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Authors

Polansky, Jonathan

Titus, Kori

Glantz, Stanton A., Ph.D.

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Two years later:

**Are MPAA's tobacco labels
protecting movie audiences?**

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

Jonathan R. Polansky

Onbeyond LLC

Kori Titus, MBA

Breathe California of Sacramento-Emigrant Trails

Stanton A. Glantz, PhD

University of California, San Francisco

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EXECUTIVE SUMMARY

In the two years (May 10, 2007-May 10, 2009) 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” — in the explanatory labels associated with each MPAA rating — to most youth-rated movies with smoking rated by the MPAA and released to theaters nationwide. Since May 10, 2007 only 12 percent (10/84) of youth-rated, top box office films with tobacco imagery received MPAA tobacco descriptors. Only 7 percent (10/149) of all top box office films with tobacco content, including R-rated films, received descriptors.

Percentage of movies with smoking: Of the movies that achieved “Top Ten” box office ranking for at least a week, released in the two years after the MPAA’s May 10, 2007 announcement, 60 percent (181/301) have featured tobacco including:

- 22 percent of G and PG movies (15/67)
- 64 percent of PG-13 movies (87/135)
- 80 percent of R-rated movies (79/99).

In all, 56 percent (102/181) of the top box office movies with smoking released May 2007-May 2009 were youth-rated G, PG or PG-13. In 2008-9, only 6 percent (2/32) of top box office films rated G/PG featured tobacco imagery. This is a drop from the previous five years. However, it makes no substantial difference to young people’s exposure to on-screen smoking because, historically, there have been few G/PG films and these films have included little tobacco imagery.

MPAA’s use of tobacco descriptors: Of the 75 tobacco descriptors the MPAA assigned to films after May 10, 2007, 87 percent (65/75) went to PG and PG-13 films subsequently given limited or no US distribution or sent straight to video; 13 percent (10/75) were assigned to movies given wide distribution to US theaters. (None of the 65 movies with smoking rated “R” and released after May 10, 2007 were tobacco-labeled.)

Seventy-five percent of the 18 billion youth-rated tobacco impressions delivered to theater audiences by films rated and released since May 10, 2007 came from films *without* MPAA tobacco descriptors. Fewer than half (4/10) of PG-13 films featuring >50 tobacco incidents were given MPAA tobacco descriptors. No youth-rated films with tobacco distributed by Disney and News Corp. (Fox) carried a tobacco descriptor. No youth-rated, top box office film with tobacco brand display (n=5) was assigned a descriptor.

Conclusion: The MPAA’s rating “consideration” of tobacco content since May 2007 gives neither consumers nor the film industry predictable, evidence-based rating consequences for tobacco images in youth-rated films. There is no evidence that tobacco descriptors, even if they were to be consistently applied in the future, would directly or indirectly alter industry practice or reduce adolescent risk. An industry-wide set of uniform policies, including a binding R-rating for future on-screen tobacco, is required for substantial and permanent reductions in on-screen tobacco exposure.

The MPAA's policy

Smoking in motion pictures has been clearly demonstrated to stimulate adolescents and young adults to smoke; the more smoking in the movies adolescents and young adults see, the more likely they are to smoke. Because US films have a high tobacco incidence and adolescents comprise the biggest theater audience for movies, the public health effect is large. In response to this scientific evidence, since 2002 a growing number of health organizations and agencies have called on the six studios that the Motion Picture Association of America (MPAA) represents, to modernize its voluntary rating system to discourage smoking in youth-rated (G/PG/PG-13) films by rating future movies with tobacco imagery use "R." This policy would reduce youth exposure by about half, preventing approximately 200,000 adolescents from starting to smoke each year.

On May 1, 2007, Maryland's Office of Attorney General (speaking for thirty-one other AGs across the United States) wrote the MPAA:

We urge the MPAA and its member companies to fulfill this commitment to implement the [Harvard School of Public Health] recommendation to eliminate depiction of smoking from films accessible to children and youth. There is simply no justification for further delay.

On May 10, 2007, the MPAA publicly announced that it would "now" start "considering" tobacco in its film rating system but it explicitly rejected what it termed an "automatic R." The MPAA's policy announcement 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 two years since May 10, 2007 there is no evidence that the MPAA has increased the rating of any film to "R" or even to PG-13 because of its 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, not distributed to theaters, debuted on cable and was released on video in January 2008).

Between May 10, 2007 and May 10, 2009, 102 youth-rated (G, PG, PG-13) films with smoking achieved Top Ten box office status in any week ("top box office") in

nationwide release (Appendix 1). Eighty-four of these films received their MPAA rating after the MPAA's May 10, 2007 announcement. Of these, only 12 percent (10/84) were given a tobacco descriptor in their MPAA ratings: 50 percent (4/8) of G/PG films with tobacco imagery) and 8 percent (6/76) of PG-13 films with tobacco imagery.

None of the 65 R-rated, top box office films with smoking rated by the MPAA and released after May 10, 2007 carried tobacco descriptors. In all, the MPAA added tobacco descriptors to 7 percent (10/149) of youth- and R-rated films with tobacco imagery, rated by the MPAA after May 10, 2007 and released to theaters nationwide.

Of the 84 top box office, youth-rated films with smoking rated and released after May 10, 2007, 79 percent (66/84) were released by MPAA-member companies ("major studios"). Non-MPAA member companies ("independents") were more likely to see their youth-rated films with smoking, destined for national distribution, tagged for smoking: 33 percent (3/10) of independents' top box office PG-13 films with >10 tobacco incidents got a smoking descriptor, while 13 percent (4/30) of such films from MPAA members were given a smoking descriptor. Half of indie PG-13 films with >50 tobacco incidents received an MPAA smoking descriptor; one-third of such films distributed by major studios got the smoking descriptor.

Two MPAA member companies — Disney with three youth-rated top box office films featuring tobacco and News Corp. (Fox) with twelve — received no MPAA tobacco descriptors. GE (Universal) and Sony received two descriptors between them for 30 youth-rated top box office films with tobacco.¹ (Table 1).

TABLE 1 | Top box office, youth-rated films with tobacco imagery rated and released May 10, 2007-May 9, 2009, by company

	G/PG	(Tobacco Descriptor)	PG-13	(Tobacco Descriptor)	Youth-Rated Films with Tobacco	Percent with Tobacco Descriptor
Disney	1	0	2	0	3	0%
GE	2	0	12	1	14	7%
News Corp.	0	0	12	0	12	0%
Sony	1	1	15	0	16	6%
Time Warner	2	2	11	1	13	23%
Viacom	1	0	7	1	8	12%
Non-MPAA	1	1	17	3	18	22%
Total / %	8	50% (4/8)	76	8% (6/76)	84	12% (10/84)

Besides the ten top box office films discussed above, 65 other films were reviewed after May 10, 2007 by the MPAA and given tobacco descriptors (Appendix 2). All but one of these films are confirmed as having been given limited release, no US distribution or release only on DVD; the exception is possibly slated for wide release in October 2009. On average, the films in this sample given limited release to theaters earned less than \$650,000 at the box office, while the films in wide release each earned, on average, more than \$43 million.

