



ELSEVIER
SAUNDERS

Child Adolesc Psychiatry Clin N Am
14 (2005) 473–489

CHILD AND
ADOLESCENT
PSYCHIATRIC CLINICS
OF NORTH AMERICA

Addicted Media: Substances on Screen

Kimberly M. Thompson, MS, ScD

*KidsRisk Project, Harvard School of Public Health and Division of Adolescent Medicine,
Children's Hospital Boston, 677 Huntington Avenue, 3rd Floor, Boston, MA 02115, USA*

Concern related to the depiction of alcohol and drug traffic/useage in films dates back decades, with the Hayes Production Code severely restricting their depiction on screen between 1930 and 1967: “The illegal drug traffic must not be portrayed in such a way as to stimulate curiosity concerning the use of, or traffic in, such drugs; nor shall scenes be approved which show the use of illegal drugs, or their effects, in detail... The use of liquor in American life, when not required by the plot or for proper characterization, will not be shown” [1]. The Production Code did not address cigarettes, however, probably because the Code preceded the large growth in popularity of cigarettes and active efforts to market cigarettes using popular media.

In the context of the cultural revolution of the 1960s, however, the Production Code did not mesh with the prevailing societal norms, which in part contributed to its demise. In 1968, the movie industry replaced the Production Code with the current voluntary ratings system that currently exists for movies [2,3]. Although the current movie ratings sometimes indicate depiction of drugs or alcohol as a reason for the rating, they do not systematically provide information about the depiction of substances, and they rarely provide any information about tobacco depiction/use [2–4]. In contrast, the video game rating system includes specific content descriptors for substances but lacks clearly communicated criteria for when the rating board does and does not apply them [5–7]. Current television ratings provide no information about substances, with the content designation “D” indicating dialog [8], not drugs, as many parents incorrectly expect [9].

Parents must rely on nonexistent or imperfect information about the depiction of substances in popular media, and they must expect that their kids will

Dr. Thompson used unrestricted gifts to the KidsRisk Project to cover her effort in writing this article.

E-mail address: kimt@hsph.harvard.edu



experience messages about substances from media and recognize that these messages may influence their children's perceptions, attitudes, beliefs, and behaviors about substances. This article provides a comprehensive review of much of the existing peer-reviewed published literature about the depiction of substances in the media and its potential impacts, particularly on children. The article organizes the body of research by focusing on the information obtained in media content analyses to synthesize the vast body of research that collectively demonstrates the widespread and overwhelming presence of substances in media viewed by children and adolescents. The article then highlights reviews that provide insights about the potential impacts of these depictions. With some current demand that any movie that contains smoking receive an "R" rating (eg, <http://www.smokefreemovies.ucsf.edu>), the discussion of this article highlights the challenges of creating and encouraging healthy media for children while also allowing maximum freedom for individuals who are involved with the media.

Methods

To identify media content analyses related to substances, the author conducted an extensive literature search for published peer-reviewed articles that contained the words alcohol, drug, tobacco, substance(s), and movie, motion picture, television, video game, magazine, or media and synthesized them. For purposes of this effort, "substances" refers to alcohol, tobacco, or illicit drugs but does not include pharmaceutical products (unless the intent for misuse as a drug is clear), medicinal herbs, tonics, or ambiguous tonics or brew. Although this article aims for comprehensive coverage of the existing US peer-reviewed, published literature, it does not exhaustively include every study because of space limitations.

Results

Content analyses

Review of the literature identified hundreds of papers in the peer-reviewed literature related to substances in media. Notably, several US researchers contributed significantly to our understanding by dedicating a significant portion of their research to the topic (eg, Drs. Warren Breed, William DeJong, Stanton Glantz) [11,12,15,16,30-32,40,47-53,59,65-68,77,97]. This study identified more than 50 original content analyses published in peer-reviewed journals that reported some information about the depiction of substances in various media.

Print media

Several studies explored the information in newspapers and newsweeklies [10-13] and women's magazines [14] that documented the depiction of substances in print media targeted at children and adolescents. Several additional

studies characterized substances shown in advertisements in newspapers [15,16] and popular consumer magazines [17], and they explored the features of smoking [18-23] and antismoking [24] print ads. Overall, these studies clearly show significant numbers of depictions of substances in print media targeted at children, adolescents, and young adults.

A recent study that counted and classified types of alcohol advertisements in magazines reported a significantly higher placement rate for beer and liquor ads in magazines with higher numbers of adolescent readers [25] and minority readers [26]. An analysis of alcohol control policy issues found similar coverage in black-oriented compared with mainstream newspapers, with less coverage of economic alcohol policy issues in black-oriented papers, which possibly suggests less salience of these issues in communities served by these papers [27].

Only one study provided insights about the depiction of substances in popular children's literature. The first content analysis to explore the depictions of tobacco in children's picture books reported a decline in the depiction of tobacco over time, dropping from 2.4% of pages in a sample of books published before 1960 to 0.4% in books published after 1980 [28].

Movies

As a medium, movies received considerable attention from researchers, with most of the studies focusing on tobacco use in films. The first analysis that assessed the depiction of illegal drugs, legal drugs, tobacco, and alcohol in the 20 top box-office films released each year between 1977 and 1988 found an increase in the depiction of smoking over time [29]. Using 5-minute intervals of film for analysis, the study also reported increased smoking and illegal drug use in R-rated movies but greater alcohol consumption in non-R-rated movies. A subsequent analysis of top grossing films released between 1960 and 1990 reported that movies did not represent accurately actual US smoking behaviors and found a consistent rate of tobacco use in films over the three decades, with three times as much smoking among elite characters than in the actual population [30]. Subsequent updates of these data suggested an increase in the depiction of tobacco in films released between 1990 and 1996 [31] and then up through 2002 [32]. The authors also extended the results back to 1950, but their insights depended on dropping 3 out of 20 films (15% of their sample) because these films contained "essentially continuous smoking," which suggested that analysis with a larger sample size would reveal whether these films truly represented outliers or the beginning of the era of films that featured tobacco.

Other recent content analyses of tobacco depiction in popular movies showed depiction of alcohol or tobacco in more than half of the animated G-rated feature films [33,34]. Although analyses suggested that the depiction of substances in these films declined significantly over time [33], the number of depictions in current G-rated animated films still remains at a level that may surprise some parents, and all of these depictions represent deliberate additions of substances to the films, because artists must draw them in. A recent study of more than 1200 films rated G, PG, PG-13, and R and released between 1996 and 2003

reported that 95% of films contained some depiction of substances (ie, tobacco, alcohol, or drugs visible on screen regardless of whether they were in use), whereas the Motion Picture Association of America mentioned alcohol or drugs in its rating reason for only 18% of the films and did not mention tobacco use as a rating reason for any of these films [4]. The authors noted that most of the films that depict alcohol or drugs also depict tobacco, and they reported depiction of tobacco in 79% of all the films.

