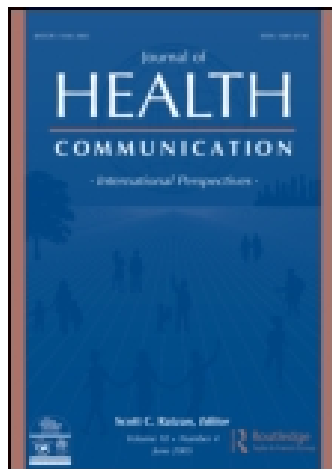


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Portrayals of Teen Smoking, Drinking, and Drug Use in Recent Popular Movies

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Studies indicate that films can influence adolescents' attitudes toward and initiation of substance use. It is therefore important to periodically assess film content to assess the types of imagery adolescents are likely to encounter. This study content analyzed teen characters in top films featuring teenagers from 2007, 2008, and 2009 to assess smoking, drinking, and drug use portrayals. Results indicate a relatively low incidence of smoking and drug use. However, one in five teen characters are shown drinking. Overall, substance use depictions have diminished considerably compared with films released at the earlier end of the decade. However, consequences of substance use were infrequently depicted, and characters seldom refused invitations to drink or do drugs. Given these findings, some potentially counterproductive outcomes are discussed.

“Which movie studios will cause me to smoke this summer?” A mobile billboard featuring a teenage girl pondering this question was driven around Los Angeles in 2009 as part of a campaign to discourage Hollywood from making movies with characters who smoke (Abram, 2009). Launched by a coalition of health groups, this campaign represented one of several efforts over the past decade aimed at curbing adolescent substance use indirectly by changing how it is depicted in the mass media. Scholars and public health advocates have offered convincing evidence that media, particularly movies, can influence adolescent attitudes and behaviors related to substance use (Bahk, 2001; Dalton et al., 2003; Distefan, Gilpin, Sargent, & Pierce, 1999; Sargent et al., 2001, 2002; Sargent, Wills, Stoolmiller, Gibson, & Gibbons, 2006; Song, Ling, Neliands, & Glantz, 2007; Tanski et al., 2009; Tickle, Sargent, Dalton, Beach, & Heatherton, 2001). In light of this risk, it is important to periodically assess film content to get a better sense of the types of imagery that adolescents may encounter.

This study focuses on the top-grossing teen-centered movies from 2007, 2008, and 2009. Highly popular and financially successful films such as *Transformers: Revenge of the Fallen* (domestic box office earnings of \$402 million), *The Blind Side* (\$250 million), and *Superbad* (\$121 million) all featured teen characters in leading roles (Box Office Mojo, n.d.). The content analysis described here systematically examines the substance usage patterns of teen characters in these and other popular teen-centered films. To determine whether improvements in substance use portrayals have been

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made over the past decade, comparisons are made with data from films released in 1999, 2000, and 2001.

Adolescent Substance Use in the United States

Although substance use at any age is cause for concern, those who initiate substance use during adolescence are more likely to develop lifelong substance use habits and to experiment with other substances as they grow older (Substance Abuse and Mental Health Services Administration, 2001; Centers for Disease Control and Prevention, n.d.; U.S. Department of Health and Human Services, 2007). Smoking, in particular, is nearly always initiated during adolescence, often leading to addiction by the age of 20 years (Centers for Disease Control and Prevention, n.d.). Considering that substance abuse is preventable, it is troubling that it continues to play a role in the leading causes of morbidity and mortality among teenagers each year (e.g., automobile accidents), not to mention its contribution to lifelong illnesses, such as lung cancer (Eaton et al., 2010).

Despite some declines in recent years, substance use remains a problematic practice for a substantial portion of American teens. A nationally representative study in 2009 indicated that 41.8% of high school students had consumed alcohol in the 30 days preceding the survey. Smoking rates were lower, but still concerning: 1 in 5 high school students and about 1 in 20 middle school students had smoked a cigarette at least once in the past month (Eaton et al., 2010). The most commonly used illicit drug was marijuana. In 2009, a third of high school seniors, 27% of 10th-grade students, and 12% of 8th-grade students reported they had smoked marijuana during the previous year (Johnston, O'Malley, Bachman, & Schulenberg, 2009). In addition, 2% of high school students used heroine and 12% used inhalants (Eaton et al., 2010).

