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### **Since 1950, tobacco portrayal in movies matches decline in U.S. cigarette consumption**

PHILADELPHIA. Research conducted by the Annenberg Public Policy Center has found that the presence of tobacco-related content in 855 top-30 grossing box-office films, 15 movies per year from 1950-2006<sup>1</sup>, has dramatically declined in parallel with actual cigarette consumption in the United States from the 1960s to 2006. In this study tobacco portrayal was defined as “The portrayal of anything tobacco-related, including smoking ads, logos, or paraphernalia, as well as implied or direct tobacco consumption” per five-minute segment.

The study, just published online in the journal *Tobacco Control*, contradicts some research suggesting that tobacco portrayal has increased in recent years in top-grossing films. Instead, the trend is remarkably similar to actual consumption, which has declined steadily since the Surgeon General’s Report of 1964 warned Americans of the dangers of smoking. While in the early 1950s the average percentage of tobacco-related content in top films per five-minute segment per film by year was just below 40 percent, this rate has declined to 11 percent in the years since 2000. The average rate peaked in 1961 at 41 percent, just before the Surgeon General’s report. Using, handling, or purchasing tobacco by a major character per 5-minute segment in films began to decline even earlier, according to the study.

“The remarkable parallel between tobacco-related content portrayal in films and actual cigarette consumption in the U.S. suggests that films are a good barometer of societal use and approval of tobacco,” said Patrick E. Jamieson of the Annenberg Public Policy Center at the University of

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<sup>1</sup> 15 of the 30 top-grossing films each year, 1950-2006, sampling every other film from Variety magazine.

Pennsylvania, one of the study authors. “Efforts to alert the public about the dangers of smoking appear to have influenced both Hollywood and the public.”

The study is the first to use consistent methods of analysis across such a wide timeframe to document trends in the presence of tobacco-related content in major films. However, it was not possible to identify why the relationship between Americans’ use of cigarettes and the portrayal of tobacco-related content in films was so strong. Possible explanations include:

- The decline in cigarette consumption may have influenced Hollywood to reduce the amount of tobacco-related content in films.
- Major tobacco control efforts since the 1960s may have influenced the decline in both tobacco-related content in films and real-life cigarette consumption.
- The drop in tobacco-related content in films may have contributed to the drop in cigarette consumption.

The study was conducted by the Annenberg Public Policy Center of the University of Pennsylvania’s Coding of Health and Media Project (CHAMP) as part of a global analysis of how changes in mass media entertainment content since 1950 may have affected adolescent socialization and health (see YouthMediaRisk.org). Portrayal of tobacco use in movies is an important public health issue because portrayal of smoking promotes smoking among 10- to 14-year-olds and 9- to 12-year-olds.<sup>2</sup>

When movies are divided into five-minute segments, we found that on average 39 percent of these segments portrayed tobacco-related content in 1950. Portrayal of tobacco per five-minute segment peaked at 41 percent in 1961 and declined to 7.9 percent per five-minute segment in 2006 (Figure 1a). Main characters using, purchasing, or handling tobacco in movies declined steadily from 1950 to 2006 (Figure 1b). During the same time period U.S. adult per capita cigarette consumption also declined (Figure 1c). The decline in tobacco-related content portrayal closely matches the drop in cigarette consumption (Figure 2).

“Although the portrayal of tobacco in movies has declined, it is still a problem,” said APPC researcher Dan Romer, “and the present findings should not reduce efforts to limit youth exposure to tobacco-related content in films.” Tobacco use is responsible for over 430,000 deaths a year in the U.S. and is the largest preventable source of mortality, according to federal