Other studies reported finding more pro-substance than anti-substance (eg, anti-tobacco) events in films [35], more than 85% of popular films depicting tobacco and a strong correlation of character smoking with other risk factors (eg, alcohol use, drug use, illegal activities) [36], and significant gender differences with respect to tobacco use by popular actors [37]. A study of specific brand appearances found brands depicted in 28% of popular films, with no evidence of a decrease in brand depiction after a voluntary ban on tobacco product placement [38,39]. Notably, a study that explored the development of the relationship between the tobacco industry and Hollywood suggested significant financial ties [40] and highlighted specific high-profile actors who received large payments for featuring cigarettes (eg, Sylvester Stallone, who received \$500,000 in 1983 for agreeing to use one particular brand of cigarettes in no less than five feature films). A study that explored Hollywood insiders' understanding of tobacco portrayal suggested heterogeneous perspectives and some influence of the actors' off-camera tobacco use on on-camera use [41]. In 1999, a study that reviewed 38 films from 1994 to 1996 found that teens who had smoked at least once—versus teens who had never smoked—identified a significantly higher percentage of actors who smoked on and off screen among their top ten favorite stars, and the authors suggested that this might provide preliminary evidence that films stars smoking in movies might encourage youth smoking [42]. A similar study published in 2001 that included a content analysis of tobacco use by 43 “stars” in all films in which they appeared between 1994 and 1996 found that 65% of the stars used tobacco at least once. The study reported an association between adolescents with favorable attitudes toward smoking and their identification of their favorite stars as ones who smoked in this sample of films [43].

Television

The role of substances depicted on television also raised many questions and led to a large number of content analyses, with most of them focusing on alcohol. One study assessed the depiction of alcohol in the top ten prime-time fictional series programs on television from 1979 to 1980 and reported a range of 3 to 16.5 incidents of alcohol consumption per program hour for the top ten shows, but almost no smoking or illicit drug incidents [44]. A content analysis of 14 daytime soap operas aired over 4 consecutive weeks in 1977 reported 3 alcohol-related events per program, with drinking most frequently depicted in homes [45]. In 1982, a content analysis of a representative week of major network programming and commercials (ie, ABC, CBS, and NBC) from 1975 coded all drinking events, including alcoholic and nonalcoholic beverages, and reported a low overall rate

of alcohol consumption but slightly more alcoholic beverages consumed during prime time than nonalcoholic beverages [46].

Breed et al [47–54] performed several studies in the 1980s that assessed drinking and smoking on television. The first study identified several situational comedies that presented marijuana use as harmless and humorous and suggested that these types of depictions, although rare [55], could impact public attitudes toward drug use [47]. An analysis of top television dramas and situation comedies from 1976 to 1977 reported that characters in these programs were more likely to drink alcohol than all other beverages combined and that these shows failed to depict negative consequences associated with drinking too much [48]. Based on a review of television programming between 1950 and 1982, Breed and DeFoe [49] observed an increase in alcohol use and a decrease in tobacco use over these three decades. A study that assessed nearly 5 years of daytime soap opera programming for “All My Children” found realistic depiction of drinking and drinking problems but suggested that because negative consequences occurred only when characters drank to escape reality, the program might encourage the perception that alcohol helps in social facilitation or in managing a crisis [50]. Looking at alcohol depictions from fall 1984 prime-time dramas, one study reported references to alcohol in 90% of the 127 programs viewed, with alcohol shown in 80% and consumed by a character in 60%—at a rate of more than ten consumptions of alcohol per program hour [51]. A study of top-ranked prime-time programs from 1976 to 1986 identified only 74 scenes with problem drinkers out of more than 1400 episodes and characterized a wide range of responses to these problem drinkers by other characters [52]. Using this same sample of programs and focusing specifically on youth, DeFoe and Breed [53] reported that underage characters accounted for less than 2% of televised alcohol consumption and that these depictions generally occurred in the context of criminal activity or with portrayals of gangs. Finally, analysis of a sample of 3 weeks of prime-time fictional programs from 1986 revealed alcohol depicted in 64% and consumed in 50% of episodes, at a rate of more than eight alcohol consumption acts per program hour [54].

Studies by other researchers reported similar findings and provided some additional insights. A 1987 analysis of week-long samples of prime-time and weekend daytime network television dramas shown from 1969 to 1985 reported an increase in alcohol depiction over the time period, with 37% of major characters shown drinking and an association noted between drinking and sexual behavior [56]. A 1988 qualitative analysis of alcohol depictions in 77 prime-time episodes from 1984 suggested that alcohol-related behavior serves as a cue to viewers for character attributes, for example, with preferred alcoholic beverage providing an indication of social class and lifestyle [57].

Content analyses of tobacco depiction on television document the presence of smoking in some prime-time programs. Although no existing content analyses seem to go back to the beginning of television programming, many early programs depicted popular media stars smoking (eg, Lucille Ball, Milton Berle). An analysis of a composite sample of 2 weeks of 1984 prime-time programs reported

one act of smoking per hour, with more smoking by lead characters and in dramas compared with situation comedies [58]. A study that analyzed the depiction of tobacco and alcohol advertising shown during 166 sports events televised between 1990 and 1992 (nearly 444 hours of programming) noted viewer exposure to alcohol and tobacco advertising from on-site promotions and sponsorship recognitions and highlighted the near absence of moderation and public service announcements [59]. This study also reported more commercials for alcohol than for any other beverage, with beer commercials dominating [59]. Based on analysis of 3 composite weeks of 1992 prime-time programs on major networks, one study reported 24% of programs depicting tobacco, with most depictions promoting its use (92%) and a higher rate of smoking depicted by characters on television than in the actual population [60].

