

Tobacco and Alcohol Use in G-Rated Children's Animated Films

Adam O. Goldstein, MD

Rachel A. Sobel

Glen R. Newman, PT

ALTHOUGH TOBACCO USE AMONG US adults continues to decline, youth tobacco use is on the rise.¹ Research demonstrating causal relationships between tobacco advertising and youth tobacco consumption has increased criticism of tobacco advertising campaigns like those based on the popular cigarette symbols of the Marlboro Man and the cartoon character Joe Camel.²⁻⁴ Recent pressures on tobacco companies to settle all state Medicaid lawsuits has stemmed in part from tobacco companies' marketing campaigns that appeal to youth. Moreover, cigar use has increased exponentially among young adults in recent years.⁵

Similarly, the film industry has come under attack for its continued depiction of tobacco use as sexy, hip, and cool.^{6,7} Tobacco use continues to be a staple of character development in Hollywood as legends such as Humphrey Bogart, Lauren Bacall, and John Wayne are replaced by stars like John Travolta, Julia Roberts, Winona Ryder, and Brad Pitt, all of whom have lit up on the big screen.

Use of tobacco, as well as alcohol, by children and adolescents are important public health concerns. Recently, 1 of us (A.O.G.) was surprised by the presence of tobacco and alcohol use by characters in several animated children's films. To examine whether this was an isolated phenomenon, we undertook a study to examine the prevalence of tobacco and alcohol use in children's animated films.

Context Tobacco and alcohol use among youth are major public health problems, but the extent to which children are routinely exposed to tobacco and alcohol products in children's films is unknown.

Objective To identify the prevalence and characteristics associated with tobacco and alcohol use portrayed in G-rated, animated feature films.

Design All G-rated, animated feature films released between 1937 and 1997 by 5 major production companies (Walt Disney Co, MGM/United Artists, Warner Brothers Studios, Universal Studios, and 20th Century Fox) that were available on videotape were reviewed for episodes of tobacco and alcohol use.

Main Outcome Measures Presence of tobacco and alcohol use in each film, type of tobacco or alcohol used, duration of use, type of character using substance (bad, neutral, or good), and any associated effects.

Results Of 50 films reviewed, 34 (68%) displayed at least 1 episode of tobacco or alcohol use. Twenty-eight (56%) portrayed 1 or more incidences of tobacco use, including all 7 films released in 1996 and 1997. Twenty-five films (50%) included alcohol use. Smoking was portrayed on screen by 76 characters for more than 45 minutes in duration; alcohol use was portrayed by 63 characters for 27 minutes. Good characters use tobacco and alcohol as frequently as bad characters. Cigars and wine are shown in these films more often than other tobacco or alcohol substances.

Conclusions More than two thirds of animated children's films feature tobacco or alcohol use in story plots without clear verbal messages of any negative long-term health effects associated with use of either substance.

JAMA. 1999;281:1131-1136

www.jama.com

METHODS

Two trained research assistants reviewed videotapes of 50 G-rated, children's animated films for the presence of tobacco and alcohol use by characters. The films reviewed included all Walt Disney Co animated features from 1937 through 1997, except for those currently unavailable on videocassette (n = 3), as well as all similar films released since 1982 by 4 other major animated production companies (MGM/United Artists, Warner Brothers Studios, Universal Studios, and 20th Century Fox). Films selected for review had a running time of at least 60 minutes, had a primary story line in animation, and were released into theaters before distribution via videocassette.

Variables assessed in each film included presence of tobacco or alcohol use, type of tobacco or alcohol being used, total length of time (in seconds) tobacco or alcohol use was visible on screen, number of characters using tobacco or alcohol, overall character quality of user (good, bad, or neutral), and presence of any implied or explicit health message. For coding purposes, tobacco

Author Affiliations: Department of Family Medicine, School of Medicine (Dr Goldstein and Ms Sobel), and the Department of Health Policy and Administration, School of Public Health (Mr Newman), University of North Carolina at Chapel Hill.

Corresponding Author and Reprints: Adam O. Goldstein, MD, Department of Family Medicine, University of North Carolina at Chapel Hill School of Medicine, CB 7595, Chapel Hill, NC 27599 (e-mail: aog@med.unc.edu).

