

Marijuana Advertising and the Power of Conditioning

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As social acceptance and public policy around marijuana shift, and especially if legalized recreational use becomes more widespread, we will need to consider the influence and potential regulation of its marketing. For this, we should use what we already know from the science to guide our decisions and policies to minimize harm, because inevitably, advertising is going to reach children and adolescents, people who are addicted to marijuana, and those of all ages who are on their way to becoming addicted.

Ads for addictive substances—including tobacco and alcohol and fattening foods—have the obvious intent of generating new customers as well as enticing current users to use more, but that's not all they do. Marketers know that by associating such products with other pleasurable stimuli and situations, ads contribute to reinforcing those positive associations in the brains of users, and thus contribute to the process of developing an addiction.

Drug addiction is a disease of learning—learning to associate drugs with positive feelings and to associate cues that signal drug availability with similar feelings, ultimately leading to craving for the drug. This part of the addictive progression is known as conditioning, discovered in the 1890s by Pavlov. Today we also understand the brain mechanisms that underlie the phenomenon: Once a person becomes conditioned to drug-related stimuli, those stimuli independently become associated with increases in dopamine in the brain's reward pathway (i.e., without the drug even being present). These dopamine bursts fuel drug-seeking and craving. The same process can cause such stimuli to act as triggers contributing to relapse in those who are already addicted and are struggling to recover.

When there are salient advertisements for a product, it's very hard to contain them, because images don't even need to reach the level of conscious awareness to stimulate the urge to use that product. Recent neuroimaging research has confirmed the brain's extraordinary sensitivity to "unseen" rewarding stimuli: A 2008 fMRI study by Anna Rose Childress and colleagues confirmed that limbic circuitry respond to drug (as well as sexual) reward cues that are too fleeting to be consciously registered. Also, because of the reach of the Internet, it will be hard to restrict exposure to marijuana advertising just to people in states where it is legal, or just to people old enough to purchase it.

For decades we have seen the harmful effects that alcohol and tobacco ads can have, especially those that target young people; similar associations have been found between exposure to food advertising and obesity. The relative harm of marijuana compared to other legal drugs remains hotly contested, but its potential addictiveness—especially to young people—is undisputed. Thus, it is crucial that states consider the lessons learned from tobacco and alcohol policy research and restrict (or preclude) marijuana advertising to reduce as much as possible the development of newly addicted individuals and avoid inducing relapse in people who are already addicted.