Recent content analyses provided indications of significant amounts of depictions of substances in current programming. A study of the portrayal of women in television beer commercials that aired from 1991 to 1992 found significantly more camera shots of the chests, buttocks, legs, or crotches of women than men [61]. An analysis that evaluated televised content for the week of September 16 to 22, 1990 reported nearly 40 times as many commercials that promoted drugs and alcohol than networks' news stories, documentaries, and public service announcements about illegal drugs [62]. Analysis of alcohol portrayal in 2 weeks of prime-time programming from major networks from 1994 to 1995 identified alcoholic beverages as the most frequently portrayed food or drink, accounting for a significant percentage of the food and drink consumption by adolescents, although programs typically associated adolescents consuming alcohol with negative personality characteristics [63]. Based on 36 national network news broadcasts from 1977 to 1996, one study reported a shift in the nature of the portrayals of pregnancy and alcohol from white, middle-class women to minority women [64]. A 2002 study that quantified the prevalence of substance use among characters on prime-time TV during 1995 to 1996 reported significantly lower prevalence of substance use by TV characters than exhibited by the US population (ie, 11%, 6.1%, and 0.8% of TV characters who consumed alcohol, tobacco, or illicit drugs, respectively, compared with US population prevalence estimates of 51%, 28.9%, and 6.1%, respectively) [65]. Recent content analyses of television advertising characterized the focus of public service announcements about alcohol-impaired driving [66], the nature of the Massachusetts Tobacco Control Program [67], and the messages about drug users in public service announcements aimed at preventing the spread of HIV/AIDS [68]. The analyses questioned the effectiveness and responsibility of the moderation message in alcohol ads [69] and reported differences in these messages with corporate versus nonprofit sponsorship [70].

Billboards

In addition to reassessing the content of existing media, researchers continue to evaluate the content of new media as they emerge. After placement of restrictions on advertising, several researchers performed content analyses of tobacco

advertising on billboards [71–74]. For example, a study of tobacco and alcohol advertising on billboards in Chicago found that billboards in minority neighborhoods showed three times as many tobacco ads and five times as many alcohol ads as billboards in white neighborhoods [71].

Music and music videos

A 1997 content analysis of tobacco and alcohol depiction in music videos aired on four music channels during peak adolescent viewing times in 1994 found more smoking depicted on MTV than on other networks and in rap videos than in other genres [75]. The study also reported that videos that contained sexual content portrayed more alcohol use behaviors and alcohol content and that lead singers smoked twice as much and consumed alcohol three times as much as background performers [75]. Another study provided some historical perspective on illegal drugs in song lyrics and noted a shift in the 1990s, with some artists singing about drug hazards and harms and providing some pro-social messages [76].

Video games

Analyses of video games found relatively few depictions of substances in games rated "E" for "Everyone" [77], but a significant number of games rated "T" for "Teen" (15% of a random sample of 81 games) depicted alcohol, tobacco, or illicit drugs [6]. One study found that most of these depictions did not receive content descriptors for substances from the Entertainment Software Rating Board [6] (only 1 game or 1% received this label), and another study presented specific examples of games that did not receive content descriptors in which players were required to acquire substances to advance in the game [7]. An analysis of tobacco industry marketing documents reported on the aggressive advertising, brand-sponsored activities, and distribution of samples in bars and nightclubs aimed at increasing smoking in the 18- to 24-year-old age group [78].

The Internet

With widespread access to the Internet, researchers appreciate the importance of assessing the depiction of substances on websites [79–88]. A study focused on identifying and characterizing information on hallucinogens identified 81 sites in December, 1998 that provided thousands of pages on obtaining, synthesizing, extracting, identifying, and using hallucinogens, with almost no information from highly reliable (eg, US government agency) sites offering cautionary material [79]. A subsequent study highlighted the significant role of the Internet as an unmonitored, unregulated, and untouched (by the Master Settlement Agreement against tobacco companies) vehicle for delivering pro-tobacco messages and found that consumers could order products directly from approximately half of the 318 pro-tobacco sites reviewed, with only 23% of these sites attempting to verify age and only 11% including health warnings [80]. A similar study that assessed the tobacco content of 30 pro-tobacco websites in April, 1999 reported no restrictions on access to any of these sites, an age-related

warning on only one third of the sites, and no sites that allowed the user to purchase cigarettes, although 2 sites sold cigars and 2 sold smoking paraphernalia [81]. The study further reported depictions of cigarettes on 63% and cigars on 17% of the main pages of websites, with 24% of sites showing a brand image, 35% providing a brand name in writing, and nearly 15% of sites showing nudity [81]. A study 2 years later reported that minors successfully purchased cigarettes using a credit card (93.6% of 47 attempts) or money order (89% of 36 attempts) from 55 websites identified by the authors as selling cigarettes online and that none of the vendors or delivery services attempted age verification [82].

Significant non-peer-reviewed analyses

Several key reports that do not appear in a search of the peer-reviewed published articles but frequently appear in references in these articles also documented the extent of the depiction of substances in popular television, movies, music, and music videos [89–92]. These studies allowed for some comparisons of the amount of depictions in the different media [89]. They also provided a wealth of information about the nature of the depictions, for example, documenting the large percentages of alcohol depictions in movies and music that associate alcohol use with wealth and sex [90] and the lack of the depiction of harmful consequences associated with illicit drug use [91,92].

Potential impacts of these depictions

Several prior reviews summarized the decades of strongly suggestive evidence of media depictions of substances that influenced children's perceptions, attitudes, beliefs, and behaviors [93–97]. The reviews collectively suggested that exposure to glamorous or normalized depictions of substances in media increases youth initiation and perception of the acceptability of substance use, although no study definitively answers the question: How would substance use rates change in the absence of media messages about substances? The clear implication for clinicians is that the media present an important risk factor that should be a topic of discussion during well-child annual examinations.

Several reviews of the impact and effectiveness of counteradvertising emerged in the last decade [98–102]. These reviews, combined with evaluations of media literacy programs [103], suggested that the media can teach kids about avoiding substance use. Measuring the strength of media effects continues to be problematic [104], and assessing the role of media in the broader social context remains the elusive challenge as researchers try to understand the roles of parents [105–107], peers [108], musical preferences [109,110], and sociocultural [111], psychosocial [112], and other factors, such as skepticism [113] or disengagement from school, that associate with youth susceptibility to tobacco promotions [114,115]. Some studies suggested that tobacco marketing may be a stronger influence on youth initiation of smoking than exposure to peer or family smokers or perceived school performance and other sociodemographic factors [116]. Other studies suggested that tobacco advertising and promotion activities can

undermine the influence of parents [117], encourage all youth to smoke [118], and even induce nonsusceptible never-smokers to start the process that leads to addiction [119].

