobacco related illnesses. Just as important, we also sought to stop the tobacco companies' marketing campaigns that target and encourage children to purchase and consume tobacco products.

In November 1998, I was one of the 46 state Attorneys General who signed the historic Master Settlement Agreement (MSA) which settled our state suits. Under the MSA, the tobacco companies are required to pay the settling states more than \$200 billion over 25 years. Equally important, tobacco companies are restricted from targeting youth or making tobacco brand names ubiquitous through apparel or other merchandise, billboard and bus ads, sponsorships or product placements in the media, including movies.<sup>1</sup>

The MSA states in part:

No participating tobacco manufacturer may...make, or cause to be made, any payment or other consideration to any person or entity to use, display, make reference to or use as a prop any Tobacco Product, Tobacco Product package, advertisement for a Tobacco Product, or any other item bearing a Brand Name in any motion picture, television show, theatrical production or other live performance, live or recorded performance of music, commercial film or video, or video game ("Media")....

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<sup>1</sup>The MSA prohibits, generally and with exceptions not listed here: any action to target youth in the advertising or marketing of tobacco products; cartoons in cigarette advertising or packaging; outdoor and transit ads; brand name sponsorships of concerts or sporting events and naming rights to sports venues; tobacco brand name merchandise; free samples of tobacco products; tobacco coupons or credits to children; and payment for use of tobacco products in the media.

MSA, Section III (e).<sup>2</sup> Moreover, the MSA also prohibits the participating manufacturers from authorizing any third party to use a brand name in a way in which a participating manufacturer may not.<sup>3</sup>

#### IN SPITE OF THE MSA PROHIBITIONS, DEPICTIONS OF SMOKING AND BRAND APPEARANCES PERSIST IN THE MOVIES

In spite of these express prohibitions, smoking in movies—particularly in youth rated movies—remains as prevalent today as it was before the MSA—and by some measures has increased. Since the MSA, movie stars continue to smoke on-screen.

Most films portray smokers and smoking in a positive or neutral light and few films appear to contain negative statements about tobacco use. Moreover, even after the MSA, movies continue to show tobacco brand names.

#### THE TOBACCO COMPANIES DENY A ROLE IN MOVIE BRAND APPEARANCES

In March 2003, California Attorney General Bill Lockyer wrote to each of the four major tobacco companies to express concern over depictions of smoking and tobacco brand appearances since the MSA. In light of the MSA's express prohibitions, General Lockyer asked each manufacturer whether it had played a role in the appearance of its cigarette brands in post-MSA movies identified in his letters. All four companies denied any role in the appearances of their products in movies. Indeed, at General Lockyer's urging that the tobacco companies take commercially reasonable steps against brand appearances, Philip Morris, Lorillard and R.J. Reynolds have sent letters notifying movie studios that they do not want their products to appear in the movies. Most recently, we are pleased that Philip Morris and R.J. Reynolds have taken commercially reasonable steps to ask studios to remove references to their tobacco brand names from two particular movies before the films are released on DVD or video or licensed for broadcast.

#### IN LIGHT OF THE SCIENTIFIC EVIDENCE AND POLICY RECOMMENDATIONS, ATTORNEYS GENERAL SEEK COOPERATION OF THE MOVIE INDUSTRY

In August 2003, compelled by the strength of the research linking seeing smoking in movies with teen smoking, I wrote a letter, joined by the Attorneys General of 27 other states and jurisdictions, to Mr. Jack Valenti, President of the Motion Picture Association of America (MPAA), seeking cooperation of the motion picture industry to reduce the depiction of smoking in movies. Mr. Valenti promptly responded by extending an invitation to my

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<sup>2</sup>Under the MSA, "Tobacco Products" means cigarettes and smokeless tobacco products. Section II (vv).

<sup>3</sup>MSA Section III(i) provides that "no Participating Manufacturer may license or otherwise expressly authorize any third party to use or advertise within any Settling State any Brand Name in a manner prohibited by this Agreement if done by a Participating Manufacturer itself... Following such written notice, the Participating Manufacturer will promptly take commercially reasonable steps against any such non-de minimis third party activity." In other words, tobacco companies are required to take affirmative steps such as written demands to third parties to cease and desist the unauthorized activity.

colleagues and me to meet and share with him the details of the study. Mr. Valenti further proposed setting up a round-table in discussion in Los Angeles with representatives of the creative guilds and movie production companies.