National studies have also detected shifts in perceptions of substance use. In particular, since 2007, the perceived risk of smoking marijuana and personal disapproval of it have declined among 8th-, 10th-, and 12th-grade students. There has also been a decline in adolescents' beliefs about how much of a risk is posed by LSD, inhalants, and ecstasy (Johnston et al., 2009). In contrast, there have been increases in the perceived risk and disapproval of other illicit drugs and binge drinking (defined as five or more drinks in a row). Disapproval of smoking has risen steadily over the past decade (Johnston et al., 2009).

How do young people form attitudes about the frequency, appropriateness, or riskiness of substance use? Various social, biological, and environmental factors are known to play an influential role in adolescents' decision making about and attitudes toward substance use (e.g., see Cleveland, Feinberg, Bontempo, & Greenberg, 2008; Petraitis, Flay, & Miller, 1995). The mass media have also been increasingly recognized as important information sources about drinking, smoking, and drugs (e.g., Dalton et al., 2009; Sargent et al., 2006; Song et al., 2007). Because of their larger-than-life imagery and broad youth appeal, movies have earned particular scrutiny.

Substance Use Depictions in Film and Their Effects

American teenagers (12–17 years of age) go to the movies more than any other age group in the United States, and although they prefer watching at the theater, they also view movies on televisions, computers, and mobile devices. In 2008, American adolescents watched an average of 31.4 movies via all means (Nielsen Company, 2009).

Given the popularity of film and the troubling rates of smoking, drinking, and drug use among American teens, scholars have systematically assessed the substance use messages that movies contain. Most have focused on smoking imagery and conclude that most films have contained at least one instance of cigarette smoking (Dalton et al., 2002; Dozier, Lauzen, Day, Payne, & Tafoya, 2005; Sargent et al., 2002; Stockwell & Glantz, 1997). Glantz, Titus, Mitchell, Polansky, and Kaufmann's (2010) study found that 2009 represented the first year in which the majority of top-grossing films (51%) released did not show tobacco use.

In general, smoking characters have tended to be depicted as male adults who are motivated to smoke when sad, happy, and relaxed, and to relieve stress (Dalton et al., 2002; Dozier et al., 2005; Sargent et al., 2002; Stockwell & Glantz, 1997; Tanski et al., 2009). Smoking characters have been depicted as enjoying higher socioeconomic status (Hazan, Lipton, & Glantz, 1994), increased romantic and sexual activity (McIntosh, Bazzini, Smith, & Wayne, 1998), and an overall more positive nature (Tanski et al., 2009). Last, consequences for tobacco use have been shown infrequently, if at all (Dozier et al., 2005; McIntosh et al., 1998; Roberts, Henriksen, & Christenson, 1999).

Several recent studies have found that watching movies plays a role in established smoking and smoking initiation (e.g., Dalton et al., 2009; Dalton et al., 2003; Sargent et al., 2002; Sargent et al., 2006). For example, Song and colleagues (2007) used a cross-sectional survey of 1528 young adults, aged 18–25 years, to address the relation between exposure to smoking in the movies and current smoking. The authors found that the more a young adult was exposed to smoking in the movies, the more likely he or she would have smoked in the past 30 days or become an established smoker.

Only one study has addressed the effects of alcohol depictions. Sargent and colleagues (2006) found an association between higher exposure to movie alcohol use and early onset alcohol use by 10–14-year-olds. They also found that 92% of all movies in their sample of popular contemporary films depicted some alcohol use. Similarly, in their analysis of top films from 1986 to 1994, Everett, Schnuth, and Tribble (1998) found that 80% of films showed at least one major character drinking. Movie drinkers tend to be adult and to have a higher socioeconomic status, to be more attractive and romantic/sexual, and to be more aggressive than nondrinkers (Everett et al., 1998; McIntosh, Bazzini, Smith, & Mills, 1999). Depictions of negative consequences of drinking are uncommon in film. However, Roberts and colleagues (1999) found that 40% of the characters 18 years of age and younger in their sample of films experienced consequences as a result of their alcohol consumption.