We must acknowledge, however, that the multi-billion dollar annual substance advertising budgets clearly work and continue to play a role in influencing perceptions, attitudes, beliefs, and behaviors about substances, as they have for decades [120–127], with two historical analyses demonstrating the impacts of the tobacco industry's early marketing campaigns and targeting of women [126,127]. The money spent on promoting substance use has led to extensive brand recognition, even by young children [18,128–134]. A recent estimate suggested that the nearly \$60 million spent in 2000 to advertise cigarette brands popular with youth in magazines led to ads that reached 80% of young people more than 17 times each and noted that the Master Settlement Agreement did not significantly change spending or youth exposure to these ads [135]. All of the literature taken as a whole suggests that we should expect that researchers will continue to observe increased rates of youth substance use initiation with increased exposure to media [136–139].

Summary and discussion

The reality that the media reflect actual practices in society means that they will depict unhealthy behaviors, such as smoking, unless media producers make a point of eliminating them or counteradvertisers succeed in producing the dominant message (which would represent an impressive shift given the lack of any observed public service announcements on tobacco or alcohol in a study of 1989 advertisements in a composite day of programming [140]). The remarkable rise of tobacco use that accompanied the widespread growth and diversification of entertainment media provides a powerful example of the ability of the media to influence perceptions, attitudes, beliefs, and behaviors.

Although many physicians and researchers have continued to call for greater control of media messages about substances targeted at children and adolescents [141–145] and the American Academy of Pediatrics has issued several policy statements [146–148], we have not seen recently the medical community take as strong a position on media depictions of substances as it has on media depictions of violence [149]. The same observation also applies to the government, with recent discussions about the marketing of violent entertainment to children by the Federal Trade Commission [150] similarly focusing exclusively on violence and not considering the impact of marketing of substances in popular entertainment media targeted at children. Clinicians must emphasize the risks of substance use with patients at every opportunity and encourage patients to evaluate media content critically and pay attention to media ratings.

Some recent efforts that have focused on changing the movie ratings eventually could make it easier. For example, some efforts focus on changing the ratings so that they provide an indication of any depiction of tobacco in a film

(ie, smoking movies receive an automatic "R" rating) [151]. According to a recent study, that change could imply that in the absence of changes in the behavior of producers, 79% of films could be rated R just for smoking alone [4]. If that same demand were generalized to depiction of all substances, it would imply that more than 95% of films could be rated R for depiction of substances [4]. Although we can reasonably expect that such a change in the rating system could lead some media producers whose products target young audiences to remove tobacco and other substances from some percentage of future productions, the reality of the large body of existing media containing depictions of substances still would present an important issue for parents. Efforts to educate parents about the depiction of substances in media and develop and expand media literacy programs should remain in high demand.

A significant issue that arises in the context of providing rating information about substances comes from the nature of the depictions, with current depictions including a spectrum from minor or background characters to lead characters and from pro-substance to anti-substance depictions. The questions about definitions arise quickly (eg, Which substances count? Do they have to be identified as real substances, or is it enough that they produce effects like real substances? Does the character actually have to use the substance or does presence of the substance itself require parental warning? For tobacco products, must they be lit?) In the context of making progress toward a system that could provide parents with better information to enable them to discriminate between healthy and unhealthy depictions of substances in media, efforts to work toward standardized definitions offer some promise for progress.

One of the difficult questions with which researchers, parents, teachers, and others must grapple arises from the reality of the mixed messages that media provide about substances and the reality of the convergence of media. A review of the body of literature of content analyses of substances in media demonstrates that it does not make sense to talk about individual media in isolation, and efforts to bring all of the media together in a standardized approach (eg, a universal labeling or rating system) offers the most promise for ensuring that all media share the same incentives. Recognizing that all media interact, particularly with the existence of the Internet, the challenge for researchers becomes even larger as they also attempt to understand children's media diets and combine these with information about exposure. Clinicians can begin to understand better the role of media in their patients' lives by asking questions about media use in physical examinations. With diseases and injuries associated with substance use topping the list of the leading causes of death in the United States, clinicians must help patients see the potential short- and long-term effects of substance use and understand the lack of depiction of the real consequences of substance use in the media.

Focusing on the lack of a national strategy to protect children from media messages that promote unhealthy and harmful behaviors while simultaneously protecting individual freedoms to create and choose media should emerge as national priorities for action, not only among clinicians but also in the commu-

nity. Although further research is needed to understand the role of substance depictions in the media, the existing evidence shows widespread depiction of substance use and raises the question of how to fight this apparent addiction [152-159]. The larger theme that emerges centers on the need to promote media that value youth instead of devalue them [160] and the ability to use media to help children make better choices about the numerous risks that they face [161]. Clinicians must take a leading role in asking patients about their exposure to substances and ask not only about use but also about depictions in their environments, including the media and their attitudes. Clinicians must help to find ways to correct patients' misperceptions of the risks of substance use and ensure that children hear about the potential health consequences of bad choices. Individuals interested in an online guide to the media that may provide a useful resource for distributing to parents can check the guide to media on the KidsRisk website [162].

Acknowledgments

Dr. Thompson thanks Brandy King of the Center on Media and Child Health, Children's Hospital Boston, for assistance with finding some of the papers.

References

- [1] Hayes D. The production code of the motion picture industry (1930-1968). Available at: <http://procode.davidhayes.net/>. Accessed August 1, 2004.
- [2] Motion Picture Association of America. Movie ratings: how it works. Available at: <http://www.mpa.org/movieratings/about/index.htm>. Accessed August 1, 2004.
- [3] The Classification and Rating Administration. Available at: <http://www.filmratings.com>. Accessed March 1, 2004.
- [4] Thompson KM, Yokota F. Violence, sex, and profanity in films: correlation of movie ratings and content. Available at: <http://www.medscape.com/viewarticle/480900>. Accessed August 1, 2004.
- [5] Entertainment Software Ratings Board. Available at: <http://www.esrb.org>. Accessed August 1, 2004.
- [6] Haninger K, Thompson KM. Content and ratings of teen-rated video games. *JAMA* 2004; 291:856-65.
- [7] Haninger K, Ryan MS, Thompson KM. Violence in teen-rated video games. Available at: <http://www.medscape.com/viewarticle/468087>. Accessed August 1, 2004.
- [8] The TV Parental Guidelines. Understanding the TV ratings. Available at: <http://www.tvguidelines.org/ratings.asp>. Accessed August 1, 2004.
- [9] Rideout V. Parents, media, and public policy: a Kaiser Family Foundation survey. Available at: <http://www.kff.org/entmedia/7156.cfm>. Accessed October 1, 2004.
- [10] Atkin CK, DeLong W. News coverage of alcohol and other drugs in US college newspapers. *J Drug Educ* 2000;30(4):453-65.
- [11] Balbach ED, Glantz SA. Tobacco information in two grade school newsweeklies: a content analysis. *Am J Public Health* 1995;85(12):1650-3.
- [12] DeLong W. When the tobacco industry controls the news: KKR, RJR Nabisco, and the Weekly Reader Corporation. *Tob Control* 1996;5(2):142-8.