The list of films given tobacco descriptors is weighted toward PG ratings. Among all youth-rated top box office films released May 2007-May 2009, 15 percent (15/102) are rated PG (none are rated "G"). Of those films given MPAA tobacco ratings, 75 percent (56/75) are PG. Sixteen percent of the PG-rated films with tobacco descriptors were

¹ In lieu of the MPAA's rating descriptors for smoking, GE (Universal) policy calls for a "health warning" in end credits and marketing materials for Universal's youth-rated films with "any" tobacco; e.g.: "This film contains depictions of tobacco consumption." (www.universalpictures.com/legal/tobacco/index.html) Consistent implementation has not been confirmed.

submitted for MPAA rating by major studios; 84 percent were submitted by independents. Overall, independent releases made up 72 percent (54/75) of films given MPAA tobacco descriptors. Half (38/75) of films given tobacco descriptors were produced outside the United States. (Table 2)

TABLE 2 | Films given MPAA tobacco descriptors May 10, 2007-May 10, 2009

	MPAA Rating		Type of Film Release				Origin
	PG	PG-13	Wide	Limited	Video Only	No US Release	US Production
Disney	0	0	0	0	0	0	NA
GE	0	1	1	0	0	0	1
News Corp.	1	0	TBA	0	0	0	1
Sony	4	7	1	7	2	1	1
Time Warner	4	2	3	2	1	0	3
Viacom	0	2	1	1	0	0	2
Non-MPAA	47	7	4	19	15	16	30
<i>Total</i>	56	19	10	29	18	17	38
Percent	75%	25%	13%	87%			57%

Whether or not MPAA applied a tobacco description was strongly dependent on whether or not the distributor belongs to the MPAA (Table 3). The chance of an MPAA member company's youth-rated film with known tobacco content receiving an MPAA tobacco was 26% (21/81), while an independent's chance was 79% (54/68). The difference in application of tobacco descriptors is highly statistically significant ($P < .0005$).²

Table 3 | Youth-rated films with known tobacco content, by company type and release type and MPAA tobacco descriptor

Company Type	Release Type	Films Released	With tobacco descriptors	% with Descriptors
MPAA Member "Major studio"	Wide	66	6	26% (21/81)
	Limited, video or none	15	15	
Non-MPAA Member "independent"	Wide	18	4	79% (54/68)
	Limited, video or none	50	50	

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 something more limited. (Having previewed the project with exhibitors and reviewed the finished product's marketability, studio-distributors have usually decided a film's release type before submitting it for MPAA rating, a formality for release in any channel.) Only 12 percent (10/84) of youth-rated films with tobacco imagery slated for wide release received tobacco descriptors; while 87 percent (65/75) of all films rated with tobacco descriptors were destined for limited release, video release or none at all. This difference is highly statistically significant ($P < .0005$).

² $P < .0005$ 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.

Whether or not MPAA applies a tobacco descriptor to a film also appears to be mediated by its MPAA rating. Fifty percent (4/8) of top box office films with smoking rated PG received a descriptor, although none of these films featured more than 30 tobacco incidents (Table 4). The MPAA assigned tobacco descriptors to only 3 percent (2/64) of top box office PG-13 films with the same tobacco incidence. Fewer than half (4/10) of PG-13 films with >50 tobacco incidents got MPAA tobacco descriptors; one PG-13 film with more than 100 tobacco incidents went unremarked by the MPAA. Overall, among top box office films, 60 percent (6/10) of tobacco descriptors were given to films with <30 tobacco incidents and 40 percent (4/10) were given to films with >50 incidents.

Table 4 | Top box office films with tobacco imagery, by MPAA rating, number of tobacco incidents and MPAA tobacco descriptor

MPAA Rating	Number of Tobacco Incidents							
	1-9	With Descriptor	10-29	With Descriptor	30-49	With Descriptor	50+	With Descriptor
PG	6	2	2	2	0	0	0	0
PG-13	38	1	26	1	2	0	10	4
R	15	0	23	0	0	0	14	0
<i>Total Y-Rated</i>	44	3	28	3	2	0	10	4
<i>% with Descriptor</i>		7%		11%		0%		40%

It should be noted that, although only 8% (6/72) of top box office youth-rated films with fewer than 50 tobacco incidents received tobacco descriptors, these films comprised 88% (74/84) of all top box office youth-rated films with tobacco imagery rated and released after May 10, 2007. This group of films with lower tobacco content also delivered the majority of youth-rated tobacco impressions (56%: 8 billion/14.2 billion) to theater audiences (Appendix 1).

Brand display in top box office youth-rated films appears to have played no role in the MPAA's decision to award tobacco descriptors, unless the influence was negative. None of the eleven top box office films with tobacco branding in this sample, including five youth-rated films, got an MPAA tobacco descriptor (Appendix 1). However, one top box office PG-13 film that featured close facsimiles of tobacco brands ("Marbies" for Marlboro and "American Eagle" for American Spirit) did receive a tobacco descriptor.

No important difference is apparent in MPAA's tobacco rating practice from its first year to its second year (Appendix 3). The MPAA has shifted its descriptor nomenclature: in 2007-8, 22 percent (8/36) of descriptors read, simply, "smoking" while the balance added such modifiers "some," "brief," "momentary," and "incidental." In 2008-9, 54 percent (21/39) of the MPAA's tobacco descriptors said "smoking" while the minority were modified with such terms as "some," "brief" and "incidental."

The MPAA has never used the phrases "pervasive smoking" or "glamorized smoking," as it originally proposed. Instead, it has either used "smoking," with nothing to indicate the harm potential, or modified "smoking" with terms that minimize or even justify ("historical smoking") the film's tobacco content.