Edited by Annette Flanagan, RN, MA, Associate Senior Editor

Table 1. Tobacco and Alcohol Use in Animated Children's Feature Films

Movie	Year	Tobacco Use	Tobacco Use Total Exposure, s	Alcohol Use	Alcohol Use Total Exposure, s
Walt Disney Co <i>Snow White and the Seven Dwarfs</i>	1937	No		No	
<i>Pinocchio*</i>	1940	Yes†	223	Yes	80
<i>Fantasia</i>	1940	No		No	
<i>Dumbo</i>	1941	Yes†	176	Yes‡	88
<i>Bambi</i>	1942	No		No	
<i>The Three Caballeros</i>	1945	Yes	548	Yes	8
<i>Fun and Fancy Free</i>	1947	No		Yes‡	4
<i>Cinderella</i>	1950	Yes	37	No	
<i>Alice in Wonderland</i>	1951	Yes†	158	No	
<i>Peter Pan</i>	1953	Yes	51	Yes‡	33
<i>Lady and the Tramp</i>	1955	No		No	
<i>Sleeping Beauty</i>	1959	No		Yes‡	113
<i>101 Dalmatians*</i>	1961	Yes†	299	Yes	51
<i>The Sword and the Stone</i>	1963	Yes†	37	Yes	20
<i>The Jungle Book</i>	1967	No		No	
<i>The Aristocats</i>	1970	Yes	11	Yes‡	142
<i>Robin Hood</i>	1973	No		Yes‡	39
<i>The Rescuers</i>	1977	No		No	
<i>The Many Adventures of Winnie the Pooh</i>	1977	No		No	
<i>The Fox and the Hound</i>	1981	No		No	
<i>The Black Cauldron</i>	1985	No		Yes	34
<i>The Great Mouse Detective</i>	1986	Yes†	165	Yes	414
<i>Oliver and Company</i>	1988	Yes†	74	No	
<i>The Little Mermaid</i>	1989	Yes	9	No	
<i>The Rescuers Down Under</i>	1990	No		Yes	76
<i>Beauty and the Beast</i>	1991	No		Yes	123
<i>Aladdin</i>	1992	Yes	2	Yes	3
<i>The Lion King</i>	1994	No		No	
<i>Pocahontas</i>	1995	Yes	6	Yes	7
<i>Toy Story</i>	1995	No		No	
<i>The Hunchback of Notre Dame*</i>	1996	Yes	23	Yes	46
<i>James and the Giant Peach*</i>	1996	Yes†	206	Yes	38
<i>Hercules</i>	1997	Yes	9	Yes	13
MGM/United Artists <i>The Secret of NIMH</i>	1982	No		No	
<i>All Dogs Go to Heaven*</i>	1989	Yes†	205	Yes	73
<i>All Dogs Go to Heaven 2</i>	1995	Yes†	162	Yes	72
<i>Babes in Toyland</i>	1995	No		No	
Warner Brothers Studios <i>Thumbelina</i>	1994	Yes	6	Yes	5
<i>The Troll in Central Park</i>	1994	Yes	1	No	
<i>Space Jam</i>	1996	Yes	117	No	
<i>Pippi Longstocking</i>	1997	Yes	5	No	
<i>Cats Don't Dance</i>	1997	Yes	91	No	

(continued)

and alcohol use by large groups, such as in bars, was counted as only 1 use.

A standardized evaluation sheet and a handheld digital stopwatch were used for data measurement and collection during the review of each feature. Reviewers examined film sequences with observed tobacco or alcohol use several times to ensure accuracy. The data were entered into Microsoft Excel, Version 5.0 (Microsoft Corp, Redmond, Wash), and analyzed with descriptive and χ^2 statistics using Epi Info, Version 6.02 (Centers for Disease Control and Prevention, Atlanta, Ga).

RESULTS

Tobacco or alcohol was used by at least 1 character in 34 (68%) of the 50 animated movies (TABLE 1). Tobacco use was portrayed in 28 films (56%), including all 7 animated movies released in 1996 and 1997. Seventeen of 33 Disney animated movies featured tobacco use compared with 11 of 17 films by other production companies. Disney films made since 1964, when the first surgeon general's report on tobacco use was published, had similar instances of tobacco use than those made before 1964 (8 vs 9, $P = .58$).