My colleagues and I have followed up on Mr. Valenti's offer, several times over. In October 2003, Connecticut Attorney General Richard Blumenthal, former Pennsylvania Attorney General Mike Fisher, Utah Attorney General Mark Shurtleff, Vermont Attorney General Bill Sorrell, and I met with Mr. Valenti and his staff in Washington, D.C. After presenting the research, Dr. James D. Sargent, a pediatrician and lead investigator of the Dartmouth study, handed Mr. Valenti the following "prescription" which mirrors the policy recommendations endorsed by a growing number of our leading major medical and public health organizations:

- Give smoking movies an R-rating;
- Eliminate brand identification;
- Certify that no consideration was received for smoking in the movie; and
- Run antismoking messages before any movie that depicts smoking.

Although Mr. Valenti unequivocally rejected the R-rating for movies that depict smoking, he proposed a series of round table discussions with other members of the movie industry. Since that initial October 2003 meeting, my colleague attorneys general and I have taken our message, accompanied by Dartmouth scientists Dalton and Sargent, to Hollywood. As proposed by Mr. Valenti, on December 17, 2003, we spent a morning in Los Angeles at the Directors Guild of America (DGA) with their executive staff and directors who serve on the DGA's Social Responsibility Task Force. Later that same day, we met and discussed the research and its implications for movies and youth smoking with senior production executives of the MPAA studios: Metro-Goldwyn-Mayer Studios, Paramount Pictures, Universal Pictures, Warner Bros., Sony Pictures Entertainment, Walt Disney Pictures, and 20th Century Fox Film Corporation. Representatives of the Screen Actors Guild and the Writers Guild of America also participated in the afternoon discussion. In these two sessions, after Dr. Dalton presented her findings, the attorneys general voiced our concerns directly to these directors, writers, actors and movie studio executives that depictions of smoking in their youth rated films and the persistence of cigarette brand names in any movie works against the goals of the MSA. We encouraged them to adjust and enhance their voluntary movie ratings system—designed to provide America's parents with the information necessary to make informed and responsible decisions about their childrens' movie-going choices—so that parents can be as informed about smoking in movies as they currently are about foul language. Given the state attorneys general's responsibility to enforce the MSA prohibition against cigarette brand placements in the media by tobacco companies, we also asked for the opportunity to learn more from the MPAA studio executives about the circumstances surrounding appearances of cigarette brands in movies.

We also have taken our message to the National Association of Theatre Owners. In April 2004, Vermont Attorney General Bill Sorrell, Dr. Dalton and I had the opportunity to address the NATO Board of Directors at its annual meeting in Washington, D.C. In addition to the Dartmouth research, Dr. Dalton also reviewed the promising findings that antismoking PSAs

run before movies can “inoculate” youth to depictions of smoking in films.<sup>4</sup> Given NATO’s joint power with the MPAA over the movie ratings system and its members’ exclusive control over their movie screens, NATO has a unique opportunity to protect our youth from smoking by making smoking a criterion in movie ratings (equal to foul language) and by running antismoking PSAs before movies.

And, because we believe that educating the movie industry is a crucial first step toward achieving the changes we seek in reducing youth exposure to smoking depictions and eliminating cigarette brand appearances, we are very pleased to report that the DGA has agreed to feature an article on this important subject in the June issue of its widely circulated magazine. We are hopeful that this message will be communicated most effectively by directors to directors and other movie makers and will guide their creative decisions.

With regard to the MPAA and its member studios, we will continue our educational efforts by seeking mutually agreeable ways to sensitize these individuals and organizations to the public health benefits of reducing youth exposure to smoking depictions and eliminating cigarette brand name appearances.

Most recently, on May 11, 2004, I presented the concerns and efforts of the state attorneys general at a hearing before the United States Senate Committee on Commerce, Science & Transportation which was convened to consider the impact of smoking in movies on children. At the hearing, at which Senator John Ensign presided, Mr. Valenti testified on behalf of the MPAA and Mr. LeVar Burton testified on behalf of the Social Responsibility Task Force of the Directors Guild of America. Dr. Madeline Dalton reviewed the method and compelling findings of the Dartmouth research. Dr. Stanton Glantz argued for the adoption by the movie industry of the four policy recommendations. I was very pleased that Senators Ensign, Ron Wyden and Bill Nelson agree that the movie industry should avail itself of its unique opportunity to eliminate cigarette brand appearances, reduce or eliminate smoking depictions in movies and run antismoking public service announcements in theaters. Moreover, Mr. Burton announced at the hearing that he and other colleagues would donate their time and talent to create antismoking public service announcements.

## CONCLUSION

Reducing youth exposure to depictions of smoking and eliminating tobacco brand appearances in movies will require bold, voluntary action by the entire movie industry. The DGA’s pledge to feature this issue in their magazine and Mr. Burton’s willingness to create antismoking PSA’s to be run in theaters are very important and positive steps. I am hopeful that such leadership will prompt similar commitments of resources from the entire movie industry—studios, actors, writers and theater owners—to become part of the solution to the nation’s deadliest preventable problem of smoking.

