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One year later:

Are MPAA's tobacco labels protecting movie audiences?

Movies and smoking since the Motion Picture Association of America's May 10, 2007 tobacco policy announcement

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EXECUTIVE SUMMARY

In the twelve months (May 10, 2007-May 9, 2008) since the Motion Picture Association of America (MPAA) announced that “all smoking will [now] be considered” in movie ratings, the MPAA has not elevated the rating of a single motion picture released to theaters because of its tobacco content.

The MPAA has also failed to apply “tobacco descriptors” — the explanatory labels associated with each MPAA rating — to most youth-rated movies with smoking released to theaters nationwide. Only 12 percent (4/34) of youth-rated, top box office films with tobacco imagery received tobacco descriptors.

Percentage of movies with smoking: Of the movies that achieved “Top Ten” box office ranking for at least a week, released in the twelve months after the MPAA’s May 10, 2007 announcement, 61 percent (95/155) featured tobacco including:

- 38 percent of G and PG movies (13/34)
- 58 percent of PG-13 movies (39/67)
- 80 percent of R-rated movies (43/54).

In all, 55 percent (52/95) of top box office movies with smoking released in 2007-8 were youth-rated G, PG or PG-13.

Number of tobacco incidents: Content analysis of the 2007-8 top box office movie sample finds a modest 29 percent decline in the number of PG-13 tobacco incidents. This decline is beyond random year-to-year fluctuation compared to the previous four years. Other rating categories were substantially unchanged.

Impact on theater audiences: The total number of tobacco impressions delivered to theater audiences by youth-rated movies with tobacco imagery also displayed a modest decline (31 percent) in the 2007-8 period, but the it may be attributable to year-to-year random fluctuations.

MPAA’s use of tobacco descriptors: Only 10 percent of youth-rated tobacco impressions delivered to theater audiences by films rated and released since May 10, 2007 were delivered by films that carried MPAA tobacco descriptors. (None of 29 R-rated movies with smoking rated and released after May 10, 2007 were tobacco-labeled.) Application of descriptors was unrelated to the amount of tobacco imagery in particular films. It was strongly related to whether the film was being released by an MPAA member company (not an independent) and if the film was destined for wide release. *Only 5 percent (5/95) of all top box office films with tobacco imagery released between May 10, 2007 and May 9, 2008 carried an MPAA tobacco descriptor.*

Conclusion: Because of the MPAA’s failure to label most PG-13 films from major studios with smoking, its tobacco rating policy cannot be directly linked to the modest but statistically detectable decline in PG-13 rated tobacco incidents during the last year. Instead, this drop appears to be the result of individual efforts by some studios to reduce tobacco incidents in some films. As was the case in 1998-1999, an observed decline may prove temporary. Only an industry-wide set of uniform policies, including an R-rating for future on-screen tobacco, can make this modest advance more substantial — and permanent. Meanwhile, the decline in PG-13 incidents demonstrates that film industry changes beneficial to public health are feasible and do not reduce admissions.

The MPAA's policy

Smoking in motion pictures has been clearly demonstrated to simulate adolescents and young adults to smoke; the more smoking in the movies adolescents and young adults see, the more likely they are to smoke. In response to this scientific evidence, major health organizations have called on the Motion Picture Association of America, the trade group representing the six major Hollywood film studios, to modernize its rating system to remove smoking from youth-rated (G/PG/PG-13) films by rating movies with smoking or other tobacco use “R.” This rating would reduce youth exposure by about half, preventing approximately 200,000 adolescents from beginning to smoke each year.

On May 10, 2007, the MPAA announced through press releases that it would “now” start “considering” tobacco in its film rating system. While some news outlets at the time inferred that smoking would in future be rated “R,” the MPAA never stated that smoking would earn an R-rating. It explicitly rejected what it termed an “automatic R.” The actual MPAA policy statement says that:

In the past, illegal teen smoking has been a factor in the rating of films, alongside other parental concerns such as sex, violence and adult language. Now, all smoking will be considered and depictions that glamorize smoking or movies that feature pervasive smoking outside of an historic or other mitigating context may receive a higher rating....

[W]hen a film's rating is affected by the depiction of smoking, that rating will now include phrases such as “glamorized smoking” or “pervasive smoking.”

— MPAA press release, “*Film ratings to consider smoking as a factor*,” May 10, 2007

This position was further described in a letter to the state Attorneys General:

We have updated and clarified the motion picture rating rules for the MPAA/NATO [National Association of Theatre Owners] jointly operated Classification and Rating Administration...The rating board is now considering smoking as a factor alongside other factors including violence, sexual situations and language in films...

— MPAA letter to Maryland Attorney General, May 10, 2007

The MPAA's practice

In the twelve months since May 10, 2007 there is no evidence that the MPAA increased the rating of any film to “R” or even to PG-13 because of smoking content. The MPAA has stated that one film was up-rated from G to PG because of smoking content (*Saving Sarah Cain*, from News Corp.'s Fox Faith unit, aired on cable and released on video in January 2008).

Between May 10, 2007 and May 9, 2008, 52 youth-rated films with smoking achieved Top Ten box office status in any week (“top box office”) in nationwide release (see Appendix IIc). Thirty-four of these films received their MPAA rating after the MPAA's May 10, 2007 announcement. Of these, only 12 percent (4/34) were given a tobacco descriptor in their ratings: three of six G/PG films with tobacco (50 percent) and one of 28 PG-13 films with tobacco (4 percent).

None of the 29 R-rated top box office films with smoking rated and released after May 10, 2007 carried tobacco descriptors. In all, the MPAA added tobacco descriptors to 6 percent (4/63) of all films with tobacco imagery that it reviewed after May 10, 2007 that were released widely and achieved top box office status.