Little systematic scrutiny has been applied to illicit drug use representations in movies or their effects on viewers. In one of the only studies to attend to drug use, Roberts and colleagues (1999) found that about 20% of the movies they analyzed portrayed illicit drug use, and only half of those portrayed any consequences. In Roberts and colleagues' study, 8% of characters younger than 18 years of age were shown using illicit drugs.

Taken collectively, the existing literature on portrayals of substance use has suggested that smoking and drinking have been prevalent in Hollywood films. Illicit drug use appears to have been less common portrayed, but a shortage of attention to this behavior limits generalization. Effects studies to date conclude that substance use imagery in films can influence young viewers.

Youth Characters and Social Cognitive Theory

Despite the amount of attention paid to substance use portrayals in movies, most researchers have rarely attended to portrayals of substance-using youth characters in particular. This limitation is noteworthy given the concern for adolescent viewers in particular. Social cognitive theory, which helps to explain learning through observation, posits that by watching what happens when media models perform activities onscreen, viewers can develop expectations about the consequences that certain behaviors and attitudes will have for themselves. Scholars have shown that people learn best and most from those with whom they identify, and that perceived similarity can be a core component of identifying with others (e.g., Cantor, 1994; Dorr, 1981; Huesmann, Lagerspetz, & Eron, 1984; Paik & Comstock, 1994). A media model who is the same age as a viewer is particularly likely to be influential (Harwood, 1997, 1999; Hicks, 1965; Hoffner & Cantor, 1991). Thus teen movie characters shown drinking, smoking, or using drugs may be particularly salient to adolescent viewers, who can develop expectations about substance use in accordance with what they view on screen. The consequences endured by substance-using teen characters may be especially meaningful, because they can suggest to young viewers varying incentives and disincentives for acting like the characters onscreen (Bandura, 1994, 2001). Viewers need not actually engage in any action to acquire knowledge about normative values and rules of conduct (Bandura, 1994, 2001). For example, research has shown that young people have well-developed beliefs and expectations about alcohol use well before they ever experiment with it (Goldman, Brown, & Christiansen, 1987).

Given the theoretical implications of social cognitive theory and to fill in the gap in the literature on substance use portrayals in film, 5 years ago we published a study focused on teen characters in the top grossing movies from 1999, 2001, 2002 (Stern, 2005). We found that overall, two fifths of teen characters drank alcohol, one sixth smoked cigarettes, and one seventh used illicit drugs ($N = 146$). Almost no differences existed between substance users and nonusers with regard to physical attractiveness, socioeconomic status, virtuosity, or gender. Drinkers and drug users were unlikely to suffer any consequences—let alone negative consequences—in the short or long term. Characters were rarely shown refusing offers to drink or do drugs or regretting their substance usage. Overall, we concluded that teen-centered films from 1999, 2000, and 2001 may have suggested to teen viewers that substance use is relatively common, mostly risk-free, and appropriate for anyone.

Present Study

Much has happened since our initial study published in 2005. As mentioned earlier, attitudes toward substance use have shifted, as have actual smoking, drinking and drug use rates. Tobacco advertising has declined at the same time that anti-tobacco and anti-drinking advertising has increased (Farrelly, 2005; Johnston et al., 2009). Cigarette prices have risen (Franks et al., 2007). School-based substance prevention policies and programs have been initiated, and community interventions to eradicate substance use have been developed (see, for example, Centers for Disease Control and Prevention, n.d.; Ringwalt et al., 2009). The Motion Picture Association of America (MPAA) has repeatedly been urged to give movies containing tobacco imagery an automatic R rating, in hopes that filmmakers who desire a PG-13 rating might

think twice before showing a smoking character (Bell, 2010). Last, Hollywood itself has repeatedly come under fire for its representations of substance use (especially smoking), and most studios have developed policies to handle tobacco (but not, as far as we know, alcohol or drug) depictions in the movies they produce (Abram, 2009; Bell, 2010; Glantz et al., 2010).

