

## **Addictive Properties of Popular Drugs**

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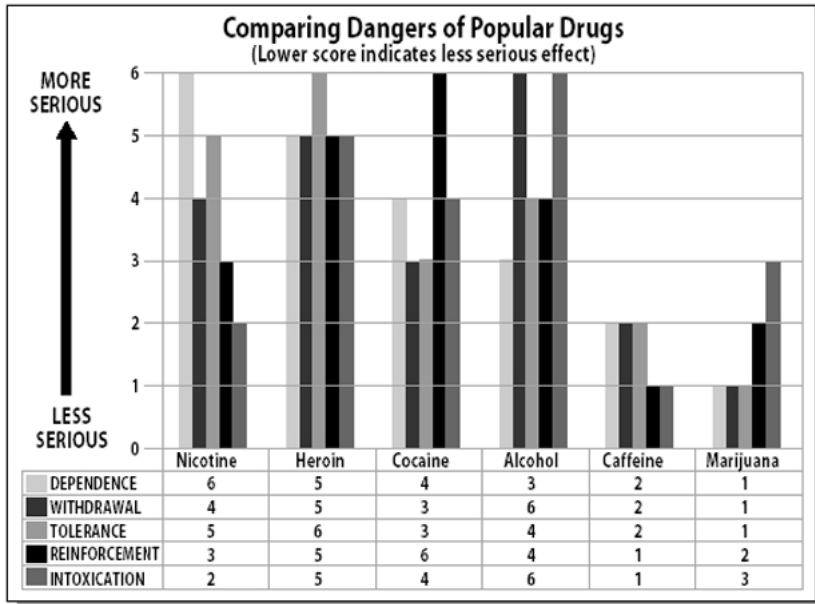
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A one-page flyer depicting the data in the “Drug Rankings by Harm” table below can be found in PDF format at <http://drugwarfacts.org/cms/files/Drug-Rankings-by-Harm.pdf> .

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1.

*(addictiveness of popular drugs)*



**Withdrawal:** Presence and severity of characteristic withdrawal symptoms.

**Reinforcement:** A measure of the substance's ability, in human and animal tests, to get users to take it again and again, and in preference to other substances.

**Tolerance:** How much of the substance is needed to satisfy increasing cravings for it, and the level of stable need that is eventually reached.

**Dependence:** How difficult it is for the user to quit, the relapse rate, the percentage of people who eventually become dependent, the rating users give their own need for the substance and the degree to which the substance will be used in the face of evidence that it causes harm.

**Intoxication:** Though not usually counted as a measure of addiction in itself, the level of intoxication is associated with addiction and increases the personal and social damage a substance may do.

Source:

Jack E. Henningfield, PhD for NIDA, Reported by Philip J. Hilts, New York Times, Aug. 2, 1994 "Is Nicotine Addictive? It Depends on Whose Criteria You Use."

<http://www.nytimes.com/1994/08/02/science/is-nicotine-addictive-it-depen...>

[http://www.erowid.org/psychoactives/addiction/addiction\\_medial.shtml](http://www.erowid.org/psychoactives/addiction/addiction_medial.shtml)

2.

(2007 - *addictive properties - drug rankings by harm* ) This table, compiled from a 2007 study that appeared in the British medical journal *The Lancet* , shows the expert ratings of 20 drugs by three types of harm: physical, dependence, and social.

As stated in the study, "Two independent groups of experts were asked to do the ratings. The first was the national group of consultant psychiatrists who were on the Royal College of Psychiatrists' register as specialists in addiction ... we convened a second group of experts with a wider spread of expertise. These experts had experience in one of the many areas of addiction, ranging from chemistry, pharmacology, and forensic science, through psychiatry and other medical specialties, including epidemiology, as well as the legal and police services."

"Participants were asked to score each substance ... using a four-point scale, with 0 being no risk, 1 some, 2 moderate, and 3 extreme risk."

Title 21, Chapter 13, Section 812 of the U.S. Code contains the Controlled Substances Act of 1970 that established five drug "schedules" presumably based on harm. Schedule I drugs are said to be the most dangerous with Schedules II to V suggesting gradually less harm. The United Kingdom has a similar classification system using the letters A, B, and C, with A being the most harmful and thus most restrictive. Neither system includes alcohol or tobacco.

The table below matches each drug's expert rating with its U.K. Class and U.S. Schedule. The top five most harmful drugs in each category have been color coded **red** as have been all of the most restrictive classifications (U.K. Class A and U.S. Schedule I). Similarly, the scores for the least harmful drugs are color coded **blue** along with the least restrictive scheduling, which is no scheduling at all ("n/s").

Of the top five drugs rated as most harmful, only one – heroin – is a Schedule I drug in the U.S., although the three of the top five most harmful drugs are Class A in the U.K. Of the nine drugs ranked among the least harmful, four including cannabis are

Schedule I. Three of those nine are Class A.

This study concluded, "Our findings raise questions about the validity of the current Misuse of Drugs Act classification, despite the fact that it is nominally based on an assessment of risk to users and society."