Of the 34 top box office, youth-rated films with smoking rated and released after May 10, 2007 all but six (82 percent) were released by an MPAA member company (“major studio”). Of the three G/PG films in this top box-office group that received a tobacco descriptor, two were released by major studios (Sony, Time Warner) and one by an independent distributor. Disney, News Corp., and Viacom received no tobacco descriptors from MPAA on their eight top box office, G/PG/PG-13 releases with tobacco imagery (Table 1).

TABLE 1: Youth-rated, top box office films with tobacco rated and released May 10, 2007 to May 9, 2008, by company

	G/PG	Descriptor	PG-13	Descriptor	R-rated	Descriptor
Disney	1	0	0	0	2	0
GE	1	0	4	1	4	0
News Corp.	0	0	3	0	3	0
Sony	1	1	7	0	4	0
Time Warner	1	1	6	0	6	0
Viacom	1	0	3	0	4	0
Non-MPAA	1	1	5	0	6	0
<i>Total</i>	6	3	28	1	29	0

Besides the four top box office films discussed above, 32 other films were reviewed after May 10, 2007 by the MPAA and given tobacco descriptors (see Appendix II.d). More than two-thirds of these films (69 percent, 22/32) are known to have been given limited release or went straight to video; the other ten films have not yet been released in any distribution channel, and seven of these have no firm release dates. Overall, films from independent distributors (66 percent, 24/36) and originating in other countries (44 percent, 16/36) are over-represented in the list of films given tobacco descriptors by the MPAA. Only one-third (12/36) of the films given descriptors are releases from MPAA member companies, and only one-quarter (3/12) of these major studio films have been given wide release.

Whether or not MPAA applied a tobacco description was strongly dependent on whether or not the film was produced by an MPAA member company (Table 2). The chance of a tobacco descriptor being given to an MPAA-member’s youth-rated film with tobacco content was only 26 percent (9/34 MPAA-member films with tobacco rated). The chance of an indie film with known tobacco content getting a tobacco descriptor from the MPAA was much higher, 81 percent (21/26 independent films with tobacco rated). The difference in application of tobacco descriptors is highly statistically significant ($P < .0005$).¹

The MPAA’s practice in applying tobacco descriptors is also strongly related to whether a film being reviewed was destined for national release on thousands of screens (“wide release”) or

¹ $P < .001$ means that there is less than 5 chances in 10,000 that the difference in applying tobacco descriptors is unrelated to the studio’s MPAA member status.

for limited release or release on video. Only 12 percent (4/34) of youth-rated films with tobacco content slated for wide release received tobacco descriptors, while 90 percent (26/29) of all films getting tobacco descriptors were given limited release or dumped straight to video. This difference is highly statistically significant ($P<.0005$).

There does not appear to be any relationship between the amount or nature of smoking or other tobacco use in a film and whether MPAA applies a tobacco descriptor (Appendix II.c). For example, the MPAA rated *1408* (PG-13: Weinstein) and *Definitely, Maybe* (PG-13: GE) within two weeks of each other and both movies featured more than 50 tobacco incidents. *Definitely, Maybe* received a tobacco descriptor and *1408* did not. In theaters, the labeled film delivered 450 million tobacco impressions; the unlabeled film delivered 1.5 billion impressions. More than half (53 percent, 19/36) of films given tobacco descriptors included the terms “incidental smoking,” “brief smoking” or “momentary smoking.” At the same time, nearly half (48 percent, 14/29) of the youth-rated films with smoking *not* given tobacco descriptors after May 10, 2007 each featured ten or more tobacco incidents, including two PG-13 films with more than 100 incidents.

Since May 10, 2007 about one-tenth of tobacco impressions delivered to theater audiences have come from films carrying an MPAA tobacco descriptor in its rating: 630 million impressions were delivered by labeled films compared to the 6.6 billion impressions delivered by unlabeled films rated and released in the same time period.

Table 2 | Youth-rated films with known tobacco content, rated May 10, 2007-May 9, 2008, by company type and release size

Company type	Release size	Films Released	With tobacco descriptors	% with descriptors
MPAA member ("major studio")	National	28	3	26% (9/34)
	Limited or direct to video	6	6	
Non-MPAA member ("independent")	National	6	1	81% (21/26)
	Limited or direct to video	20	20	

Arbitrary application makes the MPAA’s tobacco descriptors unreliable and even misleading, if parents and the larger public presume that the vast majority of films *without* tobacco descriptors, showing at their local theaters, are tobacco-free. In fact, 58 percent (39/67) of all top box office PG-13 films released from May 2007 to May 2008 featured tobacco imagery, as did 80 percent of R-rated films (43/54).

The record indicates that the MPAA has ignored the expert advice it solicited from the Harvard School of Public Health (HSPH) in late February 2007, prior to announcing its new ratings treatment of tobacco imagery:

What’s needed is a movie ratings policy that creates an incentive for filmmakers to consider, and worry about, the depiction of smoking as a factor in the determination of a

film's rating. As [HSPH] Dean Bloom underscored, the goal should be the elimination (with rare exceptions) of smoking from youth-rated films.²

In contrast to the vague wording and arbitrary application of the MPAA's current tobacco rating policy, health authorities worldwide endorse a policy to rate all future smoking movies "R" with two categorical exceptions: depictions of the dire health consequences of tobacco use and depictions necessary to represent the tobacco use of a real historical figure. The R-rating would create a market disincentive for producers to include smoking in films that would otherwise be rated for more general audiences, G/PG/PG-13; consequently, they would calibrate tobacco content in films as they now calibrate violence, sexual imagery, and language — content treated much more consistently in MPAA ratings.

Appearance of tobacco on screen since May 10, 2007

It is unlikely that the MPAA's rating announcement on May 10, 2007 has affected the appearance of smoking on screen because of its limited and inconsistent application and MPAA's failure to rate even a single film "R" for smoking or other tobacco use. Several studios, however, have announced that they would monitor smoking in their films. To see if there has been any change in motion picture content or audience exposure, we compared the Top Ten box office movies each week — from May 10, 2007 to May 9, 2008 — with the same period in the four years 2003-6. We found several measures of smoking in youth-rated films (particularly PG-13) at five-year lows. Several of these results were "statistically significant," meaning that they were outside the range of random fluctuation during the previous four years.

