Marijuana, the most commonly abused illicit substance, contains numerous ingredients collectively known as cannabinoids. Within the last few years, plant material on which synthetic cannabinoids have been sprayed has appeared on the street under the label “herbal incense.” Smoking these products, called Spice and K2, results in a marijuana-like high as well as other physiological effects that may differ from those of marijuana (e.g., elevated blood pressure, vomiting).

The original conceptualization of this class of cannabinoids occurred in the early 1990s, and this paper was the first to present data demonstrating that they produced THC-like effects in mice. In fact, it is still among the few papers published to date in which the behavioral effects of this class of cannabinoids have been evaluated in animals. The paper presents a number of structural variations of the synthetic cannabinoids that are currently being abused and discusses how these variations affect activity of the drug in the brain and its effects on behavior. At the time of publication, this type of structure-activity relationship study was essential for delineating the interaction of cannabinoids with brain receptors. The brain's endocannabinoid system had only recently been discovered, and not much was known about its physiological roles.

The paper's high citation rate undoubtedly results, in part, from the scientific and forensic interest in these cannabinoids caused by their recent abuse. The hijacking of research chemicals for illicit synthesis and distribution and its societal impact, unfortunately, is not new (e.g., LSD, ecstasy, PCP) and is continuing (e.g., recent influx of stimulants marketed as "bath salts"). Knowledge gained from research on the behavioral effects of these substances in animals is crucial to help medical personnel treat the people who abuse these novel chemicals.

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