

## A smoking gun in adolescent health

Every day, more than 3,800 children and teenagers smoke their first cigarette. James Sargent, M.D., wants to know why they choose to light up.

Smoking rates in the U.S. have declined over the past five decades, from a peak of about 40% in the mid-1960s to about 20% today. But preventing young Americans from taking up the habit remains a challenge. Nationwide, about three million high school students and 600,000 middle school students smoke.

Sargent, a professor of pediatrics and of community and family medicine, has spent years studying the factors that cause adolescents to start smoking. He has gradually accumulated evidence of the important role played by the media.

“Movies and cable TV: that’s how kids learn about smoking when there’s no smoking in their immediate family,” he says.

The U.S. Surgeon General apparently agrees, stating in a report published earlier this year that “the evidence is sufficient to conclude that there is a causal relationship between depictions of smoking in the movies and the initiation of smoking among young people.”

But questions have remained about whether it is the exposure to scenes of smoking or another factor that leads to an increased risk of smoking. One alternative explanation is that movies with smoking tend to have more sex and violence in them as well, and that it is those behaviors that increase the risk of smoking. Another explanation is that kids who watch R-rated movies that contain scenes of smoking are simply the kind of kids who are more likely to try smoking, regardless of the actual content of the movies.

Sargent doesn’t think these explanations hold up. And the results of a recent study he led, published in *Pediatrics*, add weight to his argument.

Sargent and colleagues used data from a long-term survey of more than 6,500 adolescents. The participants were first interviewed when they were between the ages of 10 and 14, and the research team followed up with the participants over the next two years to see how many took up smoking. They asked the participants a number of questions about demographics, personality, and family. They also asked about exposure to certain movies. The research team reviewed the top 100 grossing movies in the U.S. for each year from 1998 to 2002. They asked each participant about a random sample of 50 of those movies that included some that were rated R, some rated PG-13, and some rated PG. Using that data, the researchers calculated the amount of exposure each participant had to scenes of smoking in movies and which types of movies had exposed them to smoking.



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Despite all the progress that has been made in reducing smoking rates, millions of Americans still start smoking as adolescents.

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The study found that whether a movie that has scenes of smoking was rated R or PG-13 had no effect on the likelihood that an adolescent will take up smoking. Sargent says that indicates it is the depiction of smoking itself—not the exposure to sex, violence, or other types of scenes that are more prevalent in R-rated movies—that increases the risk of smoking. And, he adds, if kids who watch R-rated movies inherently have a higher risk of smoking because of a sensation-seeking personality trait, then the smoking in the R-rated movies would have a stronger relationship with the risk of smoking. “It would pick up that unmeasured personality characteristic,” he says. But that wasn’t the case.

Overall, only about 40% of the exposure the participants had to scenes of smoking was from R-rated movies. So even if adolescents avoid watching R-rated movies—or are prevented from watching them by their parents—they may still be exposed to behavior that could increase their risk of smoking. The researchers also determined that if any movie that depicts smoking were given an R rating, the rate of adolescent smoking could be reduced by about 18%.

As a result of the findings, Sargent believes that any movie that depicts smoking should automatically be rated R. Movie ratings, he says, are an indicator of adult content, and given the health risks associated with smoking, it makes sense to consider it an adult behavior.

“We’re not making artistic decisions for the movie industry,” he says. “We’re saying, if you make the artistic decision that smoking should be in the movie, it should carry an R rating.”

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