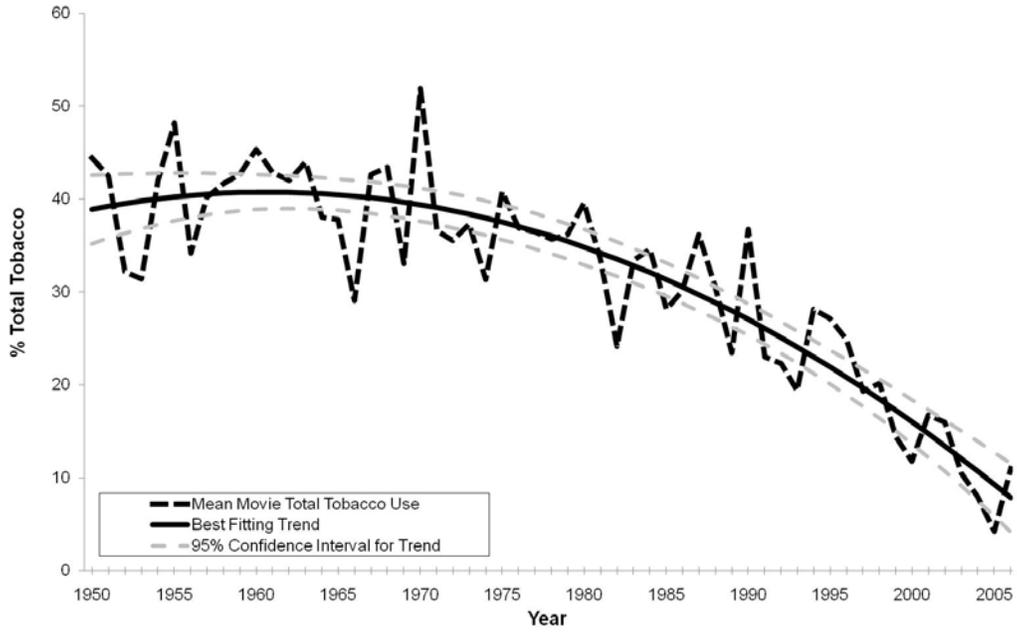
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<sup>2</sup> Dalton MA, Sargent JD, Beach ML, et al. Effect of viewing smoking in movies on adolescent smoking initiation: a cohort study. *Lancet* 2003;362:281-285.

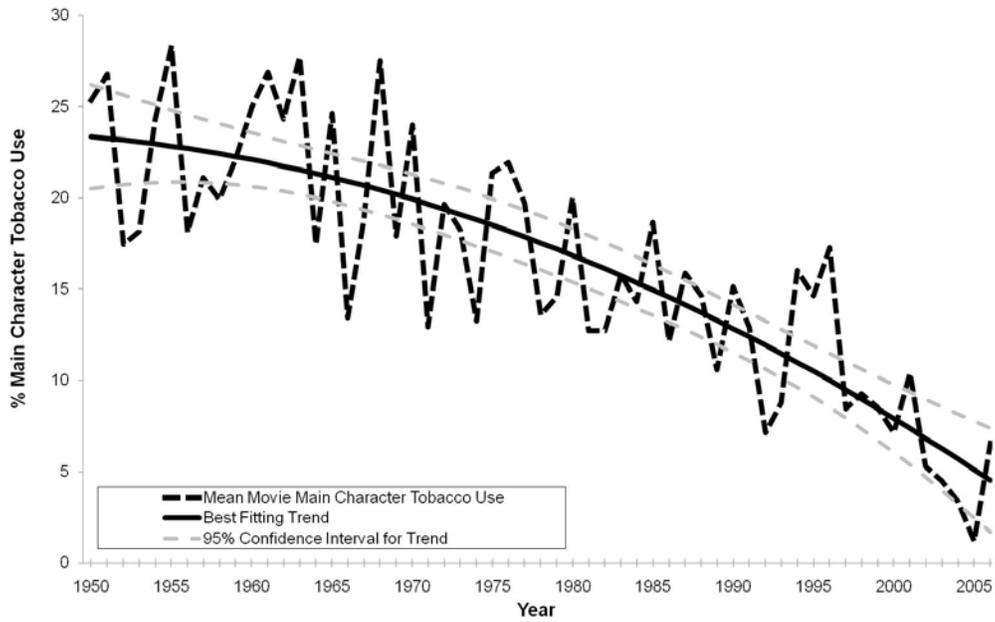
Titus-Ernstoff L, Dalton MA, Adachi-Mejia AM, et al. Longitudinal study of smoking in movies and initiation of smoking by children. *Pediatrics* 2008;121:15-21.

agencies, including the Centers for Disease Control and Prevention and U.S. Surgeon General's Office.