In light of these changes, the study reported here provides an important update on the portrayal of teen characters in the most popular contemporary movies featuring teens. The following research questions guided our analysis: What percentage of teen characters engage in smoking, drinking, and drug use? Do substance users differ from non-users in terms of their age, gender, and socioeconomic status? Are substance users more likely to appear in restricted (e.g., R rated) films or films of a particular genre? What consequences, if any, result from substance use in the short and long term? How commonly do characters regret their substance use and/or refuse offers for alcohol or drugs? Last, how are these depictions different, if at all, from those in films released in 1999–2001?

Method

Sample

Following the sampling strategy employed in our initial study (Stern, 2005), the 125 top-grossing films (in terms of annual box office receipts) for each year from 2007, 2008, and 2009 were identified (Box Office Mojo, 2010). From this list, films featuring at least one teenager (12–19 years of age) as a central character were isolated for inclusion in the sample. This sampling strategy was devised to ensure that only those films in which teen characters were central, rather than merely incidental, to the film were included since these characters are more likely to serve as models for observational learning. To determine which films were teen-centered, we consulted one of the Internet's most comprehensive movie databases (IMDB.com) for in-depth plot and character synopses. Films for which it was unclear whether or not a major teen character was featured were screened to determine inclusion in the final sample. Films about college-age characters were included only if they clearly included teen characters younger than 21 years of age.

We included 81 films in the sample (see the Appendix): About half were rated PG-13 by the MPAA ($n=42$), 21 were rated R, 14 were PG, and 4 were rated G. Dramas ($n=26$) and comedies ($n=20$) were the predominant genres in the sample, followed by action-adventure ($n=18$), thriller/horror ($n=13$) and other genres ($n=4$). The annual U.S. gross box office revenues for the films ranged from \$402 million (*Transformers: Revenge of the Fallen*, 2009) to \$15 million (*I Love You, Beth Cooper*, 2009; Box Office Mojo, 2010).

Coding and Reliability

Given the study's concern for teen viewers, in particular, and because social cognitive theory posits that audience members are more likely to identify with and attend to characters perceived as similar (Bandura, 1986, 2002), the unit of analysis was the major teen character. Major teen characters included those between the ages of 12 and 19 years, including middle and high school students, who were central to the film's plot.

Three coders were trained extensively on films outside the actual sample. Scott's pi was used to assess intercoder reliability (Potter & Levine-Donnerstein, 1999). Reliabilities based on a subset of the actual sample are individually reported alongside each variable definition to follow. Operational definitions for all variables (subsequently defined) duplicated those in our initial study (Stern, 2005).

Demographics and Attributes

Gender was coded as either male or female ($\pi = 1.0$) and age ($\pi = .87$) was coded as middle school (or 12–14 years), high school (or 15–18 years), post-high school (or 19–20 years), or “can't tell.” To address an attribute that may make a character more or less appealing as a model to viewers, the socioeconomic status of each character was also coded ($\pi = .87$). Characters who were visibly poor were coded as “low” and those who were perceptibly well-to-do were coded as “high.” All other characters were coded as “moderate” (Roberts et al., 1999).

Substance Use

For all substance use behaviors including smoking ($\pi = 1.0$), drinking alcohol ($\pi = 1.0$), and doing drugs ($\pi = 1.0$), the frequency of occurrence was recorded if an individual character was explicitly shown engaging in the behavior “once,” “more than once,” or “not at all.” Because social cognitive theory proposes that viewers are more likely to learn and imitate behaviors that are associated with positive or no outcomes, the short- and long-term consequences of drinking and alcohol were also recorded. To determine short-term consequences of drinking ($\pi = .82$) and drug use ($\pi = 1.0$), coders were directed to evaluate the ramifications of the most prominent drinking and drug use scene involving that character. Scene prominence was indicated by length, camera focus, and importance to plot line, and short-term was defined as the 24-hour period following substance use. Long-term consequences of drinking ($\pi = .94$) and drug use ($\pi = 1.0$) were defined in the same way, except that the variable assessed consequences after the first 24-hour period following substance use. Short- and long-term consequences were coded as either “no apparent consequences” (e.g., no evident consequences resulting from substance use), “positive consequences” (e.g., physical pleasure, getting the guy/girl, social acceptance), “negative consequences” (e.g., becoming ill, social dysfunction, addiction, being teased by peers, being arrested), and “mixed consequences” (both positive and negative consequences depicted). If the character was never shown engaging in the behavior at all, “not applicable” was coded.