Tobacco was used by at least 76 characters for a total exposure time of more than 45 minutes in duration, or an average of 97 seconds (range, 1-548 seconds) per movie that depicted smoking as part of the plot or as a character trait. In films with tobacco use, an average of 2.7 characters (range, 1-10) per film used tobacco (TABLE 2). Cigars were the preferred tobacco used by 45 characters (59%), cigarettes by 16 (21%), and pipes by 15 (20%). Twenty-eight of the 76 characters who used tobacco were classified as good. Surprisingly, in 14 of the 17 Disney films with tobacco use, at least 1 of the smoking characters was classified as a good character, and 22 (49%) of the Disney characters using tobacco products were classified as good. Compared with Disney films, only 3 of 11 other films with tobacco use portrayed even 1 good character smoking ($P = .008$) and these characters represented only 19% ($n = 6$) of all characters using to-

bacco products (Table 2). In the last 13 animated movies released since 1992 that portrayed tobacco use, almost twice as many characters using tobacco were classified as good vs bad (12 vs 7 characters) and in the 7 films released in 1996 and 1997, 10 of 17 characters using tobacco were good characters.

The use of alcohol was portrayed in 25 (50%) of 50 films for a total duration of 27 minutes (Table 1). Alcohol was used by at least 62 characters, averaging 2.5 characters (range, 1-6 characters) per film who depicted alcohol use (TABLE 3). Alcohol use was portrayed in 19 of 33 Disney animated films compared with 6 of 17 films made by the other production companies ($P = .14$). Characters who consumed alcohol most frequently consumed wine ($n = 37$; 60%), followed by beer ($n = 20$; 32%), spirits ($n = 3$; 5%), and champagne ($n = 2$; 3%).

Twenty-four characters using alcohol products in animated film were classified as good characters, similar to the number of bad characters. In 19 of 25 films in which alcohol use was portrayed, tobacco use by characters was also portrayed ($P < .005$). In 6 instances, characters used tobacco and alcohol products at the same time.

Effects of tobacco use or exposure in 10 films included instances in which a character becomes woozy when inhaling too deeply or a nonsmoking character coughs when smoke by a tobacco user is exhaled in their face. Seven of the 50 films depicted effects of alcohol use, such as instances in which a character using alcohol gets drunk, passes out, hiccups, loses balance, or falls over. None of the films addressed the long-term health consequences of tobacco or alcohol addiction, and there were no verbal messages depicting any negative health consequences of tobacco or alcohol use.

COMMENT

Animated children's films are seen by millions of children and adults, and many are some of the most popular movies ever made (9 of the top 100 grossing US box office films are animated films).⁸ Films made by Disney and other animated features are often termed *masterpiece classics*

Table 1. Tobacco and Alcohol Use in Animated Children's Feature Films (cont)

Movie	Year	Tobacco Use	Tobacco Use Total Exposure, s	Alcohol Use	Alcohol Use Total Exposure, s
Universal Studios					
<i>An American Tail*</i>	1987	Yes†	155	Yes‡	74
<i>The Land Before Time</i>	1988	No		No	
<i>Fievel Goes West</i>	1991	Yes	24	Yes	28
<i>We're Back: A Dinosaur Story</i>	1993	Yes	55	No	
<i>The Land Before Time 2</i>	1994	No		No	
<i>Balto</i>	1995	No		No	
20th Century Fox					
<i>Once Upon a Forest</i>	1993	No		No	
<i>Anastasia</i>	1997	Yes	17	Yes	39

*Tobacco and alcohol use are shown together.

†Character coughs, sneezes, or displays other physical manifestation of use, but no verbal message is included depicting negative health consequences of tobacco use.

‡Character appears drunk (eg, hiccups, loses balance, or passes out), but no verbal message is included depicting potential negative health consequences of alcohol use.