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<sup>4</sup>Pechmann, C., Shih, C-F. Smoking scenes in movies and antismoking advertisements before movies: effects on youth. *J. Marketing*. 1999; 63(3) 1-13.

## Appendix 10B. Letter from 28 State Attorneys General to Jack Valenti and Response

### STATE ATTORNEYS GENERAL

A Communication From the Chief Legal Officers of the following States and Jurisdictions:

Arkansas • California • Colorado • Connecticut • Hawaii • Illinois • Maine • Maryland • Massachusetts • Minnesota • Mississippi • Northern Mariana Islands • New Hampshire • New Jersey • New Mexico • New York • Ohio • Oklahoma • Oregon • Pennsylvania • Tennessee • Utah • Vermont • Washington • West Virginia

August 26, 2003

Jack Valenti, President  
Motion Picture Association of America  
15503 Ventura Boulevard  
Encino, California 91436

Dear Mr. Valenti:

We, the undersigned Attorneys General, write to ask you, with your longstanding prominence and influence in the American motion picture industry, to exercise your exemplary leadership to effect potentially far reaching benefits for public health. A Dartmouth Medical School study released last month confirms what other research has suggested: reducing the prevalence of cigarette smoking in motion pictures could significantly decrease the initiation of smoking in youth. With this new evidence of how effective reducing smoking in motion pictures would be in preventing youth smoking, the motion picture industry stands in a uniquely powerful position to bring about a profoundly beneficial impact on the health and well-being of millions of Americans.

Smoking is the leading cause of preventable death in each of our states and across the country, accounting for the death of over 400,000 Americans each year -- more people than alcohol, AIDS, car crashes, illegal drugs, murders, and suicides combined.

The good news is that smoking rates have declined -- attributable directly to the major efforts undertaken and sustained at the federal, state and local levels. State attorneys general sued the major tobacco manufacturers resulting in the 1998 historic settlement under which the tobacco companies agreed not only to pay the states \$206 billion dollars but also to make unprecedented changes in the way cigarettes are sold, advertised, and marketed -- especially when it comes to youth. The battle to decrease smoking, especially among our youth, has been waged by public health initiatives at every level of government, by the American Legacy Foundation, and by increases in cigarette excise taxes.

However, despite the declines in youth smoking rates across the country, our teens continue to smoke at an unacceptable rate. Given our knowledge that almost 90% of current adult smokers began smoking as teens, we are disheartened that 28.5% (over 4.5 million) of all high school students smoke, with an estimated 2,000 young people (under age 18) becoming new daily smokers every day. These numbers translate into a horrifying projection: more than 5 million children alive today will die prematurely from their smoking.

Mr. Jack Valenti  
August 26, 2003  
Page 2

Attorney General Bill Lockyer recently wrote to you asking for industry cooperation on World No Tobacco Day. The motion picture industry holds an enviably powerful position to build upon efforts to reduce youth smoking in this country in a way no one else can. In June, and the impetus for our letter to you now, a research team from the Dartmouth Medical School published the broadest research to date in the growing body of uncontroverted scientific evidence that exposure to smoking in motion pictures has a significant impact on youth initiation of smoking. The study, published in *The Lancet*, provides additional "strong evidence that viewing smoking in movies promotes smoking initiation among adolescents." With funding by the National Cancer Institute, Dr. Madeline Dalton and her research team found that the children, ages 10-14, who watched the highest amount of smoking in movies were almost three (2.71) times more likely to start smoking than those children who watched the least amount of smoking in movies.

While recognizing the need for further study, the researchers offered the following insight:

The effect of exposure to movie smoking is important, both because the effect on smoking initiation is moderately strong and because the exposure is almost universal. Based on the lists of 50 randomly selected movies, only five (0-2%) participants were unexposed to movie smoking. If the link between exposure to smoking in movies and smoking initiation proves to be causal, our data suggest that eliminating adolescents' exposure to movie smoking could reduce smoking initiation by half.

The motion picture industry, therefore, is uniquely situated to bring about sweeping change to prevent youth smoking. Simply by reducing the depiction of smoking in movies, the industry can protect our nation's youth from the known perils of smoking. Mr. Valenti, you have demonstrated your leadership and willingness in the past to join forces to protect our youth from violence in the media. We are hopeful you will use your best efforts again here to rally the motion picture industry to move from being a source of the problem to being recognized as a critically important force in solving the nation's deadly problem of youth smoking.

We look forward to hearing your ideas about how the motion picture industry will pursue this tremendous opportunity. Thank you in advance for your thoughtful consideration of this important matter.