Thumbs Up! Thumbs Down! has used trained monitors to score tobacco incidents in U.S. films since 1994. A tobacco incident is any image of tobacco use, tobacco product or brand in a scene; each cut of the imagery within a scene or re-entry into the frame is counted separately.³

The percentage of movies with smoking, the number of smoking incidents, and the resulting tobacco impressions delivered to audiences are the result of business decisions by the studios, including decisions to approve and finance certain production packages (including final screenplays, director and casting), to evaluate the market potential of the finished films, and then to schedule and support with advertising their releases in theaters or on video. These calculations vary from year to year and studio to studio, so that the aggregate numbers fluctuate.

The following statistics apply to all films that were among the Top Ten box office films for at least one week in the period *May 10, 2007–May 9, 2008* compared to the same period in the four preceding years, 2003-6:

² Winsten, J. The role of films in influencing young people's behavior. MPAA Meeting, 2/23/2007. <http://www.hsph.harvard.edu/mpaa/>

³ This definition of an "incident" differs from that used by Dartmouth and UCSF, which do not consider tobacco displayed in several "cuts" in a single scene as separate incidents. On average, the Thumbs Up! Thumbs Down! methodology yields 3.4 times as many incidents as Dartmouth and UCSF. Because this simple multiplier relates the two techniques, relative changes over time will be the same using both techniques.

Percentage of films with smoking

- For movies of **all ratings**, 61 percent of 2007-8 movies (94/155) included smoking. There was no substantial change from the frequency observed in the four years before May 10, 2007.
- 38 percent of 2007-8 **G/PG** movies (13/34) featured tobacco, no substantial change from the four previous years.
- 58 percent of 2007-8 **PG-13** films (39/67) featured tobacco imagery, no substantial change from the previous four years.
- 80 percent of 2007-8 **R-rated** films showed tobacco (43/54), no substantial change from the four previous years.

Smoking incidents

- The 94 films with tobacco imagery surveyed in 2007-8 showed 2,490 tobacco incidents, no substantial change from the four preceding years (average of 3,371 per year).
- 5 percent (120/2490) of 2007-8 tobacco incidents were found in **G/PG** movies, not substantially changed from the four preceding years.
- The 934 **PG-13** incidents in 2007-8 were significantly ($P=.017$) below the 1,308 average of the four preceding years: -29 percent. As a result, there is some evidence that youth-rated incidents also fell: -31 percent (from 1536 to 1054; $P=.10^4$)
- Since May 10, 2007, 42 percent of tobacco incidents (1054/2490) have been carried by movies **youth-rated** G/PG/PG-13, a rate substantially unchanged from the 2003-6 period (46 percent).

Tobacco impressions

Tobacco impressions, the sum of the products of tobacco incidents in each surveyed film multiplied by the paid admissions to that film, provide a measure of the public's actual exposure to tobacco imagery.⁵

- 47 percent of tobacco impressions delivered to theater audiences in the May 10, 2007-May 9, 2008 survey period came from **youth-rated** movies (8.7 billion/18.6 billion), an insubstantial change over the previous four years.

⁴ $P=.10$ means that there is a 1 in 10 chance that the observed change was just due to random year-to-year fluctuations. While not reaching conventional "statistical significance," this finding suggests a change.

⁵ Admissions = U.S. gross reported by IMDbPro.com / average ticket price per year (National Association of Theatre Owners). Average ticket price 2008 estimated at \$7.09. Box office grosses for 2008 films in theaters less than twelve weeks projected using the formulae in Appendix III.

- 2007-8 **G/PG** tobacco impressions are substantially unchanged from the 2003-6 period. Six percent of 2007-8 tobacco impressions were delivered by G/PG movies (1.1 billion/18.6 billion).
- **PG-13** tobacco impressions in 2007-8 (7.6 billion) are not substantially different from the previous four years. Of 2007-8 tobacco impressions, 41 percent were delivered by PG-13 films (7.6 billion/18.6 billion).
- **R-rated** tobacco impressions in 2007-8 were substantially unchanged from the same periods in 2003-6.

Box office

Data from publicly accessible databases indicates that the total of 1.3 billion paid admissions in the 2007-8 period was not substantially different from the average for the four preceding years (1.4 billion). Admissions to PG-13 films (685 million) also showed no substantial change from 2003-6 (747 million average).

Conclusions

Analysis of tobacco appearances and MPAA tobacco rating descriptors since the MPAA's May 10, 2007 announcement indicates that the trade group representing the major studios assigned only four tobacco descriptors to the thirty-three top box office, youth-rated films with smoking rated and released after that date — and none to the twenty-nine R-rated films with tobacco imagery.

Together, unlabeled top box office films with smoking rated G, PG, and PG-13 and released since May, 2007 have delivered 6.6 billion tobacco impressions to theater audiences since while films with descriptors delivered one-tenth as many. In a full year, the MPAA has not elevated the rating of a single film released to theaters because of its smoking content.

The MPAA tended to award tobacco descriptors employing the terms “some,” “brief,” “incidental,” and “momentary” to films destined for limited release or going straight to video — while failing to label smoking in youth-rated films with more than 100 tobacco incidents opening on thousands of screens nationwide. The MPAA is significantly more likely to apply a tobacco descriptor to independent films than films produced and distributed by its member companies. Otherwise, the application of the descriptor appears arbitrary and unrelated of film content.

Given the evidence that the MPAA has not, in fact, implemented a more inclusive or aggressive rating policy on smoking and has spared all but one youth-rated movie with smoking in which MPAA member companies were prepared to invest large promotional budgets, it is highly unlikely that the statistically detectable decline in PG-13 tobacco incidents in 2007-8 is directly connected to the MPAA's activities.