Table 2. Tobacco Use by Character and Type in Animated Children's Feature Films

Movie	Characters	Type of Tobacco	Character Quality
Walt Disney Co			
<i>Pinocchio</i>	Geppetto	Pipe	Good
	Fox	Cigar	Bad
	Pinocchio	Cigar	Good
	Lampwit	Cigar	Bad
	Gideon	Cigar	Neutral
	Crowd	Cigars	Neutral
	Coachman	Pipe	Bad
	Sidekick	Cigar	Bad
	Entranceman	Cigar	Neutral
	Tobacco Row	Cigars	Neutral
<i>Dumbo</i>	Crow	Cigar	Good
<i>The Three Caballeros</i>	Jose Carioca	Cigar	Good
	Arcuan bird	Cigar	Neutral
	Man at fair	Pipe	Neutral
<i>Cinderella</i>	King	Cigar	Good
	Grand Duke	Cigar	Good
<i>Alice in Wonderland</i>	Dodo	Pipe	Neutral
	Walrus	Cigar	Neutral
	Caterpillar	Hookah (water pipe)	Neutral
<i>Peter Pan</i>	Captain Hook	Cigars	Bad
	Indian Chief	Pipe	Good
	Peter Pan	Pipe	Good
	Jon	Pipe	Good
<i>101 Dalmatians</i>	Roger	Pipe	Good
	Cruella De Vil	Cigarette	Bad
	Jasper	Cigar	Bad
<i>The Sword and the Stone</i>	Merlin	Pipe	Good
<i>The Aristocats</i>	Edgar	Cigars	Bad
<i>The Great Mouse Detective</i>	Ratigan	Cigarette	Bad
	Mouse	Cigar	Bad
	Basil	Cigarette and pipe	Good
	Holmes	Pipe	Good
	Bar scene	Cigars and cigarettes	Neutral

(continued)

Table 2. Tobacco Use by Character and Type in Animated Children's Feature Films (cont)

Movie	Characters	Type of Tobacco	Character Quality
<i>Oliver and Company</i>	Vendor	Cigar	Neutral
	Sykes	Cigar	Bad
	Tito	Cigar	Good
<i>The Little Mermaid</i>	Butler	Pipe	Good
<i>Aladdin</i>	Genie	Cigarette	Good
<i>Pocahontas</i>	Thomas' father	Pipe	Good
<i>The Hunchback of Notre Dame</i>	Esmeralda and goat	Pipe	Good
	Gargoyle (male)	Cigar	Good
	Gargoyle (female)	Cigar	Good
<i>James and the Giant Peach</i>	Centipede	Cigar	Good
	Ms Spider	Cigarette	Good
<i>Hercules</i>	Hades	Cigar	Bad
MGM/United Artists <i>All Dogs Go to Heaven</i>	Carface	Cigar	Bad
	Announcer	Cigar	Neutral
	Bar crowd	Cigars and cigarettes	Neutral
	Shadow dog	Cigarette	Bad
	Killer	Cigar	Bad
	Reginald	Cigarette	Neutral
	Jockey	Cigarette	Neutral
<i>All Dogs Go to Heaven 2</i>	Carface	Cigar	Bad
	Bar crowd	Cigars	Neutral
Warner Brothers Studios <i>Thumbelina</i>	Two adult beetles	Cigarettes	Neutral
	Woman in restaurant	Cigarette	Neutral
<i>Space Jam</i>	Amusement park manager	Cigar	Bad
	Park ride	Cigar	Neutral
<i>Pippi Longstocking</i>	Man on boat	Pipe	Good
	Burglar	Cigarette	Bad
<i>Cats Don't Dance</i>	Mr Wink	Cigar	Neutral
	Danny	Cigar	Good
	Francis (fish)	Cigarette	Good
	L. B. Namath	Cigar	Good
	W. C. Fields	Cigar	Good
Universal Studios <i>An American Tail</i>	Don Tablioni	Cigar	Neutral
	Man on boat	Cigar	Neutral
	Warren T. Rat	Cigar	Bad
	Mean Boss Rat	Cigar	Bad
	Cats in gang	Cigar	Bad
	Honest John	Cigar	Good
	<i>Fievel Goes West</i>	City cats	Cigar
Western cats		Cigar	Bad
<i>We're Back: A Dinosaur Story</i>	Professor Screweyes	Cigarette	Bad
20th Century Fox <i>Anastasia</i>	Woman	Cigarette	Neutral
	Group of sailors	Cigarettes	Neutral

and rereleased in theaters and on video-cassette, making almost all animated films available to children on a continuing basis. Animation experts classify animated films as "children's fodder," and experts agree

that many animated films influence the children who watch them.^{9,10} Indeed, many children acquire these videos and watch them multiple times, often memorizing songs, characters, scenes, and lines.