If characters were ever shown as out of control or acting differently than normal because of alcohol consumption or drug usage, they were coded as being drunk ($\pi = .82$) or high ($\pi = 1.0$), respectively. Coders also documented if a character was shown driving while drunk ($\pi = 1.0$).

Last, we measured refusals and regret. Media models who refuse to engage in substance use can signal to audience members that declining substance use is a viable option. For alcohol ($\pi = .82$) and drugs ($\pi = .93$), each character was appraised to determine whether they were “offered but refused,” “offered and accepted,” or “not offered” each of these substances. Regret over drinking ($\pi = 1.0$) and drug use ($\pi = .93$) was also coded if characters exhibited remorse at any point about consuming alcohol or doing drugs.

Results

A total of 163 major teen characters were coded across the 81 films. Boys (50.3%) and girls (49.7%) were equally represented. Most characters (73.0%) were in high school (15–18 years of age); the rest were in middle school (12–14 years of age; 8.6%), post-high school (19–20 years of age; 16.0%) or their age could not be determined (2.5%). In terms of socioeconomic status, the majority of characters were classified as moderate (71.2%), followed by high (16.6%) and low (12.3%).

Smoking Cigarettes

Only 1 in 20 ($n = 8$) of the teen characters in this sample were shown smoking cigarettes, and more than half (62.5%, $n = 5$) of the smoking characters appeared in just two films, *Alpha Dog* (2007) and *Epic Movie* (2007). Most smoking characters were shown smoking only once (75%, $n = 6$; see Table 1), and there were no significant differences between smokers and nonsmokers in terms of their gender, age, or socioeconomic status. Smoking cigarettes was not significantly related to the genre of the film in which the characters were depicted, but it was significantly related to the MPAA rating of the film, $\chi^2(3, N = 146) = 7.99, p < .05$. Smoking characters were only shown in PG-13 ($n = 3$) and R-rated films ($n = 5$).

Drinking Alcohol

One fifth of the teen characters in the study were shown drinking alcohol (see Table 1). Of those shown drinking at least once, 35.3% ($n = 12$) were depicted as drunk. No drinking characters were shown to drive drunk. There were no significant differences between drinkers and nondrinkers in terms of gender, age, or socioeconomic status. However, drinking alcohol was significantly related to MPAA rating, $\chi^2(3, N = 163) = 12.84, p < .01$. Drinking characters were shown only in PG-13 ($n = 25$) and

Table 1. Substance use depictions, by major teen characters in top-grossing teen-centered films

	1999–2001 ($N = 146$)		2007–2009 ($N = 163$)	
	%	n	%	n
Smoking (total)	17.1	25	4.9	8
Not at all	82.8	121	95.1	155
Once	8.9	13	3.7	6
More than once	8.2	12	1.2	2
Drinking (total)	38.4	56	20.9	34
Not at all	61.6	90	79.1	129
Once	21.9	32	13.5	22
More than once	14.4	24	7.4	12
Drug use (total)	15.1	22	4.3	7
Not at all	85.9	124	95.7	156
Once	5.5	8	1.2	2
More than once	9.5	14	3.1	5

R-rated films ($n = 9$). Drinking characters were also significantly more likely to appear in comedies than in any other film genre $\chi^2(4, N = 163) = 11.95, p < .05$. Half of all drinking characters appeared in comedies (47.1%, $n = 16$), followed by drama (32.4%, $n = 11$) and thriller/horror films (11.8%, $n = 4$).