Discussion

As the authors of this report noted after the MPAA tobacco ratings had been in place for their first year, 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.³

There exists no empirical evidence that boilerplate labels, such as the MPAA occasionally deploys on ratings of films with tobacco, have public health value. Especially as the MPAA has implemented its 2007 rating announcement — rarely rating films in wide release or films from its member companies, while publicly claiming that parents can learn all they need to know about tobacco content by consulting the ratings — the MPAA descriptor policy appears designed to serve the immediate political interests of the film industry rather than protect its young audience.⁴

The MPAA states that its ratings are advisory to parents. Unfortunately, the partial and seemingly arbitrary manner in which tobacco labels are attached to a few films with smoking and not to most others creates a false impression: it encourages parents to believe that only the small fraction of youth-rated films and DVDs with MPAA tobacco descriptors have tobacco imagery.

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.

Conclusions

Since May 2007, top box office films in the US have delivered an estimated 27.7 billion tobacco impressions to audiences; films rated G, PG and PG-13 delivered more than half of these tobacco impressions (51%: 14.2 billion/27.7 billion).

Films assigned a tobacco descriptor by the Motion Picture Association of America delivered only 13 percent (3.5 billion/27.7 billion) of all tobacco impressions. Seventy-five percent (10.7 billion/14.2 billion) of youth-rated tobacco impressions were delivered by films with no tobacco descriptor.

³ Winsten, J. The role of films in influencing young people's behavior. MPAA Meeting, 2/23/2007. <http://www.hsph.harvard.edu/mpaa/>.

⁴ For a recent analysis of long-term trends in on-screen tobacco content see Titus, K., Polansky, J., Glantz, S. (2009) Smoking Presentation Trends in U.S. Movies 1991-2008. <http://repositories.cdlib.org/ctcre/tcpmus/Movies2008/>.

In distributing a total of ten tobacco descriptors among 84 top box office, youth-rated films with tobacco imagery, the MPAA tended to target a few PG and PG-13 films with more tobacco content. But other factors also appeared to influence which films got a descriptor: films from non-MPAA member companies never released to theaters nationally were the largest group of films given tobacco descriptors. It seems likely that low-visibility films with the least industry clout (including ten documentaries) were most likely to be tagged for smoking.

In contrast to an R-rating for smoking, no evidence exists that even consistent application of MPAA tobacco descriptors to youth-rated films with smoking would reduce adolescent exposure. The MPAA's failures to implement its own rating scheme fairly and broadly demonstrate that parents and policymakers cannot rely on the MPAA to originate an effective, industry-wide approach to the substantial, permanent reduction of adolescent exposure to on-screen tobacco imagery. Absent such an industry-wide policy, tobacco imagery in films produced for and marketed to youth will continue to promote tobacco use, with attendant risks to the health of tens of millions of young people around the world. The MPAA never announced an answer to smoking in movies. It has only helped to delay one.

Appendix 1: Top box office films released May 10, 2007-May 10, 2009 (n=301)

Notes: "Company" is the parent of an MPAA-member studio (e.g., Viacom's studio subsidiary is Paramount). Companies marked with an asterisk are independents. "Views" are paid admissions, calculated by dividing theatrical gross sales ("box office") by the average ticket price in the year of release, as reported at nato-online.com. 2009 ticket price is estimated based on the mean of the previous two years' price change. "Views" multiplied by (observed) "Tobacco Incidents" (TUTD method) equals "Tobacco Impressions" delivered by a film to its theater audience. Box office for films in release <8 weeks is projected: see Appendix 4.

Title	US Release Date	MPAA Tobacco Descriptor	Company	MPAA Rating	Views (millions)	Tobacco Impressions (millions)	Tobacco Incidents (bracket)	Tobacco Brand Display
Rated by MPAA and released after May 10, 2007								
21	3/08		Sony	PG-13	11.3	283	50+	
1408	6/07		Sony	PG-13	10.5	1527	1 - 9	
12 Rounds	3/09		News Corp.	PG-13	1.7	2	1 - 9	
3:10 To Yuma	9/07		*Lionsgate	R	7.8	70	30 - 49	
Adventureland	4/09		Disney	R	2.3	109	10 - 29	
American Carol, An	10/08		*Vivendi	PG-13	1.0	32	50+	
Appaloosa	10/08		Time Warner	R	2.8	76	1 - 9	
Australia	11/08		News Corp.	PG-13	6.9	173	10 - 29	
Baby Mama	4/08		GE	PG-13	8.4	8	1 - 9	
Babylon A.D.	8/08		News Corp.	PG-13	3.1	28	30 - 49	
Bangkok Dangerous	9/08		*Lionsgate	R	2.1	11	10 - 29	
Bank Job, The	3/08		*Lionsgate	R	4.2	322	1 - 9	
Be Kind Rewind	2/08		Time Warner	PG-13	1.6	22	1 - 9	
Bee Movie	11/07	"brief depiction of smoking"	Viacom	PG	18.4	147	30 - 49	
Body of Lies	10/08		Time Warner	R	5.5	417	50+	
Boy in the Striped Pajamas, The	11/08		Disney	PG-13	1.3	25	1 - 9	
Brave One, The	9/07		Time Warner	R	5.3	187	10 - 29	
Bucket List, The	1/08		Time Warner	PG-13	13.0	169	10 - 29	
Burn After Reading	9/08		GE	R	8.4	227	1 - 9	
Cadillac Records	12/08		Sony	R	1.1	248	1 - 9	
Changeling	10/08		GE	R	5.0	85	10 - 29	
Charlie Wilson's War	12/07		GE	R	9.7	1414	1 - 9	Marlboro
Comebacks, The	10/07		News Corp.	PG-13	1.9	6	1 - 9	
Crank	4/09		*Lionsgate	R	1.9	42	30 - 49	
Curious Case of Benjamin Button	12/08	"smoking"	Viacom	PG-13	17.8	1989	1 - 9	
Dark Knight, The	7/08		Time Warner	PG-13	74.3	371	30 - 49	
Death Race	8/08		GE	R	5.0	447	1 - 9	
Deception	4/08		News Corp.	R	0.6	10	10 - 29	
Defiance	1/09		Viacom	R	3.8	42	10 - 29	
Definitely, Maybe	2/08	"smoking"	GE	PG-13	4.5	445	50+	Facsimile Marlboro and American Spirit
Disaster Movie	8/08		*Lionsgate	PG-13	2.0	6	1 - 9	
Doomsday	3/08		GE	R	1.5	46	1 - 9	
Doubt	12/08		Disney	PG-13	4.7	84	1 - 9	