Very truly yours,

[signed]

Attorney General J. Joseph Curran, Jr.  
Attorney General of Maryland

09/02/2003 14:49 FAX 202 452 9823

MPAA-EXECUTIVE OFFICE

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MOTION PICTURE ASSOCIATION  
OF AMERICA, INC.  
1600 EYE STREET, NORTHWEST  
WASHINGTON, D.C. 20006  
(202) 298-1966  
FAX: (202) 452-9822

JACK VALENTI  
PRESIDENT  
AND  
CHIEF EXECUTIVE OFFICER

August 28, 2003

*Dear General Curran*

I am most respectful of the views of you and your colleagues on any subject, as well as the issue of smoking in movies.

There are conflicting emotions which connect to this issue. Even as I personally fret uneasily over smoking in movies – I am opposed to smoking in movies unless it is requisite to defining the “character” of the actor’s role – I am reminded there are in this free and loving land a good many legal products that have the capability of producing tragedy in the lives of far too many Americans – too much smoking for too long – the abuse of alcohol intake which agonizes too many families – the terrible sorrow that guns inflict on too many neighborhoods.

How to deal with those dark facts of real life in the art of visual story-telling? How do creative artists confront conflicting themes of the human condition as they try to construct a dramatic narrative? The question is not conspiratorial, not at all. As a passionate partisan of the First Amendment, as one who believes that those forty-five words comprise the one clause in our Constitution which guarantees all the others, I am awfully reluctant to offer counsel to creative filmmakers about how they shape their story, what to put in and what to leave out. I have on a good many occasions discussed films’ philosophic tracings and the responsibility of filmmakers with many directors, writers, producers, actors, and studio executives. But I must tell you that I only offer my opinion, never fiat. Dialogue with



09/02/2003 14:49 FAX 202 452 9823

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film makers and studio executives continues. These are open and free exchanges, fastening on all aspects of the creative process.

I believe that worthy public officials who have by solemn oath sworn to do their duty, must always do what they believe to be the right thing to do, even though a good many of their constituents might be in opposition. I also believe that film makers must do the same, that is, tell a story the way they choose to tell it, though others might be unsettled by what they see.

I am not acquainted with the details of the Dartmouth Medical Team study which was published in *The Lancet*. I know nothing about the study's methodology or the entrails of its findings. But I do not question whatever were the results. I have faith in the integrity of the Dartmouth Medical Team.

Would you find it suitable to designate someone with detailed knowledge of the study to give me guidance on it? I would be pleased to meet with whomever you select. Moreover, once I have had an opportunity to learn more about the study, I propose setting up a round-table discussion in Los Angeles with representatives of the creative guilds and production companies, and whomever from your group you would choose to attend. So, please tell me if both these suggestions strike a responsive chord within you. I'll wait to hear from you.

The Honorable J. Joseph Curran, Jr.  
Attorney General  
200 St. Paul Place  
Baltimore, MD 21202-2212

Respectfully,  
JCC

## Appendix 10C. Letter from Lorillard to California Assistant Attorney General Dennis Eckhart Regarding Brand Appearance of Newport in the Movie *City by the Sea*



Ronald S. Milstein  
Vice President,  
General Counsel and Secretary

June 6, 2003

(336) 335-7718  
Fax (336) 335-7707  
E-Mail: rrmilstein@loritobco.com

Mr. Dennis Eckhart  
Senior Assistant Attorney General  
State of California  
Department of Justice  
1300 I Street, Suite 125  
Sacramento, California 94244-2550

Dear Dennis:

I have received your letter of May 29, 2003, responding to mine of April 29, 2003.

As you requested, Lorillard has sent a letter to Warner Brothers Studio concerning their use of Newport brand cigarettes in their movie *City By The Sea*. A copy is attached. I will forward their response to you.

Lorillard disagrees that in every circumstance "commercially reasonable steps" include the type of action we have agreed to take in this instance. I explained why this is in my letter to you. However, you are correct that our "respective positions are not very far apart," and we are most willing to address your request in this situation.

We await information about your efforts to reduce or eliminate smoking in motion pictures and other forms of media, and are ready to assist these efforts. In that regard, I wanted you to know that this spring, Lorillard launched a partnership with a company named Screenvision, which works with movie chains and individual movie houses to place advertisements on movie screens. Lorillard's acclaimed Youth Smoking Prevention Program ads, "Roommates" and "Piercing Parlor," will be seen throughout the summer on more than 5,000 movie screens throughout the country, with a projected 20 million teens viewing the ads. If you would like more information about this initiative, or would like to discuss this issue further, please don't hesitate to call.

Very truly yours,

Ronald S. Milstein

RSM/rh

Attachment

Corporate Office:  
714 Green Valley Road  
Greensboro, NC 27408

Mail to:  
PO. Box 10529  
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