Our study demonstrates that more than two thirds of the G-rated animated films we reviewed depict at least 1 character using tobacco or alcohol, and for a duration that we did not expect. An almost equal number of films portray the consumption of alcoholic beverages. Frequently, more than 1 character per film is using each substance and, in most cases, it is just as likely that a good character is using the substance as a bad or neutral character. The depiction of tobacco and alcohol products in animated films is not limited to a single production company and depictions are no less frequent now than in previous decades.

Previous researchers have examined tobacco use in popular nonanimated films.^{6,11-14} An analysis of popular nonanimated films made from 1960 through 1996 found that the rate of tobacco use by characters remains high and, more often than not, tobacco use is positively portrayed.^{6,14} Other research found that of 18 popular nonanimated films reviewed in 1997, 17 portrayed characters using tobacco products.¹¹ In California, teenagers reviewed 133 contemporary movies, finding tobacco use in 77% of films, including characters smoking cigars in 52% of movies.¹² Antitobacco statements were made in 33% of nonanimated films.¹² No such statements were included in any of the animated films we reviewed.

Tobacco and alcohol products in children's animated films appear to be used most often to stereotype a character and/or create instant recognition for a character's personality type. The tobacco use includes characters ranging from dogs to caterpillars to people. Cigars are the tobacco product most often portrayed in the films. Cigars are used to represent a range of characters, from the well-to-do to the working man, and to indicate money, power, and/or success for the sinister characters or street life for the lower-class characters.⁹ For instance, in the Disney film *Oliver and Company*, Sykes (a cigar smoker) is described as a villain "rather out of the ordinary . . . a solid, powerful guy."⁹ Pipes often represent a wiser, sweeter, or older character, while cigarettes are reserved

for truly independent, often “sexy” characters, such as the comic villain Cruella De Vil in *101 Dalmatians*, who is also “erratic, eccentric, and violent” or Basil in *The Great Mouse Detective*, who is “luminously intelligent . . . quick-witted, [and] fearless in adversity.”⁹

Why are these unhealthy behaviors repeatedly portrayed in films targeted at millions of young children? While it is clear that many of the current top grossing non-animated films contain lead characters using tobacco or alcohol, often attempting to create an “edgy” feeling that is “dark and dangerous,” such as in the popular youth-oriented film *Romeo and Juliet*,¹⁰ it is unclear why animated film producers include characters using these substances. Such use is not confined to animated films, as the use of tobacco or alcohol in film carries over into print sources. For instance, official animated children’s books also have characters portrayed with tobacco and alcohol products in the pages of the book, similar to their roles in their respective animated movies.

We can speculate that there is a certain amount of character development that is associated with tobacco or alcohol use and that some stories are attempting to be historically and culturally correct.¹⁰ Some film experts believe that animated film producers associate tobacco or alcohol use with certain character traits that would otherwise require violence or language not suitable for a G-rated film (Kathy Jackson, PhD, written communication, July 13, 1998). Alternatively, the personal tobacco and alcohol use behaviors of the production staff may reinforce a culture of tobacco and alcohol use in animated film that continues without much forethought. There is also evidence that the tobacco industry itself previously influenced the makers of children’s films to include tobacco products and behaviors in such films for negotiated fees.^{15,16} Several makers of animated films, including Disney and Warner Brothers, have policies against allowing advertising to be shown before their movies. Ironically, these policies have been used to prohibit the playing of antismoking advertisements created by tobacco control organizations.¹⁷