Drillbit Taylor	3/08		Viacom	PG-13	4.6	5	10 - 29	
Duchess, The	10/08		Viacom	PG-13	1.9	10	50+	
Duplicity	3/09		GE	PG-13	5.4	5	10 - 29	
Eastern Promises	9/07		GE	R	2.5	129	10 - 29	
Expelled	4/08	"brief smoking"	*Rocky Mountain	PG	1.0	9	10 - 29	
Express, The	10/08		GE	PG	1.3	4	1 - 9	
Eye, The	2/08		*Lionsgate	PG-13	4.4	4	10 - 29	
Fast & Furious	4/09		GE	PG-13	21.2	21	1 - 9	
Feel the Noise	10/07		Sony	PG-13	0.9	22	1 - 9	Marlboro, Doral
Fighting	4/09		GE	PG-13	3.5	21	50+	
First Sunday	1/08		Sony	PG-13	5.3	5	10 - 29	
Fool's Gold	2/08		Time Warner	PG-13	9.8	29	30 - 49	
Four Christmases	11/08		Time Warner	PG-13	16.7	100	50+	
Get Smart	6/08		Time Warner	PG-13	18.1	73	30 - 49	
Ghost Town	9/08		Viacom	PG-13	1.8	15	1 - 9	
Gran Torino	1/09		Time Warner	R	19.6	2159	1 - 9	
Halloween	8/07		*Weinstein	R	8.5	102	10 - 29	
Harold & Kumar Escape from Guantanamo Bay	4/08		Time Warner	R	5.3	37	10 - 29	
Haunting of Molly Hartley, The	10/08		*Freestyle	PG-13	1.9	2	10 - 29	
He's Just Not That Into You	2/09		Time Warner	PG-13	12.5	212	1 - 9	American Spirit, Marlboro
Heartbreak Kid, The	10/07		Viacom	R	5.3	21	50+	
Hellboy II: The Golden Army	7/08		GE	PG-13	10.6	264	10 - 29	
Hitman	11/07		News Corp.	R	5.8	260	10 - 29	
Hot Rod	8/07		Viacom	PG-13	2.0	4	1 - 9	
I Know Who Killed Me	7/07		Sony	R	1.1	50	1 - 9	
I Love You, Man	3/09		*DreamWorks	R	9.3	149	10 - 29	
I Now Pronounce You Chuck and Larry	7/07		GE	PG-13	17.4	157	1 - 9	
Incredible Hulk, The	6/08		GE	PG-13	18.7	393	30 - 49	
Indiana Jones and the Kingdom of the Crystal Skull	5/08		Viacom	PG-13	44.2	486	1 - 9	
International, The	2/09		Sony	R	3.4	34	1 - 9	Marlboro
Iron Man	5/08		Viacom	PG-13	44.3	1374	1 - 9	
Juno	12/07		News Corp.	PG-13	20.9	375	10 - 29	
Kingdom, The	9/07		GE	R	6.9	76	10 - 29	
Lakeview Terrace	9/08		Sony	PG-13	5.5	104	10 - 29	
Last House on the Left, The	3/09		GE	R	4.4	4	1 - 9	
Leatherheads	4/08		GE	PG-13	4.3	482	10 - 29	Beech Nut, Pall Mall
Love in the Time of Cholera	11/07		Time Warner	R	0.7	22	1 - 9	
Made of Honor	5/08		Sony	PG-13	6.4	19	1 - 9	
Madea Goes to Jail	2/09		*Lionsgate	PG-13	1.2	12	10 - 29	
Mamma Mia!	7/08		GE	PG-13	20.0	260	1 - 9	

Max Payne	10/08		News Corp.	PG-13	5.7	51	10 - 29	
Meet the Browns	3/08		*Lionsgate	PG-13	5.8	29	1 - 9	
Milk	11/08		GE	R	4.4	350	1 - 9	
Miracle at St. Anna	9/08		Disney	R	1.1	85	10 - 29	Camel
Miss March	3/09		News Corp.	R	0.6	23	50+	
Mist, The	11/07		Sony	R	3.7	7	50+	Marlboro
Mr. Bean's Holiday	8/07		GE	G	4.7	14	50+	
Mummy: Tomb of the Dragon Emperor, The	8/08		GE	PG-13	14.2	14	1 - 9	
My Best Friend's Girl	9/08		*Lionsgate	R	2.7	200	1 - 9	Marlboro
My Bloody Valentine-3D	1/09		*Lionsgate	R	6.9	96	10 - 29	Marlboro
National Treasure: Book of Secrets	12/07		Disney	PG	32.0	32	1 - 9	
Next Day Air	5/09		*Summit	R	1.1	48	10 - 29	
Nick and Norah's Infinite Playlist	10/08		Sony	PG-13	4.4	9	10 - 29	
No Country for Old Men	11/07		Disney	R	10.8	32	1 - 9	
Not Easily Broken	1/09		Sony	PG-13	1.4	4	1 - 9	
Nothing Like the Holidays	12/08		*Overture	PG-13	1.0	69	10 - 29	
Notorious	1/09		News Corp.	R	4.9	358	50+	Newport
Obsessed	4/09		Sony	PG-13	9.5	114	50+	
One Missed Call	1/08		Time Warner	PG-13	3.7	37	30 - 49	
P.S. I Love You	12/07		Time Warner	PG-13	7.8	8	10 - 29	
Pride and Glory	10/08		Time Warner	R	2.2	105	1 - 9	Marlboro
Punisher: War Zone	12/08		*Lionsgate	R	1.1	22	1 - 9	
Push	2/09	"smoking"	*Summit	PG-13	4.2	102	50+	
Quantum of Solace	11/08		Sony	PG-13	23.4	422	1 - 9	
Rambo	1/08		*Lionsgate	R	6.0	167	1 - 9	
Religulous	10/08		*Lionsgate	R	1.8	9	1 - 9	
Rendition	10/07		Time Warner	R	1.4	25	1 - 9	
Resident Evil: Extinction	9/07		Sony	R	7.4	59	10 - 29	
Righteous Kill	9/08		*Overture	R	5.6	140	50+	
Rush Hour 3	8/07		Time Warner	PG-13	20.4	346	30 - 49	
Saw IV	10/07		*Lionsgate	R	9.2	64	1 - 9	
Saw V	10/08		*Lionsgate	R	7.9	16	10 - 29	
Secret Life of Bees	10/08		News Corp.	PG-13	5.3	11	1 - 9	
Semi-Pro	2/08		Time Warner	R	4.7	186	1 - 9	
Sex and the City	5/08		Time Warner	R	21.3	404	30 - 49	
Sex Drive	10/08		*Summit	R	1.2	22	10 - 29	
Shoot 'em Up	9/07		Time Warner	R	1.9	7	10 - 29	
Sicko	6/07		*Lionsgate	PG-13	3.6	18	10 - 29	
Simpsons Movie	7/07		News Corp.	PG-13	26.6	586	1 - 9	
Slumdog Millionaire	12//08		News Corp.	R	19.7	945	50+	
Smart People	4/08		Disney	R	1.3	16	1 - 9	Marlboro
Soloist, The	4/09		*DreamWorks	PG-13	3.7	259	50+	
Soul Men	11/08		Sony	R	1.7	59	10 - 29	
Speed Racer	5/08	"brief smoking"	Time Warner	PG	6.1	24	50+	

