

COMMENTARY

Ⓜ Smoking in movies: a major problem and a real solution

Published online June 10, 2003

<http://image.thelancet.com/extras/03cmt159web.pdf>

Smoking depicted in movies is a major and growing public-health problem. Despite a falling prevalence of smoking in the real world, the frequency of smoking in top-grossing movies in the USA has about doubled since 1990, when the US tobacco industry first promised Congress that it would stop paid product-placement in movies.¹ Indeed the frequency of smoking in movies has returned to levels not seen since 1950, well before popular understanding that smoking was a major cause of disease and death.² Concern over smoking in movies led WHO to make "Smoke Free Film" a theme of 2003 World No Tobacco Day.

There is already a strong case, from cross-sectional^{3,4} and experimental studies,⁵ that smoking in movies increases adolescent smoking. Such studies, whilst important, always suffer from the limitation that they represent a snapshot in time that might miss some important factor. Longitudinal studies, which follow up people over time and monitor changes in smoking behaviour while simultaneously measuring exposure (to movies showing smoking, in this case), provide the strongest evidence for causality that can be obtained in a population-based study.

This association between smoking in movies and increased rates of smoking by adolescents makes the report in this issue of *The Lancet* by Madeline Dalton and colleagues especially important. These investigators provide the strongest and most convincing evidence to date that smoking in movies promotes initiation of smoking in adolescents, and show that this effect is very large. After controlling for a wide variety of other effects—grade in school, sex, school, friend smoking, sibling smoking, parent smoking, receptivity to tobacco promotions, school performance, sensation-seeking propensity, rebelliousness, self esteem, parent's education, authoritative parenting, and perception of parental disapproval of smoking—52.2% of smoking initiation in the 10–14-year-olds that were studied was attributed to seeing smoking in movies.

This effect is stronger than the effect of traditional cigarette advertising and promotion, which accounts for "only" 34% of new experimentation,⁶ probably because, as the tobacco industry has known for decades,⁷ the subliminal effects of smoking in movies is a more powerful force than overt advertising.

Smoking in movies nearly triples the relative risk that an adolescent will start smoking. This number, however, does not tell the whole story. Like cigarette advertising and promotion,⁸ the effects of smoking in movies are

strongest in children whose parents are the best role models. Children of non-smoking parents who are in the top quartile of exposure to smoking in movies are 4.1 times as likely to smoke as those in the lowest exposure quartile. This effect is substantially stronger than the increase by 1.6 times between these two exposure groups in children of smoking parents.

Thus smoking in movies is having a major effect on health. In the USA, about 2050 adolescents (age 12–17) start smoking every day and about 32% of these people—660 a day—will die prematurely because of smoking.⁹ Assuming that the 52.2% attributable risk observed by Dalton and colleagues applies to this whole group, smoking in movies is responsible for addicting 1080 US adolescents to tobacco every day, 340 of whom will die prematurely as a result.

The good news is that the effect of smoking in movies shows a clear dose-response relation. So, as Dalton and colleagues note, reducing the exposure to smoking in movies will reduce the effect on smoking and death. This goal could be accomplished easily by simply including smoking (or other tobacco promotions, such as appearance of cigarette billboards) as a reason for rating movies as "adult content", an "R" rating (children under 17 not admitted without a parent) in the USA.^{10,11} In the sample of movies in Dalton's study, about 60% of the total exposure to smoking in movies was in youth-rated films (G, PG, and PG-13 in the USA; J Sargent, personal communication). Eliminating smoking in these movies would reduce the exposure by about 800 occurrences, more than a one-quartile drop in exposure, which would reduce the effect of smoking in movies by about half. Put another way, an R rating for smoking in movies would prevent about 330 adolescents from starting to smoke and ultimately extend 170 lives every day.

These numbers underestimate the true benefits of an R rating because in recent years (after Dalton and colleagues finished their data collection), the number and amount of smoking in youth-rated movies has increased.

An adult content or R rating for smoking in movies would not have much effect on the movies that children see because, unlike sex and violence (the primary other reasons, along with offensive language, that films are rated for adult content), smoking in movies does not sell movie tickets.⁵ Studios would simply stop putting smoking in movies aimed at an adolescent market.

The tobacco-control movement has spent many years and millions of dollars attempting to reduce youth smoking by working to implement policies that restrict youth access to cigarettes—with no effect on youth-smoking prevalence.^{12,13} By contrast, the work by Dalton and colleagues, together with the earlier research in this area, strongly indicates that pushing for policy changes to

reduce youth exposure to smoking in movies will have a rapid and substantial effect on youth smoking—and the subsequent disease and death smoking causes. It is time for health advocates worldwide to join with WHO, the American Medical Association, the American Legacy Foundation, and the Los Angeles Department of Health¹⁰ in insisting that the authorities who rate movies give movies that depict smoking an adult content or R rating.

Every day of delay means more unnecessary addiction and death because of Hollywood's love affair with the tobacco industry.

This work was supported by National Cancer Institute grant CA-61021, the Robert Wood Johnson Foundation, and the Richard and Rhoda Goldman Fund.

Stanton A Glantz

Center for Tobacco Control Research and Education,
University of California, San Francisco, San Francisco, CA 94143, USA
(e-mail: glantz@medicine.ucsf.edu)

- 1 Kacirk K, Glantz S. Smoking in movies in 2001 exceeded rates in the 1960s. *Tob Control* 2001; **10**: 397–98.
- 2 Glantz S, Kacirk K, McCulloch C. Back to the future: smoking in movies in 2000 returned to 1950 levels. *Am J Public Health* (in press).
- 3 Distefan J, Gilpin E, Sargent J, Pierce J. Do movie stars encourage adolescents to start smoking? Evidence from California. *Prev Med* 1999; **28**: 1–11.
- 4 Sargent J, Beach M, Dalton M, et al. Viewing tobacco use in movies: does it shape attitudes that mediate adolescent smoking? *Am J Prev Med* 2002; **22**: 137–45.
- 5 Pechmann C, Shih C. Smoking in movies and antismoking advertisements before movies: effects on youth. *J Market* 1999; **63**: 1–13.
- 6 Pierce JP, Choi WS, Gilpin EA, Farkas AJ, Berry CC. Tobacco industry promotion of cigarettes and adolescent smoking. *JAMA* 1998; **279**: 511–15.
- 7 Mekemson C, Glantz S. How the tobacco industry built its relationship with Hollywood. *Tob Control* 2002; **11**: i-81–i-91.
- 8 Pierce JP, Distefan JM, Jackson C, White MM, Gilpin EA. Does tobacco marketing undermine the influence of recommended parenting in discouraging adolescents from smoking? *Am J Prev Med* 2002; **23**: 73–81.
- 9 BRFSS Coordinators. Projected smoking-related deaths among youth—United States. *MMWR Morb Mortal Wkly Rep* 1996; **45**: 971–74.
- 10 Glantz S. Smoke free movies: the solution. 2003: <http://www.smokefreemovies.ucsf.edu/solution> (accessed June 5, 2003).
- 11 Glantz S. Rate movies with smoking “R”. *Eff Clin Pract* 2002; **5**: 31–34.
- 12 Fichtenberg CM, Glantz SA. Youth access interventions do not affect youth smoking. *Pediatrics* 2002; **109**: 1088–92.
- 13 Ling PM, Landman A, Glantz SA. It is time to abandon youth access tobacco programmes. *Tob Control* 2002; **11**: 3–6.

Note: 1080 should be 1070 and 330 should be 535 on the previous page.