- [13] Lemmens PH, Vaeth PAC, Greenfield TK. Coverage of beverage alcohol issues in the print media of the United States, 1985-1991. *Am J Public Health* 1999;89:1555-60.
- [14] Feit MN. Exposure of adolescent girls to cigar images in women's magazines, 1992-1998. *Am J Public Health* 2001;91(2):286-8.
- [15] DeFoe JR, Breed W. The problem of alcohol advertisements in college newspapers. *J Am Coll Health Assoc* 1979;27(4):195-9.
- [16] Breed W, Wallack L, Grube JW. Alcohol advertising in college newspapers: a 7-year follow-up. *J Am Coll Health Assoc* 1990;38(6):255-62.
- [17] Strickland DE, Finn TA, Lambert MD. A content analysis of beverage alcohol advertising: magazine advertising. *J Stud Alcohol* 1982;43:655-82.
- [18] Lancaster AR, Lancaster KM. Teenage exposure to cigarette advertising in popular consumer magazines: vehicle versus message reach and frequency. *Journal of Advertising* 2003;32(3):69-76.
- [19] Pucci LC, Siegel M. Features of sales promotion in cigarette magazine advertisements, 1980-1993: an analysis of youth exposure in the United States. *Tob Control* 1999;8(1):29-36.
- [20] Altman DG, Albright CL, Slater MD, et al. How an unhealthy product is sold: cigarette advertising in magazines, 1960-1985. *J Commun* 1987;37:95-106.
- [21] Albright CL, Altman DG, Slater MD, et al. Cigarette advertisements in magazines: evidence for a differential focus on women's and youth magazines. *Health Educ Q* 1988;15(2):225-33.
- [22] Basil MD, Schooler C, Altman DG, et al. How cigarettes are advertised in magazines: special messages for special markets. *Health Commun* 1999;3:75-91.
- [23] Borvin GJ, Goldberg CJ, Borvin EM, et al. Smoking behavior of adolescents exposed to cigarette advertising. *Public Health Rep* 1993;108(2):217-24.
- [24] Beaudoin CE. Exploring antismoking ads: appeals, themes, and consequences. *J Health Commun* 2002;7(2):123-37.
- [25] Garfield CF, Chung PJ, Rathouz PJ. Alcohol advertising in magazines and adolescent readership. *JAMA* 2003;289:2424-9.
- [26] Cui G. Advertising of alcoholic beverages in African-American and women's magazines: implications for health communication. *Howard Journal of Communications* 2000;11(4):279-93.
- [27] Jones-Webb R, Baranowski S, Fan D, et al. Content analysis of coverage of alcohol control policy issues in black-oriented and mainstream newspapers in the US. *J Public Health Policy* 1997;18(1):49-66.
- [28] Nakahara S, Ichikawa M, Wakai S. Depiction of tobacco use in popular children's picture books. *Arch Pediatr Adolesc Med* 2004;158(5):498.
- [29] Terre L, Drabman RS, Speer P. Health-relevant behaviors in media. *J Appl Soc Psychol* 1991;21:1303-19.
- [30] Hazan AR, Lipton HL, Glantz SA. Popular films do not reflect current tobacco use. *Am J Public Health* 1994;84(6):998-1000.
- [31] Stockwell TF, Glantz SA. Tobacco use is increasing in popular films. *Tob Control* 1997;6:282-4.
- [32] Glantz SA, Kacink KW, McCulloch C. Back to the future: smoking in movies in 2002 compared with 1950 levels. *Am J Public Health* 2004;94:261-3.
- [33] Thompson KM, Yokota F. Depiction of alcohol, tobacco and other substances in G-rated animated feature films. *Pediatrics* 2001;107(6):1369-74.
- [34] Goldstein AO, Sobel RA, Newman GR. Tobacco and alcohol use in G-rated children's animated films. *JAMA* 1999;281(12):131-6.
- [35] Everett SA, Schmitt RL, Tribble JL. Tobacco and alcohol use in top-grossing American films. *J Community Health* 1998;23(4):317-24.
- [36] Dalton MA, Tickle JJ, Sargent JD, et al. The incidence and context of tobacco use in popular movies from 1988 to 1997. *Prev Med* 2002;34(5):516-23.
- [37] Escamilla G, Craddock AL, Kawachi I. Women and smoking in Hollywood movies: a content analysis. *Am J Public Health* 2000;90:412-4.