Rather, a number of major studios under sustained pressure from several directions appear to be starting to take steps to discourage smoking in at least some films, independent of their trade group's arbitrary and ineffectual tobacco labeling program. The 30 percent drop in PG-13 tobacco incidents in 2007-8 compared to earlier years shows that it is possible to reduce smoking in youth rated films with no effect on box office success.

Two caveats: First, this drop, while important, still leaves the other 70 percent of PG-13 rated tobacco imagery on screen. Second, tobacco content monitors observed a similar, statistically detectable decline in the 1998-1999 period; the numbers rebounded within two years.

This result points to the ineffectiveness and potential for abuse of a vague tobacco rating policy. It also highlights the utility and feasibility of an industry-wide policy that creates a level playing field and institutionalizes reductions in on-screen smoking in movies that adolescents see most. Rating smoking in future movies “R” would lead to a more substantial drop in adolescent exposure to on-screen tobacco imagery and make certain the public health gain is not temporary.

Appendix I: Data tables**Top Box Office Movies Released, May 2003-May 2008**

	Total	G/PG	PG-13	R-rated	Y-rated	Percent
2003-4	138	25	70	43	95	68.8%
2004-5	134	30	68	36	98	73.1%
2005-6	156	37	73	46	110	70.5%
2006-7	160	38	66	56	104	65.0%
2007-8	155	34	67	54	101	65.2%

Movies with Tobacco Imagery

	Total	G/PG	PG-13	R-rated	Y-rated	Percent
2003-4	101	9	54	38	63	62.4%
2004-5	95	12	47	36	59	62.1%
2005-6	101	13	44	44	57	56.4%
2006-7	112	10	46	56	56	50.0%
2007-8	94	13	39	43	52	54.7%

Paid Admissions (millions)

	Total	G/PG	PG-13	R-rated	Y-rated	Percent
2003-4	1461	287	716	457	1004	68.7%
2004-5	1340	377	733	230	1110	82.8%
2005-6	1485	370	859	257	1229	82.7%
2006-7	1309	343	680	286	1023	78.2%

Tobacco Incidents

	Total	G/PG	PG-13	R-rated	Y-rated	Percent
2003-4	2802	99	1265	1438	1364	48.7%
2004-5	2744	133	1391	1220	1524	55.5%
2005-6	3692	458	1339	1895	1797	48.7%
2006-7	4245	221	1237	2787	1458	34.3%
2007-8	2490	120	934	1436	1054	42.3%

Tobacco Impressions (millions)

	Total	G/PG	PG-13	R-rated	Y-rated	Percent
2003-4	25385	840	12665	11880	13505	53.2%
2004-5	23518	1890	15082	6546	16972	72.2%
2005-6	30576	2349	20621	7606	22970	75.1%
2006-7	24990	1018	12409	11563	13427	53.7%
2007-8	18586	1123	7567	9896	8690	46.8%

Appendix II: Film Lists

II.a | Top box office movies released May 10, 2007–May 9, 2008, each delivering 500 million+ tobacco impressions

2003-4

2 Fast 2 Furious (PG-13)
 Something's Gotta Give (PG-13)
 Hellboy (PG-13)
 Mona Lisa Smile (PG-13)
 Matchstick Men (PG-13)
 Starsky and Hutch (PG-13)*
 Seabiscuit (PG-13)*
 Lord of the Rings (PG-13)*
 Open Range (R)
 Mystic River (R)
 Monster (R)
 Bad Santa (R)
 Ladykillers, The (R)
 Matrix Revolutions, The (R)
 Kill Bill, Vol. 2 (R)
 Last Samurai, The (R)*
 Bad Boys II (R)*
 Man on Fire (R)*

2004-5

The Incredibles (PG)
 White Chicks (PG-13)
 Be Cool (PG-13)
 Ocean's Twelve (PG-13)*
 Anchorman (PG-13)*
 Spider-Man 2 (PG-13)*
 Aviator, The (PG-13)*
 Ray (PG-13)*
 Closer (R)
 Constantine (R)
 Sin City (R)*

2005-6

Good Night, and Good Luck (PG)
 The Dukes of Hazzard (PG-13)
 Walk the Line (PG-13)
 Memoirs of a Geisha (PG-13)*
 Cinderella Man (PG-13)*
 ATL (PG-13)*
 Bad News Bears (PG-13)*
 King Kong (PG-13)*
 Longest Yard, The (PG-13)*
 Inside Man (R)

Munich (R)
 Brokeback Mountain (R)

2006-7

Rocky Balboa (PG)
 Superman Returns (PG-13)
 Spider-Man 3 (PG-13)
 You, Me and Dupree (PG-13)*
 Dreamgirls (PG-13)*
 Ghost Rider (PG-13)*
 Idlewild (R)
 Zodiac (R)
 Flags of Our Fathers (R)
 Black Dahlia, The (R)
 Hollywoodland (R)
 Good Shepherd, The (R)
 Blood Diamond (R)*
 Departed, The (R)*

2007-8

Hairspray (PG)
 Simpsons Movie, The (PG-13)
 Iron Man (PG-13)*
 1408 (PG-13)*
 Superbad (R)
 Atonement (R)
 Charlie Wilson's War (R)*
 American Gangster (R)*

* Delivered >1 billion tobacco impressions.

Note:

49% (27/55) of films in this list are youth-rated; 70% (19/27) of the films delivering more than a billion tobacco impressions are youth-rated.

Of the 2007-8 films listed here, only *Hairspray* was given a tobacco descriptor, under the MPAA's rarely applied "underage smoking" policy superseded by the May 10, 2007 announcement. The three PG-13 films were all rated and released without tobacco descriptors after May 10.