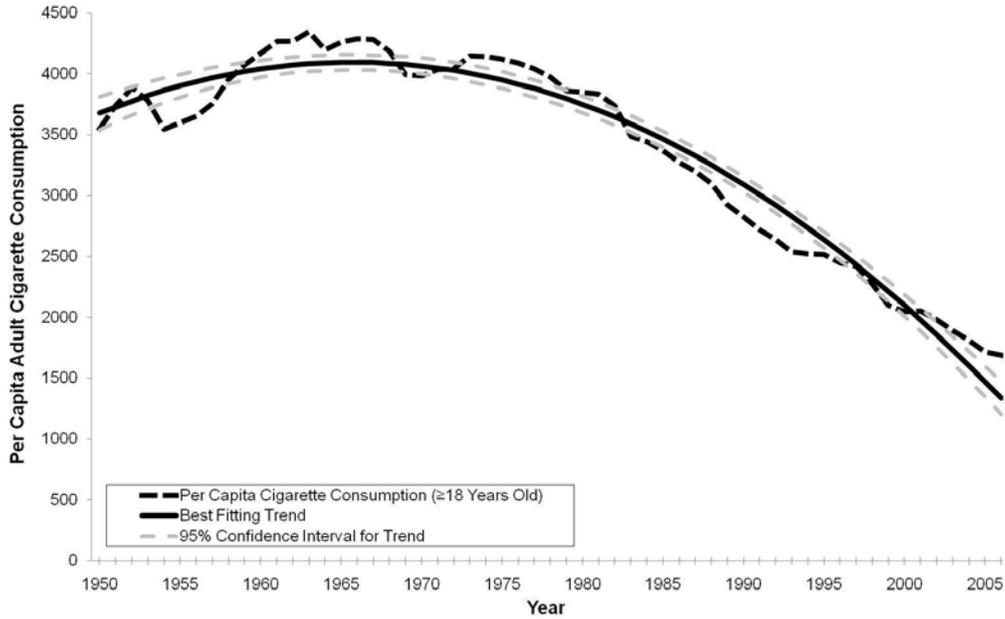
CHAMP receives support from the Robert Wood Johnson Foundation and the Adolescent Health Institute of the Annenberg Public Policy Center of the University of Pennsylvania. A list of the films included in this research and the tobacco content scores of each is available at [www.YouthMediaRisk.org](http://www.YouthMediaRisk.org).



**Figure 1a** Percent of Five Minute Movie Segments with Total Tobacco Content Per Film by Year, 1950-2006

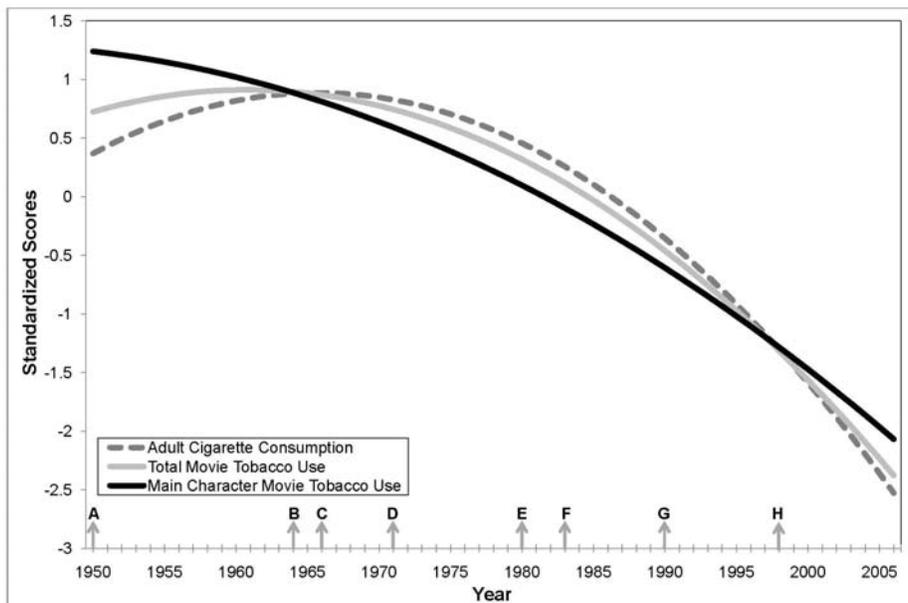


**Figure 1b** Percent of Five Minute Movie Segments with a Main Character Using Tobacco Content Per Film by Year, 1950-2006



**Figure 1c** U.S. Adult Per Capita Cigarette Consumption, 1950-2006

Sources: CDC. Total and per capita adult yearly consumption of manufactured cigarettes and percentage changes in per capita consumption, 2004; CDC. Smoking and Tobacco Use: Data and Statistics: Tables, Charts, and Graphs: Consumption Data: 2006.



**Figure 2** Best Fitting Standardized Trends in U.S. Movie Total Tobacco, Main Character Tobacco Use, and U.S. Adult Cigarette Consumption with Major Tobacco Control Events, 1950-2006.

Major Tobacco Control Events are: A. 1950 JAMA Study Linking Smoking and Cancer; B. 1964 1st Surgeon General's Report Warning of Dangers of Smoking; C. 1966 Cigarette Packs Carry Label Warning About Smoking; D. 1971 Cigarette Advertising Broadcast Ban; E. 1980 British Medical Journal Article About the Dangers of Secondhand Smoke; F. 1983 Federal Cigarette Tax Doubles; G. 1990 Smoking Banned on Domestic flights < 6 Hours Long; H. 1998 Master Settlement Agreement Between Large U.S. Tobacco Companies and States