Spirit, The	12/08		*Lionsgate	PG-13	2.8	33	30 - 49	
Star Wars: The Clone Wars	8/08	"momentary smoking"	Time Warner	PG	4.9	93	50+	
State of Play	4/09		GE	PG-13	5.2	67	10 - 29	
Stop-Loss	3/08		Viacom	R	1.5	32	10 - 29	
Strangers, The	5/08		GE	R	7.3	132	50+	
Street Fighter: The Legend of Chun-Li	2/09		News Corp.	PG-13	1.2	5	50+	
Street Kings	4/08		News Corp.	R	3.7	85	1 - 9	Marlboro
Sunshine Cleaning	4/09		*Overture	R	1.4	36	10 - 29	
Superhero Movie	3/08		Sony	PG-13	3.6	14	10 - 29	
Sweeney Todd: The Demon Barber of Fleet Street	12/07		Viacom	R	7.7	8	50+	
Taken	1/09		News Corp.	PG-13	19.2	19	1 - 9	Marlboro
There Will Be Blood	12/07		Viacom	R	5.8	333	10 - 29	
This Christmas	11/07		Sony	PG-13	7.1	179	10 - 29	
Traitor	8/08		*Overture	PG-13	3.3	43	10 - 29	
Transporter 3	11/08		*Lionsgate	PG-13	4.4	4	10 - 29	
Tropic Thunder	8/08		*DreamWorks	R	15.4	1092	1 - 9	Marlboro
Under the Same Moon	3/08		*Weinstein	PG-13	1.8	19	50+	
Valkyrie	12/08		Sony	PG-13	11.6	694	1 - 9	
Vicky Cristina Barcelona	8/08	"smoking"	*Weinstein	PG-13	3.2	171	30 - 49	
Visitor, The	5/08		*Overture	PG-13	1.3	1	1 - 9	Marlboro
W.	10/08	"smoking"	*Lionsgate	PG-13	3.6	515	10 - 29	
Walk Hard: The Dewey Cox Story	12/07		Sony	R	2.7	75	1 - 9	
Wanted	6/08		GE	R	18.7	94	30 - 49	
War	8/07		*Lionsgate	R	3.3	147	1 - 9	
Watchmen	3/09		Time Warner	R	14.3	1199	10 - 29	
Water Horse, The	12/07	"brief smoking"	Sony	PG	5.9	141	10 - 29	
Who's Your Caddy	7/07		Sony	PG-13	0.8	41	10 - 29	
Women, The	9/08	"brief smoking"	Time Warner	PG-13	3.7	15	1 - 9	
X Files: I Want to Believe, The	7/08		News Corp.	PG-13	2.9	18	10 - 29	
X-Men Origins: Wolverine	5/09		News Corp.	PG-13	26.3		210 50+	
You Don't Mess with the Zohan	6/6/08		Sony	PG-13	13.9		14 1 - 9	
Zack and Miri Make a Porno	10/08		*Weinstein	R	4.4		13 30 - 49	
Released after May 10, 2007 but rated before the MPAA's tobacco rating announcement								
Across the Universe	9/07		Sony	PG-13	3.5	255	50+	
American Gangster	11/07		GE	R	18.9	3821	50+	
Atonement	12/07		GE	R	7.4	785	50+	
August Rush	11/07		Time Warner	PG	4.6	5	1 - 9	
Awake	11/07		Sony	R	2.1	29	10 - 29	
Balls of Fury	8/07		GE	PG-13	4.8	478	50+	
Bug	5/07		*Lionsgate	R	1.0	47	30 - 49	

Death Sentence	8/07	News Corp.	R	1.4	65	30 - 49
Delta Farce	5/07	*Lionsgate	PG-13	1.2	1	1 - 9
Elizabeth: The Golden Age	10/07	GE	PG-13	2.4	5	1 - 9
Evening	6/07	GE	PG-13	1.8	52	10 - 29
Georgia Rule	5/07	GE	R	2.7	25	1 - 9
Gone Baby Gone	10/07	Disney	R	3.0	21	1 - 9
Gracie	6/07	Time Warner	PG-13	0.4	5	10 - 29
Hairspray	7/07	Time Warner	PG	17.3	639	30 - 49
Hostel: Part II	6/07	*Lionsgate	R	2.6	56	10 - 29
Knocked Up	6/07	GE	R	21.6	22	1 - 9
Martian Child	11/07	Time Warner	PG	1.1	1	1 - 9
Michael Clayton	10/07	Time Warner	R	7.1	78	10 - 29
Mighty Heart, A	6/07	Viacom	R	1.3	17	10 - 29
Mr. Brooks	6/07	Sony	R	4.1	8	1 - 9
Mr. Woodcock	9/07	Time Warner	PG-13	3.7	75	10 - 29
Nancy Drew	6/07	Time Warner	PG	3.7	7	1 - 9
Nanny Diaries	8/07	*Weinstein	PG-13	3.8	23	1 - 9
No Reservations	7/07	Time Warner	PG	6.3	63	10 - 29
Ocean's Thirteen	6/07	Time Warner	PG-13	17.0	272	10 - 29
Penelope	2/08	*Summit	PG	1.4	25	10 - 29
Stardust	8/07	Viacom	PG-13	5.6	17	1 - 9
Superbad	8/07	Sony	R	17.7	583	30 - 49
Underdog	8/07	Disney	PG	6.4	13	1 - 9
Waitress	5/07	News Corp.	PG-13	2.8	39	10 - 29
We Own the Night	10/07	Sony	R	4.2	423	50+
Smokefree films released after May 10, 2007						
28 Weeks Later	5/07	News Corp.	R	4.2		
Shrek the Third	5/07	Viacom	PG	46.6		
Pirates of the Caribbean: At Worlds End	5/07	Disney	PG-13	45.0		
Surf's Up	6/07	Sony	PG	8.6		
Fantastic Four...Silver Surfer	6/07	News Corp.	PG	19.2		
Evan Almighty	6/07	GE	PG	14.6		
Ratatouille	6/07	Disney	G	30.0		
Live Free or Die Hard	6/07	News Corp.	PG-13	19.6		
Transformers	7/07	Viacom	PG-13	46.3		
License to Wed	7/07	Time Warner	PG-13	6.4		
Harry Potter and...the Phoenix	7/07	Time Warner	PG-13	42.4		
Bratz: The Movie	8/07	*Lionsgate	PG	1.5		
Bourne Ultimatum	8/07	GE	PG-13	33.0		
Daddy Day Camp	8/07	Sony	PG	1.9		
Invasion, The	8/07	Time Warner	R	2.2		
Dragon Wars: D-War	9/07	*Freestyle	PG-13	1.6		
Sydney White	9/07	GE	PG-13	1.7		