II.b | Top box office movies released May 10, 2007-May 9, 2008, with 100+ tobacco incidents

2003-4

Matchstick Men (PG-13)
Monster (R)
The Ladykillers (R)

2004-5

Anchorman (PG-13)
Aviator, The (PG-13)
Ray (PG-13)
Alfie (R)
Kung Fu Hustle (R)
Closer (R)
Sin City (R)

2005-6

Good Night, and Good Luck (PG)
Cinderella Man (PG-13)
King Kong (PG-13)
Longest Yard, The (PG-13)
Memoirs of a Geisha (PG-13)
Domino (R)
Matador, The (R)
Two for the Money (R)
Waiting (R)

2006-7

Dreamgirls (PG-13)
Ghost Rider (PG-13)
You, Me and Dupree (PG-13)
Alpha Dog (R)
Black Dahlia, The (R)
Black Snake Moan (R)
Blood Diamond (R)
Departed, The (R)
Flags of Our Fathers (R)
Hollywoodland (R)
Idlewild (R)
Running with Scissors (R)
Smokin' Aces (R)
Zodiac (R)

2007-8

1408 (PG-13)
Balls of Fury (PG-13)
Definitely, Maybe (PG-13)
Leatherheads (PG-13)
American Gangster (R)
Atonement (R)
Charlie Wilson's War (R)
We Own the Night (R)

Note: Of the 2007-8 films, only *Definitely, Maybe* carried a tobacco descriptor

II.c | Top box office films released May 10, 2007-May 9, 2008

(Films with tobacco imagery rated by the MPAA after May 10, 2007 are highlighted)

TITLE	Company	When Rated	When Released	Rating	Tobacco Descriptor?	Smoking?	Tobacco Incidents
College Road Trip	Disney	1/30/07	3/7/08	G		N	0
Hannah Montana	Disney	1/9/08	2/1/08	G		N	0
Horton Hears a Who	News Corp.	2/20/08	3/14/08	G		N	0
Ratatouille	Disney	5/2/07	6/29/07	G		N	0
Mr. Magorium's Wonder Emporium	News Corp.	9/5/07	11/16/07	G		N	0
Pirates Who Don't Do Anything	GE	8/29/07	1/11/08	G		N	0
Mr. Bean's Holiday	GE	6/13/07	8/24/07	G	N	Y	1-9
Alvin and the Chipmunks	News Corp.	10/24/07	12/14/07	PG		N	0
Bratz: The Movie	Lionsgate	7/18/07	8/3/07	PG		N	0
Daddy Day Camp	Sony	4/18/07	8/8/07	PG		N	0
Enchanted	Disney	6/20/07	11/21/07	PG		N	0
Evan Almighty	GE	4/11/07	6/22/07	PG		N	0
Fantastic Four...Surfer	News Corp.	6/6/07	6/15/07	PG		N	0
Fred Claus	Time Warner	8/15/07	11/9/07	PG		N	0
Game Plan, The	Disney	6/6/07	9/28/07	PG		N	0
Nightmare Before Christmas in 3-D	Disney	ND	10/19/07	PG		N	0
Nim's Island	News Corp.	2/6/08	4/4/08	PG		N	0
Perfect Holiday, The	Yari	9/26/07	12/12/07	PG		N	0
Seeker: The Dark Is Rising	News Corp.	9/19/07	10/5/07	PG		N	0
Shrek the Third	Viacom	3/14/07	5/18/07	PG		N	0
Spiderwick Chronicles, The	Viacom	9/26/07	2/14/08	PG		N	0
Surf's Up	Sony	3/21/07	6/8/07	PG		N	0
August Rush	Time Warner	10/4/06	11/21/07	PG		Y	1-9
Bee Movie	Viacom	9/26/07	11/2/07	PG	N(1)	Y	1-9
Expelled	Rocky Mtn	2/13/08	4/18/08	PG	Y	Y	1-9
Hairspray	Time Warner	4/4/07	7/20/07	PG	Y(2)	Y	30-49
Martian Child	Time Warner	8/23/06	11/2/07	PG		Y	1-9
Nancy Drew	Time Warner	9/20/06	6/15/07	PG		Y	1-9
National Treasure 2	Disney	11/7/07	12/21/07	PG	N	Y	1-9
No Reservations	Time Warner	1/3/07	7/27/07	PG		Y	10-29
Penelope	Summit	4/18/07	2/29/08	PG		Y	10-29
Speed Racer	Time Warner	4/23/08	5/9/08	PG	Y(3)	Y	1-9
Underdog	Disney	3/14/07	8/3/07	PG		Y	1-9
Water Horse, The	Sony	10/17/07	12/25/07	PG	Y(4)	Y	10-29
10,000 B.C.	Time Warner	10/3/07	3/7/08	PG-13		N	0
27 Dresses	News Corp.	12/5/07	1/18/08	PG-13		N	0
Baby Mama	GE	3/12/08	4/25/08	PG-13	N	Y	1-9
Beowulf	Viacom	10/10/07	11/16/07	PG-13		N	0
Bourne Ultimatum, The	GE	7/25/07	8/3/07	PG-13		N	0
Cloverfield	Viacom	12/18/07	1/18/08	PG-13		N	0
Dan in Real Life	Disney	5/23/07	10/26/07	PG-13		N	0