- [38] Sargent JD, Tickle JJ, Beach ML, et al. Brand appearances in contemporary cinema films and contribution to global marketing of cigarettes. *Lancet* 2001;357(9249):29-32.
- [39] Sargent JD, Dalton MA, Beach ML, et al. Viewing tobacco use in movies: does it shape attitudes that mediate adolescent smoking? *Am J Prev Med* 2002;22(3):137-45.
- [40] Mekenson C, Glantz SA. How the tobacco industry built its relationship with Hollywood. *Tob Control* 2002;11(Suppl 1):181-91.
- [41] Shields DLE, Carol J, Balbach ED, et al. Hollywood on tobacco: how the entertainment industry understands tobacco portrayal. *Tob Control* 1999;8(4):378-86.
- [42] DiStefan JM, Gilpin EA, Sargent JD, et al. Do movie stars encourage adolescents to start smoking? Evidence from California. *Prev Med* 1999;28(1):1-11.
- [43] Tickle JJ, Sargent JD, Dalton MA, et al. Favorite movie stars, their tobacco use in contemporary movies, and its association with adolescent smoking. *Tob Control* 2001;10(1):16-22.
- [44] Greenberg BS. Trends in use of alcohol and other substances on television. *J Drug Educ* 1979;9(3):243-53.
- [45] Lowery SA. Soap and booze in the afternoon: an analysis of the portrayal of alcohol use in daytime serials. *J Stud Alcohol* 1980;41(9):829-38.
- [46] Cafiso J, Goodstadt MS, Garlington WK, et al. Television portrayal of alcohol and other beverages. *J Stud Alcohol* 1982;43(11):1232-43.
- [47] Breed W, DeFoe JR. Mass media, alcohol and drugs: a new trend. *J Drug Educ* 1980;10(2):135-43.
- [48] Breed W, DeFoe JR. The portrayal of the drinking process on prime-time television. *J Commun* 1981;31:58-67.
- [49] Breed W, DeFoe JR. Drinking and smoking on television, 1950-1982. *J Public Health Policy* 1984;5:257-70.
- [50] Wallack L, Breed W, DeFoe JR. Alcohol and soap operas: drinking in the light of day. *J Drug Educ* 1985;15(4):365-79.
- [51] Wallack L, Breed W, Cruz J. Alcohol on prime-time television. *J Stud Alcohol* 1987;48(1):33-8.
- [52] DeFoe JR, Breed W. Response to the alcoholic by "the other" on prime-time television. *Contemp Drug Probl* 1988;15(2):205-28.
- [53] DeFoe JR, Breed W. Youth and alcohol in television stories, with suggestions to the industry for alternative portrayals. *Adolescence* 1988;23:533-50.
- [54] Wallack L, Grube JW, Madden PA, et al. Portrayals of alcohol on prime-time television. *J Stud Alcohol* 1990;51(5):428-37.
- [55] Fernandez-Coliado CF, Greenberg BS, Korzeny F, et al. Sexual intimacy and drug use in TV series. *J Commun* 1978;28(3):30-7.
- [56] Signorielli N. Drinking, sex, and violence on television: the cultural indicators perspective. *J Drug Educ* 1987;17(3):245-60.
- [57] Heilbronn LM. What does alcohol mean? Alcohol's use as a symbolic code. *Contemp Drug Probl* 1988;15(2):229-48.
- [58] Cruz J, Wallack L. Trends in tobacco use on television. *Am J Public Health* 1986;76:698-9.
- [59] Madden PA, Grube JW. The frequency and nature of alcohol and tobacco advertising in televised sports, 1990 through 1992. *Am J Public Health* 1994;84(2):297-9.
- [60] Hazan AR, Glantz SA. Current trends in tobacco use on prime-time fictional television. *Am J Public Health* 1995;85(1):116-7.
- [61] Hall CCL, Crum MJ. Women and "body-isms" in television beer commercials. *Sex Roles* 1994;31(5-6):329-37.
- [62] Fedler F, Phillips M, Raker P, et al. Network commercials promote legal drugs: outnumber anti-drug PSA's 45-to-1. *J Drug Educ* 1994;24(4):291-302.
- [63] Mathios A, Avery R, Bisogni C, et al. Alcohol portrayal on prime-time television: manifest and latent messages. *J Stud Alcohol* 1998;59:305-10.
- [64] Golden J. A tempest in a cocktail glass: mothers, alcohol, and television, 1977-1996. *J Health Polit Policy Law* 2000;25(3):473-98.

- [65] Long JA, O'Connor PG, Gettner G, et al. Use of alcohol, illicit drugs, and tobacco among characters on prime-time television. *Subst Abuse* 2002;23(2):95-103.
- [66] DeLong W, Atkin CK. A review of national television PSA campaigns for preventing alcohol-impaired driving, 1987-1992. *J Public Health Policy* 1995;16(1):59-80.
- [67] DeLong W, Hoffman KD. A content analysis of television advertising for the Massachusetts Tobacco Control Program media campaign, 1993-1996. *J Public Health Manag Pract* 2000;6(3):27-39.
- [68] DeLong W, Wolf RC, Austin SB. US federally funded television public service announcements (PSAs) to prevent HIV/AIDS: a content analysis. *J Health Commun* 2001;6(3):249-63.
- [69] DeLong W, Atkin CK, Wallack L. A critical analysis of "moderation" advertising sponsored by the beer industry: are "responsible drinking" commercials done responsibly? *Milbank Q* 1992;70(4):661-78.
- [70] Lavack AM. Message content of alcohol moderation TV commercials: impact of corporate versus nonprofit sponsorship. *Health Mark Q* 1999;16(4):15-31.
- [71] Heckbarth DP, Silvestri B, Cosper W. Tobacco and alcohol billboards in 50 Chicago neighborhoods: market segmentation to sell dangerous products to the poor. *J Public Health Policy* 1995;16(2):213-30.
- [72] Pucci LG, Joseph Jr HM, Siegel M. Outdoor tobacco advertising in six Boston neighborhoods: evaluating youth exposure. *Am J Prev Med* 1998;15(2):155-9.
- [73] Mastro DE, Atkin CK. Exposure to alcohol billboards and beliefs and attitudes toward drinking among Mexican American high school students. *Howard Journal of Communications* 2002;13(2):129-51.
- [74] Stoddard JL, Johnson CA, Boley-Cruz T, et al. Tailoring outdoor tobacco advertising to minorities in Los Angeles County. *J Health Commun* 1998;3(2):137-46.
- [75] DuRant RH, Rome ES, Rich M, et al. Tobacco and alcohol use behaviors portrayed in music videos: a content analysis. *Am J Public Health* 1997;87:1131-5.
- [76] Markert J. Sing a song of drug use-abuse: four decades of drug lyrics in popular music, from the sixties through the nineties. *Sociol Inq* 2001;71(2):194-220.
- [77] Thompson KM, Haninger K. Violence in E-rated video games. *JAMA* 2001;286(5):591-8.
- [78] Sepe ER, Ling M, Glantz SA. Smooth moves: bar and nightclub tobacco promotions that target young adults. *Am J Public Health* 2002;92(3):414-9.
- [79] Halpern JH, Pope HG. Hallucinogens on the Internet: a vast new source of underground drug information. *Am J Psychiatry* 2001;158(3):481-3.
- [80] Hong T, Cody MJ. Presence of pro-tobacco messages on the Web. *J Health Commun* 2002;7(4):273-307.
- [81] Ribisi KM, Lee RE, Henriksen L, et al. A content analysis of Web sites promoting smoking culture and lifestyle. *Health Educ Behav* 2003;30(1):64-78.
- [82] Ribisi KM, Williams RS, Kim AE. Internet sales of cigarettes to minors. *JAMA* 2003;290:1356-9.
- [83] Ribisi KM, Kim AE, Williams RS. Web sites selling cigarettes: how many are there in the USA and what are their sales practices? *Tob Control* 2001;10:352-9.
- [84] Ribisi KM, Kim AE, Williams RS. Are the sales practices of internet cigarette vendors good enough to prevent sales to minors? *Am J Public Health* 2002;92(6):940-1.
- [85] Bryant JA, Cody MJ, Murphy ST. Online sales: profit without question. *Tob Control* 2002;11(3):226-7.
- [86] Malone RE, Bero LA. Cigars, youth, and the Internet link. *Am J Public Health* 2000;90(5):790-2.
- [87] Winickoff JP, Houck CS, Rothman EL, et al. Verve and jolt: Deadly new Internet drugs. *Pediatrics* 2000;106(4):829-30.
- [88] Wax PM. Just a click away: recreational drug Web sites on the Internet. *Pediatrics* 2002;109(6):e66.
- [89] Gettner G, Ozyegin N. Alcohol, tobacco, and illicit drugs in entertainment television, commercials, news, "reality shows," movies, and music channels. New York: Robert Wood Johnson Foundation; 1997.