Good Luck Chuck	9/07	*Lionsgate	R	5.1
Game Plan, The	9/07	Disney	PG	13.2
Seeker: The Dark Is Rising	10/07	News Corp.	PG	1.3
Why Did I Get Married?	10/07	*Lionsgate	PG-13	8.0
Nightmare Before Christmas 3-D	10/07	Disney	PG	2.1
30 Days of Night	10/07	Sony	R	5.8
Dan in Real Life	10/07	Disney	PG-13	6.9
Fred Claus	11/07	Time Warner	PG	10.5
Lions for Lambs	11/07	Sony	R	2.2
P2	11/07	*Summit	R	0.6
Mr. Magorium's Wonder Emporium	11/07	News Corp.	G	4.7
Beowulf	11/07	Viacom	PG-13	11.9
Enchanted	11/07	Disney	PG	18.6
Golden Compass	12/07	Time Warner	PG-13	10.2
Perfect Holiday	12/07	*Yari	PG	0.8
Alvin and the Chipmunks	12/07	News Corp.	PG	31.6
I Am Legend	12/07	Time Warner	PG-13	37.3
AVPR: Alien vs Predator	12/07	News Corp.	R	6.1
Pirates Who Don't do Anything	108	GE	G	1.8
27 Dresses	1/08	News Corp.	PG-13	10.7
Cloverfield	1/08	Viacom	PG-13	11.1
Mad Money	1/08	*Overture	PG-13	2.9
Meet the Spartans	1/08	News Corp.	PG-13	5.3
Untraceable	1/08	Sony	R	4.0
Hannah Montana/Miley Cyrus	2/08	Disney	G	9.1
Welcome Home Roscoe Jenkins	2/08	GE	PG-13	5.9
Spiderwick Chronicles	2/08	Viacom	PG	9.9
Jumper	2/08	News Corp.	PG-13	11.2
Step Up 2 the Streets	2/08	Disney	PG-13	8.1
Vantage Point	2/08	Sony	PG-13	10.1
Other Boleyn Girl	2/08	GE	PG-13	3.7
College Road Trip	3/08	Disney	G	6.3
10,000 B.C.	3/08	Time Warner	PG-13	13.2
Horton Hears a Who	3/08	News Corp.	G	21.5
Never Back Down	3/08	*Summit	PG-13	3.5
Shutter	3/08	News Corp.	PG-13	3.6
Nims Island	4/08	News Corp.	PG	6.7
Ruins, The	4/08	*DreamWorks	R	2.4
Prom Night	4/08	Sony	PG-13	6.1
Forbidden Kingdom	4/08	*Lionsgate	PG-13	3.5
88 Minutes	4/08	Sony	R	2.4
Forgetting Sarah Marshall	4/08	GE	R	8.8
What Happens in Vegas...	5/08	News Corp.	PG-13	11.2

Chronicles of Narnia 2	5/08	Disney	PG	19.7
Kung Fu Panda	6/08	*DreamWorks	PG	30.0
Happening, The	6/08	News Corp.	R	9.0
Love Guru, The	6/08	Viacom	PG-13	4.5
Wall-E	6/08	Disney	G	31.2
Hancock	7/08	Sony	PG-13	31.7
Kit Kittredge	7/08	Time Warner	G	2.5
Journey to the Center of the Earth	7/08	Time Warner	PG	14.2
Meet Dave	7/08	News Corp.	PG	1.6
Space Chimps	7/08	News Corp.	G	4.2
Step Brothers	7/08	Sony	R	14.0
Swing Vote	8/08	Disney	PG-13	2.3
Sisterhood of the Traveling Pants 2	8/08	Time Warner	PG-13	6.1
Pineapple Express	8/08	Sony	R	12.2
Mirrors	8/08	News Corp.	R	4.3
Longshots, The	8/08	Sony	PG	1.6
House Bunny, The	8/08	Sony	PG-13	6.7
Family that Preys, The	9/08	*Lionsgate	PG-13	5.2
Igor	9/08	Sony	PG	2.7
Fireproof	9/08	*Goldwyn	PG	4.7
Eagle Eye	9/08	*DreamWorks	PG-13	14.1
Nights at Rodanthe	9/08	Time Warner	PG-13	5.8
Beverly Hills Chihuahua	10/08	Disney	PG	13.2
Quarantine	10/08	Sony	R	4.4
High School Musical 3	10/08	Disney	G	12.6
Madagascar 2	11/08	Viacom	PG	25.1
Role Models	11/08	GE	R	9.4
Bolt	11/08	Disney	PG	15.9
Twilight	11/08	*Summit	PG-13	26.7
Day the Earth Stood Still, The	12/08	News Corp.	PG-13	11.1
Tale of Despereaux, The	12/08	GE	G	7.1
Seven Pounds	12/08	Sony	PG-13	9.3
Yes Man	12/08	Time Warner	PG-13	13.6
Bedtime Stories	12/08	Disney	PG	15.3
Marley and Me	12/08	News Corp.	PG	19.9
Bride Wars	1/09	News Corp.	PG	7.8
Unborn, The	1/09	GE	PG-13	5.7
Hotel for Dogs	1/09	Viacom	PG	9.7
Paul Blart: Mall Cop	1/09	Sony	PG	19.4
Inkheart	1/09	Time Warner	PG	2.3
Underworld: Rise of the Lycans	1/09	Sony	R	6.1
New in Town	1/09	*Lionsgate	PG	2.2
Uninvited, The	1/09	*DreamWorks	PG-13	3.8
Coraline	2/09	GE	PG	10.0

Pink Panther 2	2/09	Sony	PG	4.8
Confessions of a Shopaholic	2/09	Disney	PG	5.9
Friday the 13th	2/09	Time Warner	R	8.6
Fired Up	2/09	Sony	PG-13	2.3
Jonas Brothers: 3D Concert Experience	2/09	Disney	G	2.5
Race to Witch Mountain	3/09	Disney	PG	8.6
Knowing	3/09	*Summit	PG-13	10.4
Monsters vs. Aliens	3/09	Viacom	PG	25.3
Haunting in Connecticut, The	3/09	*Lionsgate	PG-13	8.0
Hannah Montana: The Movie	4/09	Disney	G	10.3
Dragonball Evolution	4/09	News Corp.	PG	1.2
Observe and Report	4/09	Time Warner	R	3.3
17 Again	4/09	Time Warner	PG-13	8.2
Earth	4/09	Disney	G	4.4
Ghosts of Girlfriends Past	5/09	Time Warner	PG-13	6.1
Star Trek	5/09	Viacom	PG-13	30.0