Even though disorientation, unbecoming behavior, illness, and injury are common short-term consequences of drinking alcohol in real life, nearly three fourths ($n = 25$) of the drinking characters did not experience any short-term consequences. Only a fifth (20.6%, $n = 7$) experienced negative short-term consequences. Despite the fact that drinking can lead to embarrassment, punishment, damage to relationships, and even addiction, not a single character in this study experienced negative long-term consequences from drinking. Most commonly, drinking characters experienced no consequences of any type in the long term (88.2%, $n = 30$). A few characters experienced positive short- ($n = 1$) and long-term ($n = 2$) consequences.

Most characters in the study (88.3%, $n = 144$) were never offered alcohol, but among the 19 who were, only 2 refused. Only a single drinking character was shown to express regret about alcohol consumption.

Drug Use

Seven (4.3%) of the teenage characters in this sample were depicted using drugs (see Table 1), six of whom appeared in two films, *Alpha Dog* (2007) and *Last House on the Left* (2009). Of all characters shown using drugs, 71.4% ($n = 5$) were depicted as high. There were no significant differences between drug users and nonusers in terms of gender, age, socioeconomic status, or film genre. MPAA rating did make a significant difference, however, with 85.7% ($n = 6$) of all drug-using characters depicted in an R-rated film, and one character in a PG-13 rated film $\chi^2(3, N = 146) = 16.13, p < .001$.

Of those characters shown using drugs, 42.9% ($n = 3$) experienced no consequences in the short term, and 57.1% ($n = 4$) experienced negative consequences in the short term. No positive or mixed consequences of drug use were depicted for the short or long term. In the long term, negative consequences of drug use were depicted for only one character.

Two characters were shown to regret their drug use (28.6% of all drug using characters). Of the seven total characters in the sample who were offered drugs, five accepted and two refused.

Comparisons Between 1999–2001 Films and 2007–2009 Films

The incidence of smoking, drinking and drug use by teen characters all declined in the past decade (see Table 1). Independent samples t tests comparing average substance use in films released from 1999 to 2001 compared with 2007 to 2009 indicated that these differences were statistically significant: For smoking, $t(307) = 3.53, p < .05$; for drinking, $t(307) = 3.4, p < .05$; for drug use, $t(307) = 3.29, p < .05$.

Discussion

This study was conducted to assess the frequency, nature and depicted consequences of substance use among major teen characters in films that feature teens. The central contribution of this study is its systematic documentation of content patterns that can

influence adolescents' attitudes toward substance use and their perceptions of others' substance use. The results signal that smoking and using drugs are atypical for the teen characters who inhabit recent teen-centered movies. Drinking, in contrast, appears to be relatively frequent and generally risk-free. Compared to movies released in 1999, 2000, and 2001, the frequency of substance use portrayals has declined considerably, but Hollywood's continued omission of negative consequences, regrets and refusals raises ongoing concerns.

Considering that onscreen smoking can contribute to actual smoking (e.g., Song et al., 2007; Tanski et al., 2009), the fact that only 1 in 20 teen characters in the present study smoked may be welcome news. This rate is substantially lower than in films released from 1999 to 2001 and the actual rate of smoking by American high school students (Eaton et al., 2009). In theory, the fewer the number of depictions of teen characters who smoke, the less adolescent viewers will encounter salient models from whom they could learn that smoking is normal or appropriate. Moreover, the infrequency of smoking characters may discourage an "everyone is doing it" mentality, which can in itself lead to smoking initiation by teenagers (e.g., see Gibbons, Helweg-Larsen, & Gerrard, 1995).

The number of drinking characters declined by half compared with films released at the beginning of the decade. However, one out of every five teen characters in the present study was depicted drinking. Although this incidence is lower than actual alcohol usage rates by teens, it is still concerning. Every year, about 5,000 people under the age of 21 years die from injuries involving underage drinking (U.S. Department of Health and Human Services, 2007). Moreover, underage alcohol use plays a significant role in risky sexual behavior, increases the risk of physical and sexual assault, has been linked to academic problems and illegal behaviors, and can cause a range of physical consequences, from hangovers to death by alcohol poisoning (Substance Abuse and Mental Health Services Administration, 1999; U.S. Department of Health and Human Services, 2007). Given these serious consequences, it is particularly troubling that the majority of drinking characters did not suffer any negative short- or long-term effects. Not only does this misrepresent the reality of underage drinking, but it might also contribute to the belief that drinking is an inconsequential teen behavior.