Dragon Wars: D-War	Freestyle	6/6/07	9/14/07	PG-13	N	0
Forbidden Kingdom, The	Lionsgate	2/20/08	4/18/08	PG-13	N	0
Golden Compass, The	Time Warner	11/28/07	12/7/07	PG-13	N	0
Harry Potter...Phoenix	Time Warner	5/16/07	7/11/07	PG-13	N	0
I Am Legend	Time Warner	12/5/07	12/14/07	PG-13	N	0
Invasion, The	Time Warner	4/18/07	8/17/07	PG-13	N	0
Jumper	News Corp.	12/18/07	2/14/08	PG-13	N	0
License to Wed	Time Warner	4/25/07	7/3/07	PG-13	N	0
Live Free or Die Hard	News Corp.	6/20/07	6/27/07	PG-13	N	0
Mad Money	Overture	10/24/07	1/18/08	PG-13	N	0
Meet the Spartans	News Corp.	12/12/07	1/25/08	PG-13	N	0
Never Back Down	Summit	1/30/08	3/14/08	PG-13	N	0
Other Boleyn Girl, The	GE	12/5/07	2/29/08	PG-13	N	0
Pirates of the Caribbean 3	Disney	4/4/07	5/25/07	PG-13	N	0
Prom Night	Sony	12/5/07	4/11/07	PG-13	N	0
Shutter	News Corp.	11/28/07	3/21/08	PG-13	N	0
Step Up 2 the Streets	Disney	1/9/08	2/14/08	PG-13	N	0
Sydney White	GE	7/3/07	9/21/07	PG-13	N	0
Transformers	Viacom	6/20/07	7/3/07	PG-13	N	0
Vantage Point	Sony	1/9/08	2/22/08	PG-13	N	0
Welcome Home, Roscoe Jenkins	GE	11/20/07	2/8/08	PG-13	N	0
What Happens in Vegas	News Corp.	4/23/08	5/9/08	PG-13	N	0
Why Did I Get Married?	Lionsgate	8/29/07	10/12/07	PG-13	N	0
21	Sony	12/5/07	3/28/08	PG-13	N	Y 10-29
1408	Weinstein	6/6/07	6/22/07	PG-13	N	Y 50+
Across the Universe	Sony	1/3/07	9/14/07	PG-13		Y 50+
Balls of Fury	GE	12/20/06	8/29/07	PG-13		Y 50+
Be Kind Rewind	Time Warner	8/1/07	2/22/08	PG-13	N	Y 10-29
Bucket List, The	Time Warner	8/8/07	1/11/08	PG-13	N	Y 10-29
Comebacks, The	News Corp.	6/20/07	10/19/07	PG-13	N	Y 1-9
Definitely, Maybe	GE	5/23/07	2/14/08	PG-13	Y	Y 50+
Delta Farce	Lionsgate	1/10/7	5/11/07	PG-13		Y 1-9
Drillbit Taylor	Viacom	12/18/07	3/21/08	PG-13	N	Y 1-9
Elizabeth: The Golden Age	GE	3/21/07	10/12/07	PG-13		Y 1-9
Evening	GE	3/14/07	6/29/07	PG-13		Y 10-29
Eye, The	Lionsgate	12/5/07	2/1/08	PG-13	N	Y 1-9
Feel the Noise	Sony	7/25/07	10/5/07	PG-13	N	Y 10-29
First Sunday	Sony	12/5/07	1/11/08	PG-13	N	Y 1-9
Fool's Gold	Time Warner	11/7/07	2/8/08	PG-13	N	Y 1-9
Gracie	Time Warner	3/28/07	6/1/07	PG-13		Y 10-29
Hot Rod	Viacom	7/3/07	8/3/07	PG-13	N	Y 1-9
Iron Man	Viacom	4/9/08	5/2/08	PG-13	N	Y 30-49
I Now Pronounce You Chuck...Larry	GE	6/20/07	7/20/07	PG-13	N	Y 1-9
Juno	News Corp.	8/22/07	12/5/07	PG-13	N	Y 10-29
Leatherheads	GE	12/5/07	4/4/08	PG-13	N	Y 50+
Made of Honor	Sony	4/9/08	5/2/08	PG-13	N	Y 1-9
Meet the Browns	Lionsgate	1/23/08	3/21/08	PG-13	N	Y 1-9

Mr. Woodcock	Time Warner	2/14/07	9/14/07	PG-13		Y	10-29
Nanny Diaries	Weinstein	3/7/07	8/24/07	PG-13		Y	1-9
Ocean s Thirteen	Time Warner	3/21/07	6/8/07	PG-13		Y	10-29
One Missed Call	Time Warner	7/11/07	1/4/08	PG-13	N	Y	10-29
P.S. I Love You	Time Warner	8/8/07	12/21/07	PG-13	N	Y	1-9
Rush Hour 3	Time Warner	6/13/07	8/10/07	PG-13	N	Y	10-29
Sicko	Lionsgate	5/16/07	6/22/07	PG-13	N	Y	1-9
Simpsons Movie, The	News Corp.	5/30/07	7/27/07	PG-13	N	Y	10-29
Stardust	Viacom	4/4/07	8/10/07	PG-13		Y	1-9
Superhero Movie	Sony	3/12/08	3/28/08	PG-13	N	Y	1-9
This Christmas	Sony	11/14/07	11/21/07	PG-13	N	Y	10-29
Under the Same Moon	Weinstein	7/18/07	3/21/08	PG-13	N	Y	10-29
Waitress	News Corp.	3/28/07	5/2/07	PG-13		Y	10-29
Who's Your Caddy	Sony	6/6/07	7/27/07	PG-13	N	Y	50+
R-rated films							
28 Weeks Later	News Corp.	4/4/07	5/11/07	R		N	0
30 Days of Night	Sony	7/25/07	10/19/07	R		N	0
88 Minutes	Sony	2/21/07	4/18/08	R		N	0
Alien vs Predator (AVPR)	News Corp.	9/5/07	12/25/07	R		N	0
Forgetting Sarah Marshall	GE	1/9/08	4/18/08	R		N	0
Good Luck Chuck	Lionsgate	8/22/07	9/21/07	R		N	0
Lions for Lambs	Sony	9/26/07	11/9/07	R		N	0
P2	Summit	> 4/07	11/9/07	R		N	0
Ruins, The	Viacom	1/30/08	4/4/08	R		N	0
Untraceable	Sony	10/10/07	1/25/08	R		N	0
3:10 to Yuma	Lionsgate	7/18/07	9/7/07	R	N	Y	1-9
American Gangster	GE	4/4/07	11/2/07	R		Y	50+
Atonement	GE	2/28/07	12/7/07	R		Y	50+
Awake	Sony	2006	11/30/07	R		Y	10-29
Bank Job, The	Lionsgate	11/14/07	3/7/08	R	N	Y	50+
Brave One, The	Time Warner	7/11/07	9/14/07	R	N	Y	30-49
Bug	Lionsgate	2005	5/25/07	R		Y	30-49
Charlie Wilson's War	GE	12/5/07	12/21/07	R	N	Y	50+
Death Sentence	News Corp.	5/2/07	8/31/07	R		Y	30-49
Deception	News Corp.	> 7/07	4/25/08	R	N	Y	10-29
Doomsday	GE	1/9/08	3/14/08	R	N	Y	30-49
Eastern Promises	GE	8/1/07	9/14/07	R	N	Y	50+
Georgia Rule	GE	> 11/06	5/11/07	R		Y	1-9
Gone Baby Gone	Disney	3/28/07	10/19/07	R		Y	1-9
Halloween	Weinstein	8/22/07	8/31/07	R	N	Y	10-29
Harold & Kumar: Guantanamo	Time Warner	4/9/08	4/25/08	R	N	Y	1-9
Heartbreak Kid, The	Viacom	8/1/07	10/5/07	R	N	Y	1-9
Hitman	News Corp.	11/20/07	11/21/07	R	N	Y	30-49
Hostel: Part II	Lionsgate	5/9/07	6/8/07	R		Y	10-29
I Know Who Killed Me	Sony	6/6/07	7/27/07	R	N	Y	30-49
Kingdom, The	GE	6/13/07	9/28/07	R	N	Y	10-29

