

Researchers find that smoking may restore tapped-out self-control resources

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Researchers at Moffitt Cancer Center in Tampa, Fla., have found that when they deplete a smoker's self control, smoking a cigarette may restore self-control.

The study, published in a recent issue of the [Journal of Abnormal Psychology](#) (Vol. 121, No.1), exposed a test group and a [control group](#) – totaling 132 nicotine dependent [smokers](#) – to an emotional video depicting environmental damage. One group in the study expressed their natural emotional reactions (no depletion of self-control) while the second group suppressed their responses (self-control depletion). Half of the participants in each group were subsequently allowed to smoke a cigarette. Everyone then was asked to complete a frustrating task that required self-control.

"Our goal was to study whether tobacco smoking affects an individual's self-control resources," said lead author Bryan W. Heckman, M.A., a graduate student at the Moffitt Tobacco Research and Intervention Program and the Department of Psychology at the University of South Florida. "We hypothesized that participants who underwent a self-control depletion task would demonstrate less persistence on behavioral tasks requiring self-control as compared to those with self-control intact, when neither group was allowed to smoke. However, we also hypothesized that we would not find this performance decrement among participants who were permitted to smoke."

The investigators' hypotheses were supported.

"We found that smoking did have a restorative effect on an individual's depleted self-control resources," said Heckman. "Moreover, smoking restored self-control, in part, by improving smokers' positive mood."

According to the researchers, evidence is mounting to suggest that self-control is a limited resource that acts like a muscle – expending self-control on a task has the short-term effect of depleting the resource, making it more difficult to engage in another task that requires self-control. While nicotine has been found to enhance performance on a variety of cognitive activities, such as motor abilities, attention and memory, this study was the first to evaluate the effects of smoking on self-control. It suggests that the desire to restore depleted self-control may contribute to smokers' addiction to tobacco.

"Smoking is obviously a maladaptive way to restore self-control," said study co-author Thomas H. Brandon, Ph.D., chair of the Department of Health Outcomes and Behavior at Moffitt [Cancer Center](#), and psychology professor at USF. "Finding other ways to relax or enhance one's mood would be much healthier alternatives. In fact, even raising glucose level – perhaps by consuming a sugary drink – has been shown to restore self-control."

This study suggests that smokers wanting to quit may benefit from learning such alternative self-control restoration strategies as a way to reduce their dependence on tobacco. The authors concluded that smoking cessation treatments would benefit by further research aimed at identifying how [smoking](#) restores self-control, as well as identifying additional alternative strategies for strengthening or restoring [self-control](#).

Provided by H. Lee Moffitt Cancer Center & Research Institute

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