- [90] Roberts DE, Henriksen L, Christenson PG. Substance use in popular movies and music. Washington (DC): Office of National Drug Control Policy; 1999.
- [91] Christenson PG, Henriksen L, Roberts DE. Substance use in popular prime-time television. Washington (DC): Office of National Drug Control Policy; 2000.
- [92] Roberts DE, Christenson PG. Here's looking at you kid: alcohol, drugs, and tobacco in entertainment media. Menlo Park (CA): Kaiser Family Foundation; 2000.
- [93] Comstock GA. Influences of mass media on child health behavior. *Health Educ Q* 1981;8(1):32-8.
- [94] Dietz WH, Strasburger VC. Children, adolescents, and television. *Curr Probl Pediatr* 1991;21:8-31.
- [95] Villani S. Impact of media on children and adolescents: a 10-year review of the research. *J Am Acad Child Adolesc Psychiatry* 2001;40(4):392-401.
- [96] Brown JD, Witherspoon ED. The mass media and American adolescents' health. *J Adolesc Health* 2002;31(6 Suppl):153-70.
- [97] Grube JW. Alcohol in the media: drinking portrayals, alcohol advertising, and alcohol consumption among youth. In: Institute of Medicine, editors. *Reducing underage drinking: a collective responsibility*. Washington (DC): National Academy Press; 2004. p. 597-624.
- [98] Goldman IK, Glantz SA. Evaluation of antismoking advertising campaigns. *JAMA* 1998;279(10):772-7.
- [99] Sussman S. Tobacco industry youth tobacco prevention programming: a review. *Prev Sci* 2002;3(1):57-67.
- [100] Agostinelli G, Grube JW. Tobacco counter-advertising: a review of the literature and a conceptual model for understanding effects. *J Health Commun* 2003;8(2):107-27.
- [101] Wakefield M, Flay B, Nieher M, et al. Effects of anti-smoking advertising on youth smoking: a review. *J Health Commun* 2003;8(3):229-47.
- [102] Friend K, Levy DT. Reductions in smoking prevalence and cigarette consumption associated with mass-media campaigns. *Health Educ Res* 2002;17(1):85-98.
- [103] Austin EW, Johnson KK. Effects of general and alcohol-specific media literacy training on children's decision making about alcohol. *J Health Commun* 1997;2:17-42.
- [104] Baillie RK. Determining the effects of media portrayals of alcohol: going beyond short term influence. *Alcohol Alcohol* 1996;31(3):235-42.
- [105] Austin EW, Chen YJ. The relationship of parental reinforcement of media messages to college students' alcohol-related behaviors. *J Health Commun* 2003;8(2):157-69.
- [106] Austin EW, Pinkleton BE, Fujioka Y. The role of interpretation processes and parental discussion in the media's effects on adolescents' use of alcohol. *Pediatrics* 2000;105(2):343-9.
- [107] Dalton MA, Ahrens MB, Sargent JD, et al. Relation between parental restrictions on movies and adolescent use of tobacco and alcohol. *Eff Clin Pract* 2002;5(1):1-10.
- [108] Castiglia PT, Glenister AM, Haughey BP, et al. Influences on children's attitudes toward alcohol consumption. *Pediatr Nurs* 1989;15(3):263-6.
- [109] Forsyth AJ, Barnard M, McKeganey NP. Musical preference as an indicator of adolescent drug use. *Addiction* 1997;92(10):1317-25.
- [110] Hansen CH, Hansen RD. Constructing personality and social reality through music: individual differences among fans of punk and heavy metal music. *Journal of Broadcasting and Electronic Media* 1991;35(3):335-50.
- [111] Bobo JK, Husten C. Sociocultural influences on smoking and drinking. *Alcohol Health Res World* 2000;24(4):225-32.
- [112] Kear ME. Psychosocial determinants of cigarette smoking among college students. *J Community Health Nurs* 2002;19(4):245-57.
- [113] Austin EW, Miller ACR, Silva J, et al. The effects of increased cognitive involvement on college students' interpretations of magazine advertisements for alcohol. *Communit Res* 2002;29(2):155-79.
- [114] Altman DG, Levine DW, Coeytaux R, et al. Tobacco promotion and susceptibility to tobacco use among adolescents aged 12 through 17 years in a nationally representative sample. *Am J Public Health* 1996;86(11):1590-3.