The fact that comedies were significantly more likely than other genres to include drinking characters may amplify this perspective, since youth audiences may be set up to laugh at drinking episodes, even those in which negative consequences result. For example, in the movie *Superbad*, high school senior Seth scores an extra laugh from viewers when he headbutts the girl he likes as he falls forward in a drunken stupor. The film's emphasis on the humor in this situation makes light of how alcohol impairs body control and shifts the viewer's attention away from potential dangers of passing out. Moreover, the preponderance of drinking characters in PG-13 rated films is concerning because they are more easily accessed by adolescents than are R-rated films.

Two positive developments with regard to drug use depictions were revealed by the current study. First, few teen characters were shown using drugs, particularly when compared to our initial study. Also, six out of the seven drug-using characters in this study appeared in just two R-rated films. Viewers of teen-centered films from 2007 to 2009 were thus unlikely to witness drug use by youth characters. Second, drug using characters in this study were more likely to experience negative consequences in the short term compared with other types of consequences, and when compared

to films released from 1999 to 2001. The depiction of negative consequences may serve as a disincentive to youth audiences who at some point find themselves in a situation in which using drugs is an option. However, representations of the long-term consequences of drug use remain notably infrequent in the films in this study, despite the fact that they are common, if not inevitable, in real life.

Another way to illustrate negative consequences in films is to show characters who wish they had not engaged in substance use. Regret, commonly experienced by real teens after substance use, could easily be portrayed in films by a simple comment or complaint. In this study, however, only single character was shown to regret drinking alcohol, and only two characters regretted their drug use.

Another missed opportunity comes in the form of refusals. The depictions of teen characters who demonstrate how to decline invitations to drink or do drugs can offer usable scripts to young viewers who may find themselves in similar situations in the future. For example, *Fame* (2009) and *Never Back Down* (2008) include characters who politely and simply refuse offers to drink. These simple, nonchalant interactions illustrate that substance refusals in film do not require a lengthy explanation or morality tale and yet indicate that declining an offer is acceptable and normal. However, the majority of teen characters in this study accepted offers of alcohol or drugs. This was also the case in films released earlier in the decade.

All together, this study illustrates that recent teen-centered movies provide fewer models of substance-using teens than films earlier in the decade. The study cannot explain why this decline occurred, or what its ramifications might be. However, it can help to pinpoint future avenues for research. One important direction is to consider the simultaneous decline in actual and portrayed teen substance use. Are they related, and if so, what is the nature of that relationship? Also deserving of attention is research designed to test what in this study was theoretically assumed: that adolescents would be particularly influenced by imagery of teen characters who use substances. Given that studies have already shown that smoking and drinking depictions can influence young people (Tanski et al., 2009), what additional contribution (if any) does substance usage by teen characters make?

Last, following social cognitive theory, we can expect that the portrayal of negative consequences by substance-using characters might be more instructive to adolescent viewers than simply decreasing the number of characters shown using substances. However, this raises a difficult dilemma for public health experts. Parents and youth advocates may appreciate the documented decrease in depictions of substance use by teen film characters; indeed, many have been campaigning for precisely this trend (e.g., Smokefree Movies campaign). On the other hand, might the avoidance of the topic have counterproductive effects? Fewer incidences of substance using characters in films potentially amplifies the impact of the seemingly consequence-free actions of those characters who are shown to partake in substance use on film. Moreover, avoiding substance using characters altogether may disconnect the movies from the lived experiences of teen audiences. Consequently, teen-centered films may miss their potential to invite young viewers to engage with narratives in ways that might help them develop attitudes about responsible substance use in real life. Future researchers need to examine this possibility, and, should support be forthcoming, approach Hollywood producers with suggestions for incorporating realistic consequences for substance use into their films.