Knocked Up	GE	1/31/07	6/1/07	R		Y	1-9
Love in the Time of Cholera	Time Warner	6/13/07	11/16/07	R	N	Y	30-49
Michael Clayton	Time Warner	11/15/06	10/5/07	R		Y	10-29
Mighty Heart, A	Viacom	4/25/07	6/22/07	R		Y	10-29
Mist, The	Sony	10/17/07	11/21/07	R	N	Y	1-9
Mr. Brooks	Sony	3/7/07	6/1/07	R		Y	1-9
No Country for Old Men	Disney	5/16/07	11/16/07	R	N	Y	1-9
Rambo	Lionsgate	10/17/07	1/25/08	R	N	Y	10-29
Rendition	Time Warner	10/3/07	10/19/07	R	N	Y	10-29
Resident Evil: Extinction	Sony	7/11/07	9/21/07	R	N	Y	1-9
Saw IV	Lionsgate	8/29/07	10/26/07	R	N	Y	1-9
Shoot 'Em Up	Time Warner	9/5/07	9/7/07	R	N	Y	1-9
Semi-Pro	Time Warner	2/27/08	2/29/08	R	N	Y	30-49
Smart People	Disney	6/27/07	4/11/08	R	N	Y	10-29
Superbad	Sony	4/4/07	8/17/07	R		Y	30-49
Stop-Loss	Viacom	9/5/07	3/28/08	R	N	Y	10-29
Street Kings	News Corp.	2008	4/11/08	R	N	Y	10-29
Sweeney Todd	Viacom	10/10/07	12/21/07	R	N	Y	1-9
There Will Be Blood	Viacom	6/20/07	12/25/07	R	N	Y	50+
Walk Hard	Sony	11/14/07	12/21/07	R	N	Y	10-29
War	Lionsgate	7/18/07	8/24/07	R	N	Y	30-49
We Own the Night	Sony	5/2/07	10/12/07	R		Y	50+

(1) *Bee Movie* was rated 9/5/07: "Rated PG for mild suggestive humor, and a brief depiction of smoking." Amended 9/26/07: "Rated PG for mild suggestive humor." (Tobacco descriptor removed from original rating determination.)

(2) *Hairspray* was rated before 5/10/07 on the basis of MPAA's rarely invoked "underage" smoking standard, now superceded.

(3) *Speed Racer* rated 4/16/08: "Rated PG for sequences of action, some violence and language." Amended 4/23/08: "Rated PG for sequences of action, some violence, language and brief smoking." (Tobacco descriptor added to original rating determination.)

(4) *Water Horse* was rated 6/6/07: "Rated PG for mild action/violence, some language and smoking." Amended 10/27/07: "Rated PG for some action/peril, mild language and brief smoking." (Tobacco descriptor softened.)

Notes: Six youth-rated films with 50+ tobacco incidents and seven R-rated ones with 50+ tobacco incidents ranked among top box office films in this survey period. Only one of the four youth-rated films with 50+ incidents rated since May 10, 2007, received a tobacco descriptor.

Lionsgate and The Weinstein Company are the two largest non-MPAA member companies.

The R-rating policy would exempt depictions of dire consequences of tobacco use and of actual historical characters that smoked. The latter exception would apply to documentaries.

II.d | Films given tobacco descriptors by the MPAA May 10, 2007–May 9, 2008

(n = 36) MPAA member companies' releases are highlighted.