- [115] Albers AB, Biener L. Adolescent participation in tobacco promotions: the role of psychosocial factors. *Pediatrics* 2003;111(2):402–6.
- [116] Evans N, Farhat A, Gilpin E, et al. Influence of tobacco marketing and exposure to smokers on adolescent susceptibility to smoking. *J Natl Cancer Inst* 1995;87(20):1538–45.
- [117] Pierce JP, DiStefano JM, Jackson C, et al. Does tobacco marketing undermine the influence of recommended parenting in discouraging adolescents from smoking? *Am J Prev Med* 2002;23(2):73–81.
- [118] Pierce JP, Choi WS, Gilpin EA, et al. Tobacco industry promotion of cigarettes and adolescent smoking. *JAMA* 1998;279:511–5.
- [119] Pierce JP, Gilpin EA, Burns DM, et al. Does tobacco advertising target young people to start smoking? Evidence from California. *JAMA* 1991;266(22):3154–8.
- [120] Atkin CK. Effects of drug commercials on young viewers. *J Commun* 1978;28(4):71–9.
- [121] Atkin CK, Block M. Effectiveness of celebrity endorsers. *J Advert Res* 1983;23(1):57–61.
- [122] Atkin CK, Neundorff K, McDermott S. The role of alcohol advertising in excessive and hazardous drinking. *J Drug Educ* 1983;13:313–24.
- [123] Atkin CK, Hocking J, Block M. Teenage drinking: does advertising make a difference? *J Commun* 1984;34:157–67.
- [124] Atkin CK. Effects of televised alcohol messages on teenage drinking patterns. *J Adolesc Health Care* 1990;11(1):10–24.
- [125] Atkin CK. Effects of media alcohol messages on adolescent audiences. *Adolesc Med* 1993;4(3):527–42.
- [126] Pierce JP, Gilpin EA. A historical analysis of tobacco marketing and the uptake of smoking by youth in the United States: 1890–1977. *Health Psychol* 1995;14(6):500–8.
- [127] Pierce JP, Lee L, Gilpin EA. Smoking initiation by adolescent girls, 1944 through 1988: an association with targeted advertising. *JAMA* 1994;271(8):608–11.
- [128] Fischer PM, Schwartz MP, Richards Jr JW, et al. Brand logo recognition by children aged 3 to 6 years: Mickey Mouse and Old Joe the Camel. *JAMA* 1991;266(22):3145–8.
- [129] Austin EW, Nach-Ferguson B. Sources and influences of young school-aged children's general and brand-specific knowledge about alcohol. *Health Commun* 1995;7(1):1–20.
- [130] King C, Siegel M. Adolescent exposure to cigarette advertising in magazines: an evaluation of brand-specific advertising in relation to youth readership. *JAMA* 1998;279(7):516–20.
- [131] King C, Siegel M. Brand-specific cigarette advertising in magazines in relation to youth and young adult readership, 1986–1994. *Nicotine Tob Res* 1999;1(4):331–40.
- [132] King C, Siegel M. Exposure of black youths to cigarette advertising in magazines. *Tob Control* 2000;9(1):64–70.
- [133] Arnett JJ. Adolescents' responses to cigarette advertisements for five "youth brands" and one "adult brand". *J Res Adolesc* 2001;11(4):425–43.
- [134] Krugman DM, King KW. Teenage exposure to cigarette advertising in popular consumer magazines. *Journal of Public Policy and Marketing* 2000;19(2):183–8.
- [135] King C, Siegel M. The Master Settlement Agreement with the tobacco industry and cigarette advertising in magazines. *N Engl J Med* 2001;345(7):504–11.
- [136] Gidycz PE, Sobol A, DeLong W, et al. Television viewing and initiation of smoking among youth. *Pediatrics* 2002;110(3):505–8.
- [137] Tye J, Altman DG, DiFranza JR. Marketing adolescent tobacco addiction. *Md Med J (Baltimore)* 1995;44(10):767–73.
- [138] Tye JB, Warner KE, Glantz SA. Tobacco advertising and consumption: evidence of a causal relationship. *J Public Health Policy* 1987;8(4):492–508.
- [139] Warner KE, Goldenhar LM, McLaughlin CG. Cigarette advertising and magazine coverage of the hazards of smoking: a statistical analysis. *N Engl J Med* 1992;326(5):305–9.
- [140] Wallack L, Dorfman L. Health messages on television commercials. *Am J Health Promot* 1992;6(3):190–6.
- [141] Strasburger VC. Prevention of adolescent drug abuse: why "Just Say No" just won't work. *J Pediatr* 1989;114(4 Pt 1):676–81.
- [142] Strasburger VC. Television and adolescents: sex, drugs, rock 'n' roll. *Adolescent Medicine: State of the Art Reviews* 1990;1(1):161–94.
- [143] Strasburger VC. Adolescents, drugs, and the media. *Adolesc Med* 1993;4(2):391–415.
- [144] Strasburger VC, Donnerstein E. Children, adolescents, and the media: issues and solutions. *Pediatrics* 1999;103:129–39.
- [145] Strasburger VC. Alcohol advertising and adolescents. *Pediatr Clin North Am* 2002;49(2):353–76.
- [146] American Academy of Pediatrics Committee on Adolescence. Alcohol use and abuse: a pediatric concern. *Pediatrics* 1987;79(3):450–3.
- [147] American Academy of Pediatrics Committee on Substance Abuse. Alcohol use and abuse: a pediatric concern. *Pediatrics* 1995;95(3):439–42.
- [148] American Academy of Pediatrics Committee on Substance Abuse. Alcohol use and abuse: a pediatric concern. *Pediatrics* 2001;108(1):185–9.
- [149] American Academy of Pediatrics. American Medical Association, American Academy of Child & Adolescent Psychiatry, American Psychiatric Association. Joint statement on the impact of Family Physicians, and the American Psychological Association, American Academy of Entertainment violence on children. Presented at the Congressional Public Health Summit, Washington (DC), July 26, 2000. Available at: <http://www.aap.org/advocacy/releases/jsmvee.htm>. Accessed November 1, 2004.
- [150] Federal Trade Commission. Marketing violent entertainment to children: a review of self-regulation and industry practices in the motion picture, music recording and electronic game industries. Available at: <http://www.ftc.gov/opa/2000/09/youthviol.htm>. (See related follow-up reports and meetings at: <http://www.ftc.gov/bcp/workshops/violence/index.html>.) Accessed November 1, 2004.
- [151] Smoke Free Movies. The solution. Available at: <http://www.smokefreemovies.usf.edu/solution/rating.html>. Accessed November 1, 2004.
- [152] Mosher JF, Wallack LM. Government regulation of alcohol advertising: protecting industry profits versus promoting the public health. *J Public Health Policy* 1981;2(4):333–53.
- [153] Ite ML, Kroll LA. From the Office of the General Counsel: tobacco advertising and the first amendment. *JAMA* 1990;264(12):1593–4.
- [154] Kessler DA, Wit AM, Barnett PS, et al. The Food and Drug Administration's regulation of tobacco products. *N Engl J Med* 1996;335(13):988–94.
- [155] Kessler DA, Wilkentrif JP, Thompson LJ. The Food and Drug Administration's rule on tobacco: blending science and law. *Pediatrics* 1997;99(6):884–7.
- [156] Gostin LO, Armo PS, Brandt AM. FDA regulation of tobacco advertising and youth smoking: historical, social, and constitutional perspectives. *JAMA* 1997;277(5):410–8.
- [158] Gostin LO. Corporate speech and the Constitution: the deregulation of tobacco advertising. *Am J Public Health* 2002;92(3):352–5.
- [159] Bayer R. Tobacco, commercial speech, and libertarian values: the end of the line for restrictions on advertising? *Am J Public Health* 2002;92(3):356–9.
- [160] Signorilelli N. Children and adolescents on television: a consistent pattern of devaluation. *J Early Adolesc* 1987;7(3):255–68.
- [161] Klein JD, Brown JD, Childers KW, et al. Adolescents' risky behavior and mass media use. *Pediatrics* 1993;92(1):24–31.
- [162] Thompson KM. KidsRisk media guide. Available at: <http://www.KidsRisk.harvard.edu>. Accessed March 1, 2005.