Reward Sensitivity as a Target for Preventing Early Cannabis Use

Sensation seeking is a personality trait that describes a person’s tendency to seek out novel and exciting experiences, and a high level of sensation seeking has been implicated as a risk factor for addiction. According to a report today at the annual meeting of the American College of Neuropsychopharmacology, in Hollywood, Florida, sensation seeking is related to reward sensitivity, which is a trait that characterizes how rewarding a person finds different experiences. Further, reward sensitivity is itself related to cannabis use, and partially explains the relationship between it and sensation seeking. Importantly, the researchers describe a school-based psychological intervention that both targets sensation seeking and affects the use of cannabis in teens, delaying the onset of first use, and slowing the progression from light to heavy cannabis use in teens already using.

In a very large sample of nearly 4000 adolescents, Dr. Patricia Conrod and her colleagues at the University of Montreal and Le Centre hospitalier universitaire Sainte-Justine evaluated reward sensitivity over time. The degree of reward sensitivity was determined using a laboratory “go-no go” task, in which individuals are instructed as to when to act and when not to act, in order to obtain reward or avoid punishment. The investigators found that reward sensitivity develops differently in boys and girls and is related to whether sensation seeking is high or low. More details about this and related studies can be found online at www.co-venture.ca, which describes the Co-Venture Trial, in which personality-targeted interventions are evaluated for their impact on 5-year addiction outcomes and cognitive functioning.

Dr. Conrod’s study suggests that psychological interventions aimed at helping youth manage sensation seeking and reward sensitivity may help reduce cannabis use. This may be particularly timely, given that teens perceive cannabis use as being low risk, even in the face of increasing evidence that cannabis use can negatively affect the developing brain and its cognitive functions.

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