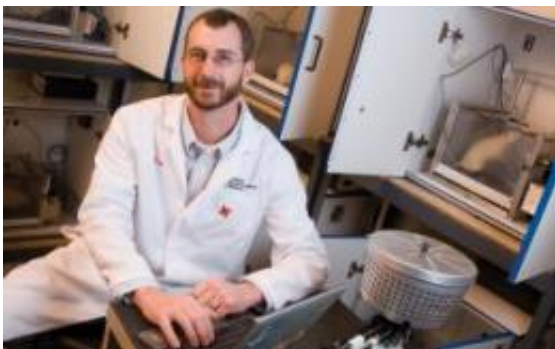


Discovering addiction clues could help smokers kick the habit

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(PhysOrg.com) -- If you've ever tried to quit smoking, understanding how you got hooked in the first place probably seems irrelevant. But University of Nebraska-Lincoln psychologist Rick Bevins believes those first experiences play a key role in nicotine's grip on you today, and understanding that role will eventually help you quit.

With a \$534,413 two-year grant from the National Institutes of Health recently funded by the American Recovery and Reinvestment Act, Bevins is expanding his research on how the learning process affects nicotine's addictive quality.

"We hypothesize that if you have a positive learning history, that drug is going to be more addictive," he said. "The nicotine itself has literally

changed its impact on the body and will have a more tenacious effect on the nervous system." That means nicotine may be more addictive for people who first associate smoking with rewarding experiences, such as acceptance by friends, improved [self-image](#), relaxation or [stress reduction](#), than for those with neutral or negative experiences.

Understanding how addiction works will lead to better treatment and prevention strategies. ARRA funding allowed Bevins to expand his research into an area known as extinction, in which new associations are created through experiences that interfere or compete with the earlier learned positive associations.

He likens it to Pavlov's dog, the famous experiment in which a dog learned to salivate to a ringing bell by feeding it whenever a bell rang. But continue to ring the bell without delivering the food, and the dog will stop salivating to the bell.

"We want to give the individual different learning associations that tell them that [nicotine](#) isn't all that great," Bevins said. His team uses rats in

Quitting isn't just vital to smokers' health. According to the [Centers for Disease Control and Prevention](#), smoking costs the United States more than \$193 billion each year in lost productivity and direct health care expenditures, an average of more than \$4,000 per adult smoker. Nearly 20 percent of American adults smoke and 8.6 million of them have at least one serious smoking-related illness.

In addition to the long-term health and economic benefits of his work, Bevins considers research "the perfect shovel-ready project because you get to hire people right away or retain people who would otherwise be out of a job."

ARRA funding allowed Bevins to retain his lab technician and to hire

two graduate student research assistants, a postdoctoral assistant and half-time technician. It also keeps him buying supplies, most of which come from U.S. companies.

Provided by University of Nebraska-Lincoln

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