TITLE	Company	Origin	Date Rated	Release Date	Release Type	Rating	Tobacco Descriptor	US Gross
Caramel	Roadside Attractions	France/Lebanon	10/10/7	2/1/08	Limited	PG	"some smoking"	\$1 million
Closing Escrow	Magnolia	US	7/11/07	8/24/07	Limited, Video	PG	"incidental smoking"	\$6,000
CJ7	Sony	Hong Kong	1/23/08	3/7/08	Limited	PG	"brief smoking"	\$210,000
December Boys	Time Warner	Australia	6/6/07	9/14/07	Limited	PG-13	"underage... smoking"	\$46,000
Deep Water (doc)	IFC	UK	8/1/07	8/24/07	Limited	PG	"incidental smoking"	\$260,000
Definitely, Maybe	GE	US	5/23/07	2/14/08	Wide	PG-13	"smoking"	\$31.9 million
Expelled (doc)	Rocky Mountain	US	2/13/08	4/18/08	Limited	PG	"brief smoking"	\$7.5 million
Final Season, The	Yari	US	8/22/07	10/12/07	Limited	PG	"some teen smoking"	\$1.1 million
Grace is Gone	Weinstein	US	9/19/07	12/7/07	Limited	PG-13	"teen smoking"	\$50,000
Guarding Eddy (2005)	Imageworks	US	6/13/07	8/28/07	Video	PG	"brief smoking"	ND
In the Shadow of the Moon (doc)	ThinkFilm	US	6/13/07	9/7/07	Limited	PG	"incidental smoking"	\$1.1 million
Lisbon Story (1994)	Fox Lorber	Germany/Portugal	9/12/07	11/20/07	Video	PG	"brief smoking"	ND
List, The	Level Path	US	7/25/07	8/10/07	Limited	PG	"brief incidental smoking"	\$140,000
Luna: Spirit of the Whale	Trinity	Canada	8/29/07	11/20/07	Video	PG	"brief teen smoking"	ND
My Blueberry Nights	Sony	Hong Kong/China/France	3/19/08	4/4/08	Limited	PG-13	"smoking"	\$700,000 (est)
Naming Number Two	Cyan	New Zealand	7/3/07	7/27/07	Limited	PG	"smoking"	ND
Randy and the Mob	Capricorn	US	8/8/07	9/21/07	Limited	PG	"momentary smoking"	\$45,000
Return with Honor	Exel	US	8/1/07	9/14/07	Limited	PG	"brief smoking"	\$102,000
Rocket, The (2005)	Palm	Canada	8/22/07	11/30/07	Video	PG	"historical smoking throughout"	ND

Run, Fat Boy, Run	Time Warner	UK	6/13/07	3/28/08	Limited	PG	"smoking"	\$6 million
Saawariya	Sony	India	10/17/07	11/9/07	Limited	PG	"incidental smoking"	\$885,000
Sharkwater (doc)	Freestyle	Canada	8/15/07	9/28/07	Limited	PG	"some smoking"	\$30,000
Saving Sarah Cain	News Corp.	US	6/20/07	8/19/07	Cable > Video	PG	"brief teen smoking"	ND
Sea of Dreams	Success	Mexico	8/22/07	9/21/07	Limited	PG	"incidental smoking"	<\$50,000
Speed Racer	Time Warner	US	4/23/08	5/9/08	Wide	PG	"brief smoking"	\$48 million (proj)
Water Horse, The	Sony	US	10/17/07	12/25/07	Wide	PG	"brief smoking"	\$40.4 million

No confirmed release:

American Teen (doc)	Viacom	US	4/9/08	7/25/08	ND	PG-13	"brief smoking... involving teens"	ND
California Dreaming	MTI	US	12/5/07	ND	Video	PG	"smoking"	ND
Christmas Cottage	Lionsgate	US	9/26/07	ND	Video	PG	"smoking"	ND
Doubting Thomas	Kosmic	Australia	1/9/08	ND	ND	PG	"brief smoking"	ND
Star Wars: The Clone Wars (anim)	Time Warner	US	5/7/08	8/15/08	ND	PG	"momentary smoking"	ND
Sister Aimee	Maverick	US	2/20/08	ND	Video	PG	"smoking"	ND
Stone of Destiny	Arclight	Canada/UK	4/2/08	ND	ND	PG	"incidental smoking"	ND
Welcome to Paradise	First Look	US	7/11	10/2007	ND	PG	"teen smoking"	ND
Women, The	Time Warner	US	5/7/08	9/12/08	ND	PG-13	"brief smoking"	ND
Year My Parents Went on Vacation, The	City Lights	Brazil	3/19/08	ND	ND	PG	"smoking"	ND

Notes: 72% of films given tobacco descriptors since 5/10/07 (26/36) have been released either to a limited number of screens or direct to video. 8% (3/36) were given wide release and release plans for 19% (7/36) are unknown. Major studios and large independents

commonly know how they plan to release a film (wide, limited or straight to video) before it is submitted to MPAA for age classification.

Of releases given tobacco descriptors, 44% (16/36) were produced outside the U.S.

83% (30/36) of the releases given tobacco descriptors were rated G or PG; 17% (6/36) were rated PG-13. Overall, 90% (26/29) of youth-rated films known to feature tobacco imagery but NOT given a tobacco descriptor were rated PG-13 and 10% (3/29) were rated G or PG.

64% (23/36) of the descriptors refer to "some," "brief," "momentary" or "incidental" smoking. 19% (7/36) refer to "teen" or "underage" smoking.

Where theatrical box office has been recorded, films given tobacco descriptors delivered a total of 628.3 million tobacco impressions. Top box office, youth-rated movies with smoking, rated and released in the same period but not given tobacco descriptors, delivered 6.57 billion tobacco impressions — more than ten times as many.

Fox Lorber is a video distributor unrelated to 20th Century Fox or to News Corp., 20th Century Fox's parent company.

Appendix III: Projecting theatrical box office

To calculate tobacco impressions, total box office was projected for 2008 films with fewer than 12 weeks of data reported at the time of analysis, based on results from 2006. Seven cases required the formula for films reporting more than \$5 million in box office at Week 2, and 22 cases at Week 4. The table below reports the method's reliability:

Box office at Week #	Predicted final box office receipts, B (\$mil) W4 = 4 week box office (\$mil) W2 = 2 week box office (\$mil)	Media Residual Inter-Quartile Range (\$mil)	N	R ²
>= \$5 million				
4 weeks	$B = \text{EXP}(-0.0573 + 1.04 \cdot \text{LN}(W4))$	1.21 (0.38-2.94)	34	0.933
2 weeks	$B = \text{EXP}(0.153 + 1.09 \cdot \text{LN}(W2))$	3.21 (1.6-7.5)	34	0.966

