

<http://med.stanford.edu/ism/2010/july/smoke.html>

Point-of-sale advertising major cause of teen smoking, study shows

JULY 18, 2010

BY ROSANNE SPECTOR

Point-of-sale tobacco advertising works impressively well on teens — so well that federal regulators should consider barring such marketing efforts from convenience stores, gas stations and small groceries, a [Stanford University School of Medicine](#) researcher said.

A study published in the August issue of *Pediatrics* led by [Lisa Henriksen](#), PhD, senior research scientist at the [Stanford Prevention Research Center](#), reports that teens' exposure to cigarette advertising at retail outlets substantially increases the odds they will start smoking. According to the findings, students who visited these stores on a regular basis were at least twice as likely to try smoking as those who visited infrequently.

“The tobacco industry argues the purpose of advertising is to encourage smokers to switch brands, but this shows that advertising encourages teenagers to pick up a deadly habit,” said Henriksen, who has studied tobacco marketing for more than a decade.

The study's publication comes just as the new federal Tobacco Regulation Law goes into effect, empowering the U.S. Food and Drug Administration to regulate the manufacturing, marketing and sale of tobacco products. As of June 22, tobacco companies are banned from using terms such as “light,” “low” and “mild” on advertising and packaging and sponsoring cultural and sporting events, but regulators may impose additional constraints if warranted.

Point-of-sale is the major form of marketing used for tobacco — representing 90 percent of the industry's \$12.5 billion marketing budget in 2006 — and the study suggests that further limits on such activity could affect long-term smoking habits. The teen years are when the vast majority of smokers start, and if teens make it through to adulthood without smoking, their likelihood of ever becoming addicted is very small, Henriksen said.

In recent years, the decline in teenage smoking has leveled off. According to the Centers for Disease Control and Prevention, high school students who reported current cigarette use declined sharply from a peak of 36.4 percent in 1997, to 21.9 percent in 2003, after which the percentage dropped just a little to 19.5 in 2009. “The huge decreases are really starting to slow,” said Henriksen. “The train won't continue downhill without further action. Regulating retail marketing would be ideal for smoking prevention.”

Henriksen based the study on repeat surveys of 11- to 14-year-olds at three middle schools in Tracy, Calif., and assessments of cigarette advertisements at stores near the schools. The survey included questions about students' smoking

experience as well as how often they visited the types of stores with lots of cigarette ads — convenience stores, gas stations and small groceries — and then checked back later, first at one year and then at 30 months.

Of the 2,110 students surveyed in 2003 when the study began, 1,681 reported never smoking. A survey of these non-smoking students a year later revealed 18 percent of these students had smoked over the year, at least one puff, and that smoking initiation was much more prevalent among the students who had reported frequent visits to stores with the most cigarette ads.

Among those who had reported visiting these types of stores at least twice a week, 29 percent had taken at least one puff in the previous year. Among those who rarely visited — less than twice a month — only 9 percent had smoked at all.

A survey 30 months after the study began found that by then 27 percent had tried smoking: 34 percent of those who visited stores at least twice a week, and only 21 percent of those who rarely visited.

To measure exposure to ads, the researchers multiplied the frequency of visits by the number of advertising “impressions” in stores near the schools — cigarette-branded ads, product displays and functional objects, like clocks, trash cans and register mats. On average, students experienced 325 cigarette-brand impressions per week, ranging from an average of 114 among infrequent shoppers to 633 among those who shopped frequently.

“I was surprised by the sheer number of cigarette brand impressions in signs and displays in convenience stores near schools,” said Henriksen. “The exposure is unavoidable. It’s impossible to miss.”

Factors other than advertising influence smoking. To determine the effect of point-of-sale advertising alone, the researchers measured many other factors so they could hold these constant in the analysis. These other factors included risk-taking behavior, unsupervised time after school, exposure to smoking in movies or on TV, and smoking by household members and friends. The researchers also factored in grades and demographics including gender, race and ethnicity.

When the project’s statistician adjusted for all the variables, she found that the relationship between store visits and smoking initiation was strong. A year after the survey, those who had initially reported moderate visits (a frequency between once every two weeks and twice a week) were 64 percent more likely to have taken at least one puff than infrequent shoppers. Those frequent shoppers, who had reported more than two visits a week, were more than twice as likely. Even 30 months after the initial survey, by which time more students had begun smoking, the apparent influence of the store visits remained: Those who had initially reported moderate store visits were 19 percent more likely than infrequent visitors to have tried smoking; those who had reported frequent visits were 42 percent more likely to have had a puff.

How can simply spending time in the presence of advertisements make such an impact? “Young people are very susceptible to advertising messages,” said Stanford adolescent medicine specialist [Seth Ammerman](#), MD, who is medical director of the mobile adolescent health services “[Teen Van](#)” at [Lucile Packard Children’s Hospital](#) and researches smoking cessation. Ammerman was not involved in the study.

“One particularly nefarious aspect of advertising at convenience stores is it really normalizes the product. What do you buy there? Cigarettes, but also soup, laundry detergent, soda, cat food — normal, common things. So advertising there really gives the impression that smoking is normal,” said Ammerman, a clinical professor of adolescent medicine at Stanford. “Tobacco companies understand this. They’re not stupid.”

Henriksen’s co-authors are statistical analyst Nina Schleicher, PhD, and two former Stanford Prevention Research Center members: senior author Stephen Fortmann, MD, now senior investigator at Kaiser Permanente Center for Health Research in Portland, Ore.; and Ellen Feighery, now associate director for international research at Campaign for Tobacco-Free Kids, Washington, DC.

The research was funded by the [National Cancer Institute](#).

More information about Stanford’s Department of Medicine, which also supported the work, is available at <http://medicine.stanford.edu/>.