

Teens who feel 'too fat' light up cigarettes to slim down

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Many doctors and public health experts assume that people smoke cigarettes simply because they're addicted to the nicotine.

But a Cornell researcher and his colleagues have found that overweight and obese teens light up for a different reason: to lose weight.

Among U.S. teens who are frequent smokers, 46 percent of girls and 30 percent of boys smoke in part to control their weight, according to the researchers' study.

And [smoking](#) to lose weight is significantly more common among teens who feel they must slim down. Girls who said they were "much too fat" were nearly 225 percent more likely to smoke to lose weight than girls who said their weight was about right. For boys, being overweight was less of a predictor for smoking, perhaps because they feel less pressure from society to lose weight than girls do. Even so, boys who said they were "much too fat" were nearly 145 percent more likely to smoke for weight loss than boys who said their weight was about right.

"This helps us better understand why people choose to engage in risky health behaviors. It's not always just about the immediate pleasure or enjoyment; sometimes it's a means to another end," said the study's author, John Cawley, professor of policy analysis and management.

Teen smoking is a particularly worrisome public health concern, because people who start smoking by their early 20s are likely to continue in

adulthood. And tobacco is the No. 1 preventable cause of death in the United States.

"One hundred years ago, what we mostly died of were infectious diseases, like tuberculosis and influenza. Now we die from our own choices," said Cawley, who studies the economics of risky health behaviors. "At all levels of government, there's a realization that we need to find ways to stop teenagers from developing [poor health habits](#)."

His study, "The Demand for Cigarettes as Derived from the Demand for Weight Loss: A Theoretical and Empirical Investigation," appears in the January 2016 issue of *Health Economics*. Cawley wrote the paper with Davide Dragone of the University of Bologna, Italy, and Stephanie Von Hinke Kessler Scholder of the University of Bristol, United Kingdom.

The researchers applied a well-known economics concept – derived demand – to adolescent smoking to see if it helps explain why teens light up. A person's demand for something is said to be derived if it is demanded not just for the immediate pleasure it provides but because it helps a person achieve another objective; for example, people demand flu shots not because it feels good to get one but because it provides protection from disease. "Initially, a teenager may not enjoy smoking at all. But they may still do it if it gets them something else that they value, such as losing weight," Cawley said.

Scientific evidence shows that smoking does, in fact, increase metabolism and decrease appetite. "Even if it weren't true, but people believed it was true, it could still cause a derived demand," Cawley said.

The key to the study is a dataset – the Health Behavior in School-aged Children survey – that for the first time directly asked study participants if they were smoking to lose weight. "This is the first detailed data on people's motivations for smoking for a nationally representative sample

of U.S. teenagers," said Cawley.

The researchers analyzed data from the survey from 2001-02 and 2005-06 for nearly 10,500 U.S. schoolchildren who were 11, 13 or 15 years old. The children reported their heights and weights, which the researchers used to calculate their body mass indexes. The youth also reported their perception of their weight. When asked "Do you think your body is ... ," they responded with either "much too thin," "a bit too thin," "about right," "a bit too fat" or "much too fat." The survey also asked the children whether they had done anything to lose weight, what that action was and whether they smoked and how frequently.

The researchers also found that white teens were more than twice as likely as African-American adolescents to smoke for [weight loss](#).

The findings have implications for anti-smoking policies, Cawley said.

The Food and Drug Administration may wish to prohibit cigarette companies from promoting the idea that smoking can help one lose weight, Cawley said. That's because the more strongly people believe that idea, the less responsive they will be to increased cigarette taxes; that is, they'll be more likely to continue buying cigarettes, even at a higher price, he said.

"There's a strong economic case for taxing cigarettes. It's just that the taxes may not decrease consumption among girls as much as you might hope or think," Cawley said. "But if you can break the perceived connection between smoking and [weight](#) loss, you may increase their responsiveness to taxes."

More information: John Cawley et al. The Demand for Cigarettes as Derived from the Demand for Weight Loss: A Theoretical and Empirical Investigation, *Health Economics* (2016). [DOI](#):

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