Appendix 2: Films assigned an MPAA tobacco descriptor since May 10, 2007 (n=75)

Title	MPAA Rating Date	US Release Date	MPAA Rating	MPAA Tobacco Descriptor	Company	Type of Release	Origin	Box Office (millions)
Rated by MPAA and released after May 10, 2007								
12	5/14/08	3/09	PG-13	"smoking"	Sony	Limited	Russia	\$0.099
Alien Trespass	3/4/09	4/09	PG	"brief historical smoking"	*Roadside Attractions	Limited	US	\$0.798
Amelia	3/25/09	10/09	PG	"smoking"	News Corp.	TBA	US	N/A
American Teen	4/9/08	7/08	PG-13	"brief smoking involving teens"	Viacom	Limited	US	\$0.940
Ballet Shoes	7/9/08	9/08	PG	"smoking"	*Koch	DVD Only	UK	N/A
Beyond the Epic Run	4/15/09	N/A	PG	"some smoking"	*Make Believe	No US Dist.	US	N/A
Billy: The Early Years	9/17/08	10/08	PG	"smoking"	*Rocky Mtn.	Limited	UK	\$0.321
Black Mold Exposure	2/25/09	N/A	PG-13	"smoking"	*Davis/Grosvenor/Infinity	No US Dist.	France	N/A
Bracelet of Bordeaux	4/8/09	N/A	PG	"brief smoking"	*Monterey	No US Dist.	US	N/A
California Dreaming	12/5/07	N/A	PG	"smoking"	*MTI	DVD Only	US	N/A
Call of the Wild	1/14/09	6/09	PG	"brief smoking"	*Call of the Wild	DVD Only	US	N/A
Caramel	10/10/07	2/08	PG	"some smoking"	*Roadside Attractions	Limited	France	\$1.1
Celine	5/21/08	5/08	PG	"smoking"	*Monarch Home Video	DVD Only	Canada	N/A
Christmas Cottage	9/26/07	11/08	PG	"smoking"	*Lionsgate	DVD Only	US	N/A
Christmas Story	4/29/09	N/A	PG	"brief smoking"	*Lightning	DVD Only	Finland	N/A
CJ7	1/23/08	3/08	PG	"brief smoking"	Sony	Limited	Hong Kong	\$0.207
Closing Escrow	7/11/07	8/07	PG	"incidental smoking"	*Magnolia	Limited	US	\$0.006
Coco Chanel	3/18/09	N/A	PG	"smoking"	*GK Films	No US Dist.	UK	N/A
Curious Case of Benjamin Button	8/20/08	12/08	PG-13	"smoking"	Viacom	WIDE	US	\$127.5
Death Defying Acts	7/16/08	7/08	PG	"smoking"	*Weinstein	DVD Only	UK	\$0.004
December Boys	6/6/07	9/07	PG-13	"underage... smoking"	Time Warner	Limited	Australia	\$0.046
Deep Water	8/1/07	9/07	PG	"brief smoking"	*Exel	Limited	US	\$0.102
Definitely, Maybe	5/23/07	2/08	PG-13	"smoking"	GE	WIDE	US	\$31.9
Doubting Thomas	1/9/08	N/A	PG	"brief smoking"	*Kosmic	No US Dist.	Australia	N/A
Easy Virtue	1/21/09	5/09	PG-13	"smoking throughout"	Sony	Limited	UK	N/A
Education, An	3/11/09	TBA	PG-13	"smoking"	Sony	Limited	UK	N/A
El Viaje de La Nonna	11/5/08	N/A	PG	"brief smoking"	*DistriMax	No US Dist.	Mexico	N/A
Expelled	2/13/08	4/08	PG	"brief smoking"	*Rocky Mtn.	WIDE	US	\$7.5
Faith Like Potatoes	12/17/08	4/09	PG	"brief smoking"	Sony	DVD only	S. Africa	N/A
Final Season, The	8/22/07	11/07	PG	"historical smoking throughout"	*Palm	DVD Only	Canada	N/A
Fire Creek	4/22/09	TBA	PG	"incidental smoking"	*Rocky Mtn.	Limited	US	N/A
Golden Boys, The	4/15/09	N/A	PG-13	"teen smoking"	*HBO Documentary	No US Dist.	US	N/A
Grace is Gone	9/19/07	12/07	PG-13	"teen smoking"	*Weinstein	Limited	US	\$0.050
Guarding Eddy	6/13/07	10/05	PG	"brief smoking"	*Imagewor ks	DVD Only	US	N/A
I've Loved You So Long	7/9/08	10/08	PG-13	"smoking"	Sony	Limited	France	\$3.2
Imaginarium of Dr.	2/25/09	N/A	PG	"incidental"	*Looking	No US Dist.	US	N/A

