

# Coke addicts prefer money in hand to snowy future

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When a research team asked cocaine addicts to choose, hypothetically, between money now or cocaine of greater value later, "preference was almost exclusively for the money now," said Warren K. Bickel, professor in the Virginia Tech Carilion Research Institute, director of the Advanced Recovery Research Center, and professor of psychology in the College of Science at Virginia Tech. This result is significantly different from previous studies where a subject chooses between some money now or more money later.

Hollywood portrays [cocaine addicts](#) as people who will do anything to get their drug and cocaine as the most strongly valued commodity in an addict's life. But research led by Bickel suggests a revision of that view--cocaine is strongly valued only when it is immediately available. "When it is available later, it is not worth very much," he said.

The finding is good news for developing drug [treatment programs](#) based on incentives for delaying [drug use](#), he said.

Research has demonstrated that addicts – whether, smokers, drinkers, gamblers, or overeaters – do tend to prefer the near-term reward. Such findings have provided insights into understanding addiction and the challenges for treatments that promise long-range benefits.

But most of the past research has been done with a single commodity – such as money. "In real life, important choices for those with addiction depend on making decisions across commodities, such as cigarettes now

or money later," said Bickel. His research team examined how the type of commodity and timing of a reward impacted decision making by cocaine addicts. They asked addicts to decide between cocaine now vs. more cocaine later; money now vs. more money later; cocaine now vs. money later; and money now vs. cocaine later.

Participants were 47 cocaine addicts, by criteria of the American Psychiatric Association, who were seeking treatment. They averaged in their early 40s, with 12 years of education, and a median income of \$7,000. Each was asked to estimate the number of grams of cocaine worth \$1,000 and the experiments were based on that value. The initial amount offered for the immediate choice has half of the full value; the delayed amount was always the full value. If the choice was money now versus cocaine later, the immediate reward was \$500 and the future reward was \$1,000 worth of cocaine.

When the participant chose one of the options, the immediate value was adjusted in the next trial up or down by half. If the participant chose the immediate reward, its value dropped by half for the next question. If he chose the future reward, its value increased by 50 percent, but delivery was further in the future. Participants made a choice between immediate and delayed rewards for each of seven delay periods – one day, one week, one month, six months, one year, five years, and 25 years.

Findings for money now versus money later and cocaine now versus cocaine later replicated previous studies with single commodities. The mixed commodity conditions are novel to this study. In the money now-cocaine later choices, "participants soon became indifferent to future cocaine amounts, preferring immediate money even when the value of the future cocaine was significantly greater. That is, cocaine is discounted more steeply than money," said Bickel.

However, when the immediate reward was the drug and the future

reward was money, the decline was less steep. "It took longer for the future money to lose favor compared to a lesser value of cocaine," said Bickel. Discounting rates for [cocaine](#) now versus [money](#) later were not much different than the single commodity results.

Reflecting on the implications for drug treatment programs, Bickel pointed out, "We showed that a delayed drug is discounted more than when the drug is immediately available, no matter what the other option is. In other words, drug users are less likely to use drugs when the choice to use is presented only as a future outcome rather than an immediately available one. For treatment programs for which abstinence is reinforced immediately and drug consumption is available only after a delay, the incentive to abstain may outweigh future [drug](#) consumption."

**More information:** The research appeared in Psychopharmacology on April 14, online ahead of print publication, in the article, "Single- and Cross-Commodity Discounting Among Cocaine Addicts: The Commodity and Its Temporal Location Determine Discounting Rate," by Bickel, Reid D. Landes, et al. [www.springerlink.com/content/9...102027/fulltext.html](http://www.springerlink.com/content/9...102027/fulltext.html)

Provided by Virginia Tech

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