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Appendix: Top Grossing Teen-Centered Films from 2007, 2008, and 2009

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| 17 Again (2009) | <i>Last House on the Left</i> (2009) |
| 2012 (2009) | <i>Live Free or Die Hard</i> (2007) |
| 28 Weeks Later (2007) | <i>The Lovely Bones</i> (2009) |
| 3:10 to Yuma (2007) | <i>Mamma Mia!</i> (2008) |
| 30 Days of Night (2007) | <i>Meet the Browns</i> (2008) |
| <i>Across the Universe</i> (2007) | <i>Meet the Robinsons</i> (2007) |
| <i>Aliens in the Attic</i> (2009) | <i>The Messengers</i> (2007) |
| <i>Alpha Dog</i> (2007) | <i>Mr. Brooks</i> (2007) |
| <i>Are We Done Yet?</i> (2007) | <i>Mr. Woodcock</i> (2007) |
| <i>Atonement</i> (2007) | <i>My Sister's Keeper</i> (2009) |
| <i>The Blind Side</i> (2009) | <i>Nancy Drew</i> (2007) |
| <i>Chronicles of Narnia: Prince Caspian</i> (2008) | <i>Never Back Down</i> (2008) |
| <i>College Road Trip</i> (2008) | <i>Nick and Norah's Infinite Playlist</i> (2008) |
| <i>Dan in Real Life</i> (2007) | <i>Pineapple Express</i> (2008) |
| <i>Dance Flick</i> (2009) | <i>Precious: Based on the Novel "Push"</i> (2009) |
| <i>Disturbia</i> (2007) | <i>Prom Night</i> (2008) |
| <i>Drillbit Taylor</i> (2008) | <i>Push</i> (2009) |
| <i>Epic Movie</i> (2007) | <i>The Reader</i> (2008) |
| <i>Fame</i> (2009) | <i>Role Models</i> (2008) |
| <i>The Final Destination</i> (2009) | <i>Sisterhood of the Traveling Pants 2</i> (2008) |
| <i>Fired Up!</i> (2009) | <i>Slumdog Millionaire</i> (2008) |
| <i>Forbidden Kingdom</i> (2008) | <i>Speed Racer</i> (2008) |
| <i>Freedom Writers</i> (2007) | <i>Spiderwick Chronicles</i> (2008) |
| <i>Georgia Rule</i> (2007) | <i>Step Up 2: The Streets</i> (2008) |
| <i>Ghost Rider</i> (2007) | <i>The Stepfather</i> (2009) |
| <i>Gran Torino</i> (2008) | <i>Stomp the Yard</i> (2007) |
| <i>Hairspray</i> (2007) | <i>Superbad</i> (2007) |
| <i>Halloween</i> (2007) | <i>Superhero Movie</i> (2008) |
| <i>Hannah Montana</i> (2009) | <i>Swing Vote</i> (2008) |
| <i>Harry Potter 5</i> (2007) | <i>Taken</i> (2009) |
| <i>Harry Potter and the Half Blood Prince</i> (2009) | <i>Terminator Salvation</i> (2009) |
| <i>The Haunting in Connecticut</i> (2009) | <i>There Will Be Blood</i> (2007) |
| <i>High School Musical 3</i> (2008) | <i>This Christmas</i> (2007) |
| <i>Hotel for Dogs</i> (2009) | <i>Transformers</i> (2007) |
| <i>I Love You, Beth Cooper</i> (2009) | <i>Transformers: Revenge of the Fallen</i> (2009) |
| <i>Indiana Jones 4</i> (2008) | <i>Twilight</i> (2008) |
| <i>The Invisible</i> (2007) | <i>Twilight: New Moon</i> (2009) |
| <i>Jennifer's Body</i> (2009) | <i>Underdog</i> (2007) |
| <i>Journey to the Center of the Earth</i> (2008) | <i>The Uninvited</i> (2009) |
| <i>Jumper</i> (2008) | <i>Zombieland</i> (2009) |
| <i>Juno</i> (2007) | |