Table 3. Alcohol Use by Character and Type in Animated Children’s Feature Films

Movie	Characters	Type of Alcohol	Character Quality
Walt Disney Co <i>Pinocchio</i>	Pinocchio	Beer	Good
	Lampwit	Beer	Bad
	Stromboli	Wine	Bad
	Honest John	Beer	Bad
	Gideon	Beer	Neutral
	Sidekick	Beer	Bad
<i>Dumbo</i>	Clowns	Wine and beer	Neutral
	Dumbo	Wine	Good
	Mouse	Wine	Good
<i>The Three Caballeros</i>	Penguin	Champagne	Good
<i>Fun and Fancy Free</i>	Jiminy Cricket	Spirits	Good
<i>Peter Pan</i>	Smee	Wine	Bad
<i>Sleeping Beauty</i>	King Hubert	Wine	Good
	King Stefan	Wine	Good
<i>Sleeping Beauty</i>	Servant	Wine	Neutral
<i>101 Dalmatians</i>	Jasper	Beer	Bad
	Horace	Beer	Bad
<i>The Sword and the Stone</i>	Master	Wine	Neutral
	Messenger	Wine	Neutral
<i>The Aristocats</i>	Edgar	Wine	Bad
	Uncle Waldo	Wine	Good
	Man in cafe	Wine	Neutral
<i>Robin Hood</i>	Snake	Beer	Bad
	Prince John	Wine	Bad
<i>The Black Cauldron</i>	Castle party	Beer and wine	Bad
	Ghoul	Wine	Bad
	King	Wine	Bad
<i>The Great Mouse Detective</i>	Ratigan	Wine	Bad
	Bartholomew	Wine	Good
	Basil	Beer	Good
	Thugs	Beer and wine	Bad
	Dr Dawson	Beer	Good
	Bar scene	Beer	Neutral
<i>The Rescuers Down Under</i>	Ms Bianca	Wine	Good
	Bernard	Wine	Good
<i>Beauty and the Beast</i>	Gaston	Beer	Bad
	Bar patrons	Beer	Bad, neutral
	Belle	Wine	Good
	Beast	Wine	Good
<i>Aladdin</i>	Jafar	Wine	Bad
<i>Pocahontas</i>	Captain Smith’s crew	Beer	Good
	Governor Ratcliffe	Wine	Bad
<i>The Hunchback of Notre Dame</i>	Frollo	Wine	Bad
	Quasimodo	Wine	Good
	Crowd	Wine	Neutral
	Gargoyle	Wine	Good
<i>James and the Giant Peach</i>	Centipede	Wine	Good
	Aunt Spiker	Wine	Bad
	Aunt Sponge	Wine	Bad

(continued)

Table 3. Alcohol Use by Character and Type in Animated Children's Feature Films (cont)

Movie	Characters	Type of Alcohol	Character Quality
<i>Hercules</i>	Hades	Spirit	Bad
	Pain	Beer	Bad
	Olympus god 1	Wine	Good
	Olympus god 2	Wine	Good
MGM/United Artists <i>All Dogs Go to Heaven</i>	Dogs in bar	Beer and spirits	Neutral
	Charlie	Beer	Good
<i>All Dogs Go to Heaven 2</i>	Charlie	Beer	Good
	Bar crowd	Beer and spirits	Neutral
Warner Brothers Studios <i>Thumbelina</i>	Beetle bar	Wine	Neutral
MGM/United Artists <i>An American Tail</i>	Honest John	Spirits	Good
	<i>Fievel Goes West</i>	Bar Cat	Wine and beer
20th Century Fox <i>Anastasia</i>	Ball guests	Wine	Neutral
	Dimitri	Wine and champagne	Good

While it may be argued that the harmful effects of tobacco were unknown throughout the 1940s and 1950s, when many of the early Disney movies were made (and Walt Disney himself was a smoker whose death has been attributed in part to lung cancer¹⁸), the depiction of tobacco use has not decreased in recent animated films and no changes have been made in movies that have been rereleased. Ironically, in 1996 and 1997, when concern about tobacco use by adolescents was at an all-time high in the popular press and political circles and numerous bills were introduced in the US Congress intending to curb adolescent tobacco use, all released animated feature films incorporated smoking by 1 or more characters, the majority of whom were good.

The impact of exposure at an early age to tobacco or alcohol use in animated films is beyond the scope of this study, but the success of cartoon-based campaigns such as Joe Camel may shed insight on the potential impact of tobacco use by film cartoon characters on youth.^{2,4} Tens of millions of very young children and adolescents are clearly being exposed to a positive portrayal of tobacco and alcohol use in animated films, much as it is portrayed in nonanimated films.^{7,13} At a minimum, it is likely that children see and notice the use of tobacco and alcohol products by cartoon characters in animated film. Because there are no ver-

bal messages in any of the films depicting the negative health consequences of tobacco use and alcohol abuse, even in cases where a bad character uses alcohol or tobacco, it is unclear whether children perceive substance use in this instance as negative or whether it reinforces tobacco and alcohol use by associating it with being rebellious and independent—characteristics highly appealing to youth.^{1,3,4} Because the portrayal of tobacco use in animated films is also correlated with the portrayal of alcohol use, children are clearly seeing positive images of addictive substances that their parents, teachers, and society all discourage.