Parnassus, The				smoking"	Glass			
In the Shadow of the Moon	6/13/07	9/07	PG	"incidental smoking"	*ThinkFilm	Limited	US	\$1.1
Kes	1/14/09	N/A	PG-13	"some teen smoking"	Sony	No US Dist.	UK	N/A
Lisbon Story	9/12/07	11/07	PG	"brief smoking"	*Fox Lorber	DVD Only	Germany	N/A
List, The	7/25/07	N/A	PG	"brief incidental smoking"	*Level Path	No US Dist.	US	\$0.134
Luna: Spirit of the Whale	8/29/07	N/A	PG	"brief teen smoking"	*Trinity	No US Dist.	Canada	N/A
My Blueberry Nights	3/19/08	2/08	PG	"smoking"	*City Lights	Lim. US	Brazil	N/A
Naming Number Two	7/3/07	N/A	PG	"smoking"	*Cyan	No US Dist.	NZ	N/A
Neighbor, The	7/9/08	N/A	PG	"smoking"	*Curb	No US Dist.	US	N/A
Not Evil Just Wrong	4/22/09	5/09	PG	"smoking"	*Campus	Lim. US	US	N/A
Owl and the Sparrow	11/25/08	1/09	PG	"some smoking"	*Wave	Lim. US	Vietnam	\$0.047
Push	9/24/08	2/09	PG-13	"smoking"	*Summit	WIDE	US	\$31.7
Randy and the Mob	8/8/07	N/A	PG	"momentary smoking"	*Capricorn	Lim. US	US	\$0.045
Resolved	4/15/09	4/09	PG	"smoking"	*Roadside Attractions	Lim. US	US	\$0.176
Return with Honor	8/1/07	8/07	PG	"incidental smoking"	*IFC	Lim. US	UK	\$0.270
Rocket, The	8/22/07	9/07	PG	"incidental smoking"	*Success	Lim. US	Mexico	\$0.050
Run, Fatboy, Run	6/13/07	3/28/08	PG	"smoking"	Time Warner	Lim. US	UK	\$5.999
Saawariya	10/17/07	11/9/07	PG	"incidental smoking"	Sony	Lim. US	India	\$0.886
Saving Sarah Cain	6/20/07	8/19/07	PG	"brief teen smoking"	*News Corp.	Cable > Video	US	N/A
Sea of Dreams	8/22/07	10/12/07	PG	"some teen smoking"	*Yari	Lim. US	US	\$1.410
Sharkwater	8/15/07	9/28/07	PG	"some smoking"	*Freestyle	Lim. US	Canada	\$0.057
Sister Aimee	2/20/08	N/A	PG	"smoking"	*Maverick	DVD Only	US	N/A
Sky Crawlers, The	1/7/09	5/26/09	PG-13	"smoking"	Sony	DVD Only	Japan	N/A
Speed Racer	4/23/08	5/9/08	PG	"brief smoking"	Time Warner	WIDE	US	\$43.9
Spirit of the Marathon	7/23/08	1/24/08	PG	"incidental smoking"	*Image	DVD Only	US	N/A
Star Wars: The Clone Wars	5/7/08	8/15/08	PG	"momentary smoking"	Time Warner	WIDE	US	\$35.2
Stone of Destiny	4/2/08	N/A	PG	"incidental smoking"	*Arlight	No US Dist.	Canada	N/A
Super Capers	9/3/08	3/20/09	PG	"brief smoking"	*Roadside Attractions	Limited	US	\$0.031
Surviving Crooked Lake	8/13/08	N/A	PG-13	"smoking"	*NeoClassics	No US Dist.	Canada	N/A
Three Investigators: Skeleton Island	8/6/08	N/A	PG	"some smoking"	*First Look	No US Dist.	Germany	N/A
Twistee Treat	6/18/08	N/A	PG	"smoking"	*Szobinski	No US Dist.	US	N/A
Under the Hood	10/22/08	3/24/09	PG	"smoking"	Time Warner	DVD only	UK	N/A
Vicky Cristina Barcelona	6/4/08	8/15/08	PG-13	"smoking"	*Weinstein	WIDE	Spain/US	\$23.2
W.	9/24/08	10/17/08	PG-13	"smoking"	*Lionsgate	WIDE	US	\$25.5
Water Horse, The	10/17/07	12/25/07	PG	"brief smoking"	Sony	WIDE	US	\$40.4
Welcome to Paradise	10/9/07	Oct-07	PG	"teen smoking"	*First Look	DVD Only	US	N/A
Women, The	5/7/08	9/12/08	PG-13	"brief smoking"	Time Warner	WIDE	US	\$26.9
Year My Parents Went on Vacation	3/19/08	4/4/08	PG-13	"smoking"	Sony	Limited	Hong Kong	\$0.867
Young Victoria	3/18/09	9/13/08	PG	"historical smoking throughout"	*Lifetime	TV Movie	Italy/France	N/A
Youssou N'Douri: I Bring What I Love	2/4/09	6/12/09	PG	"brief smoking"	*Oscilloscope	Limited	US	N/A

Appendix 3: Comparison of top box office films in Year 1 and Year 2 of the MPAA's tobacco ratings				
	5/07-5/08		5/08-5/09	
All Films	155	100%	146	100%
No. Y-Rated (G/PG/PG-13) : % All Films	101	65.2%	101	69.2%
— No. G/PG : % All Films	34	21.9%	32	21.9%
— No. PG-13 : % All Films	67	43.2%	68	46.6%
No. R-Rated : % All Films	54	34.8%	45	30.8%
Smokefree Films : % All Films	60	38.7%	60	41.1%
No. Y-Rated : % Smokefree Films	49	81.7%	51	85.0%
No. R-rated : % Smokefree Films	11	18.3%	9	15.0%
Smoking Films : % All Films	95	61.3%	86	58.9%
No. Y-Rated Smoking : % Smoking Films	52	54.7%	50	58.1%
— No. G/PG Smoking : % Smoking Films	13	13.7%	2	4.0%
— No. PG-13 Smoking	39		48	
— PG-13, % of Smoking Films		41.1%		55.8%
— PG-13, % Youth-Rated Smoking Films		75.0%		96.0%
No. R-Rated Smoking : % Smoking Films	43	45.3%	36	41.9%
Tobacco Incidents	2489		2429	
Per Smoking Film	26.2		28.2	
— Per Y-Rated Smoking Film	23.1		22.8	
— Per R-Rated Smoking Film	26.0		36.1	
No. Y-Rated : % T-Incidents	1200	48.2%	1139	46.9%
— No. G/PG : % T-Incidents	120	4.8%	22	0.9%
— No. PG-13 : % T-Incidents	1080	43.4%	1117	46.0%
No. R-Rated : % T-Incidents	1120	45.0%	1300	53.5%
# Y-Rated Films with >50 T-Incidents	6	11.5%	6	12.0%
# T-Incidents : % Y T-Incidents	239	33.9%	105	44.4%
# R-Rated Films with >50 T-Incidents	7	16.3%	9	25.0%
# T-Incidents : % R T-Incidents	70	6.3%	798	61.4%
MPAA Smoking Descriptors	4		6	
% Y-Rated Smoking Films with Descriptors		8.2%		12.0%
% Y-Rated T-Incidents		5.5%		14.7%
Tobacco Impressions (billions)	18527		17255	
Delivered by Youth-Rated Films	10950	59.1%	7358	42.6%
Delivered by R-Rated Films	7578	40.9%	9897	57.4%

Appendix 4: Projecting theatrical box office

To calculate tobacco impressions, total box office was projected for 2009 films with fewer than eight weeks of data reported at the time of analysis, based on results from full years 2006-7. Five cases required the formula for Week 2 and five more the formula for 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)	Standard error of the estimate (\$mil)	N	R ²
4 weeks	$B\text{-OFFICE} = - 0.756 \text{ WEEK (2)} + 1.70 \text{ WEEK (4)}$	8.3	316	0.983
2 weeks	$B\text{-OFFICE} = 3.44 + 1.53 \text{ WEEK (2)}$	14.9	316	0.944