Others have criticized the makers of animated films for making too many scenes and story lines that are violent or have sexual innuendos.¹⁰ The perception of sexual impropriety recently led Disney to recall 3.4 million videocassette copies of the animated movie *The Rescuers* after employees discovered a photographic image of a nude woman embedded in the tape.¹⁹ A spokeswoman for Disney stated that the rationale for recalling the videos was “to keep our promise to families that [they] can trust and rely on the Disney brand to provide the finest in family entertainment.”¹⁹

There is no excuse for exposing children, especially the very young, to to-

bacco and alcohol use in children's animated movies. Character development in animated children's movies can clearly proceed without including symbols (tobacco and alcohol) that are addictive and associated with major preventable causes of death in our society. In light of the health consequences of tobacco use and alcohol abuse, the makers of all children's animated films should eliminate the use of tobacco and alcohol by characters in their scripts.

Acknowledgment: We thank Donald Pathman, MD, MPH, for his advice and review of the manuscript.

REFERENCES

1. *Preventing Tobacco Use Among Young People: A Report of the Surgeon General*. Washington, DC: US Government Printing Office; 1994.
2. Fischer PM, Schwartz MP, Richards JW, Goldstein AO, Rojas TH. Brand logo recognition by children aged 3 to 6 years: Mickey Mouse and Old Joe the Camel. *JAMA*. 1991;266:3145-3148.
3. Pierce JP, Gilpin E, Burns DM, et al. Does tobacco advertising target young people to start smoking? evidence from California. *JAMA*. 1991;266:3154-3158.
4. DiFranza JR, Richards JW, Paulman PM, et al. RJR Nabisco's cartoon camel promotes Camel cigarettes to children. *JAMA*. 1991;266:3149-3153.
5. *Cigars, Health Effects and Trends*. Bethesda, Md: National Cancer Institute, National Institutes of Health; 1998. NIH publication 98-4302.
6. Klein R. After the preaching, the lure of the taboo. *New York Times*. August 24, 1997;sect 2:1, 31.
7. Hazan AR, Lipton HL, Glantz SA. Popular films do not reflect current tobacco use. *Am J Public Health*. 1994;84:998-1000.
8. The International Movie Database: the top grossing movies of all time at the international (non-USA) box office. Available at: <http://us.imdb.com/Charts/intltopmovies>. Updated July 7, 1998.
9. Grant J. *Encyclopedia of Walt Disney's Animated Characters*. New York, NY: Hyperion; 1998.
10. DeWolf R. *Mulan* is latest in a long line of Disney films to be slammed for its messages. *Raleigh News and Observer*. July 13, 1998:C1, C3.
11. Thomas K. No waiting to inhale: cigarettes light up the movies. *USA Today*. February 28, 1997. Available at: <http://www.usatoday.com/life/enter/movies/lef450.htm>.
12. American Lung Association of Sacramento-Emigrant Trails, Calif. *Thumbs Up! Thumbs Down!* Available at: <http://www.lungusa.org>.
13. McIntosh WD, Bazzini DG, Smith SM, Wayne SM. Who smokes in Hollywood? characteristics of smokers in popular films from 1940 to 1989. *Addict Behav*. 1998;23:395-398.
14. Stockwell TF, Glantz SA. Tobacco use is increasing in popular films. *Tob Control*. 1997;6:282-284.
15. "Muppet Movie" cigars weren't just props. *Raleigh News and Observer*. March 21, 1998:A8.
16. Lackey W. Can Lois Lane smoke Marlboros? *University of Chicago Legal Forum*. 1993:275-292.
17. Parker-Pope T. Push against smoking opens on silver screen. *Wall Street Journal*. May 19, 1997:B1.
18. Tobacco BBS Home Page. A few of our losses . . . Available at: <http://www.tobacco.org>.
19. White M. Disney recalls "The Rescuers" video. Associated Press; January 9, 1999. Available at: <http://wire.ap.org/?frontid=home&site=ncchn>.