### Drug Rankings by Harm

Substance	Physical Harm	Dependence	Social Harm	UK Class	US Schedule
Heroin	2.78	3.00	2.54	A	I
Cocaine	2.33	2.39	2.17	A	II
Barbiturates	2.23	2.01	2.00	B	III

Street Methadone  
**1.86**  
**2.08**  
**1.87**  
  
**A**  
**II**

Alcohol  
  
1.40  
1.93  
**2.21**  
  
**n/s**  
**n/s**

Ketamine  
  
**2.00**  
1.54  
1.69  
  
**C**  
**III**

Benzodiazepines  
  
1.63  
1.83  
1.65  
  
**C**  
**IV**

Amphetamine  
  
1.81  
1.67  
1.50

A  
II

Tobacco

1.24  
**2.21**  
1.42  
  
n/s  
n/s

Buprenorphine

1.60  
1.64  
1.49  
  
C  
III

Cannabis

**0.99**  
1.51  
1.50  
  
B  
**I**

Solvents

1.28  
**1.01**  
1.52  
  
n/s  
n/s

4-MTA

1.44  
1.30  
**1.06**

**A**  
**n/s**

LSD

1.13  
1.23  
1.32

**A**  
**I**

Methylphenidate

1.32  
1.25  
**0.97**

**B**  
**II**

Anabolic steroids

1.45  
**0.88**  
1.13

**C**  
**III**

GHB

**0.86**  
1.19  
1.30

C  
I

Ecstasy

1.05  
1.13  
1.09

A  
I

Alkyl nitrites

0.93  
0.87  
0.97

n/s  
n/s

Khat

0.50  
1.04  
0.85

C  
I

**Notes:**

- United Kingdom drug classes were initially assigned based on Table 2 in *The Lancet* report. However, since then, two drugs have been reclassified:
- Methamphetamine was moved from class B to class A in 2006.
- Although Cannabis was downgraded from class B to class C in 2004, it was subsequently upgraded to class B in 2009.
- "n/s" = no scheduling

Source:

Nutt, David Nutt; King, Leslie A; Saulsbury, William; and Blakemore, Colin "Development of a rational scale to assess the harm of drugs of potential misuse," The Lancet (London, United Kingdom: March 24, 2007), Vol 369, p. 1051.

<http://science.iowamedicalmarijuana.org/pdfs/safety/Nutt%20Rational%20Sc...>

<http://www.ncbi.nlm.nih.gov/pubmed/17382831>

U.S. Code. Title 21, Chapter 13 -- Drug Abuse Prevention and Control -- Section 844, Penalties for Simple Possession, pp. 385-387.

[http://frwebgate.access.gpo.gov/cgi-bin/usc.cgi?ACTION=RETRIEVE&FILE=\\$\\$xa\\$\\$busc21.wais&start=2717826&SIZE=24600&TYPE=PDF](http://frwebgate.access.gpo.gov/cgi-bin/usc.cgi?ACTION=RETRIEVE&FILE=$$xa$$busc21.wais&start=2717826&SIZE=24600&TYPE=PDF)

<http://mapinc.org/url/1NCZaa7Q>

[http://www.deadiversion.usdoj.gov/schedules/orangebook/e\\_cs\\_sched.pdf](http://www.deadiversion.usdoj.gov/schedules/orangebook/e_cs_sched.pdf)

List of controlled drugs in the United Kingdom,

[http://en.wikipedia.org/wiki/List\\_of\\_controlled\\_drugs\\_in\\_the\\_United\\_King...](http://en.wikipedia.org/wiki/List_of_controlled_drugs_in_the_United_King...)

3.

**(addictive properties - addictiveness by substance)** "Of the people who sample a particular substance, what portion will become physiologically or psychologically dependent on the drug for some period of time? Heroin and methamphetamine are the most addictive by this measure. Cocaine, pentobarbital (a fast-acting sedative), nicotine and alcohol are next, followed by marijuana and possibly caffeine. Some hallucinogens—notably LSD, mescaline and psilocybin—have little or no potential for creating dependence."

Source:

Gable, Robert S., "The Toxicity of Recreational Drugs," American Scientist (Research Triangle Park, NC: Sigma Xi, The Scientific Research Society, May-June 2006) Vol. 94, No. 3, p. 208.

[http://www.americanscientist.org/libraries/documents/200645104835\\_307.pd...](http://www.americanscientist.org/libraries/documents/200645104835_307.pd...)

4.

*(addictive properties - lethal dose by substance)* "The most toxic recreational drugs, such as GHB (gamma-hydroxybutyrate) and heroin, have a lethal dose less than 10 times their typical effective dose. The largest cluster of substances has a lethal dose that is 10 to 20 times the effective dose: These include cocaine, MDMA (methylenedioxymethamphetamine, often called "ecstasy") and alcohol. A less toxic group of substances, requiring 20 to 80 times the effective dose to cause death, include Rohypnol (flunitrazepam or "roofies") and mescaline (peyote cactus). The least physiologically toxic substances, those requiring 100 to 1,000 times the effective dose to cause death, include psilocybin mushrooms and marijuana, when ingested. I've found no published cases in the English language that document deaths from smoked marijuana, so the actual lethal dose is a mystery."

Source:

Gable, Robert S., "The Toxicity of Recreational Drugs," American Scientist (Research Triangle Park, NC: Sigma Xi, The Scientific Research Society, May-June 2006) Vol. 94, No. 3, p. 207.

[http://www.americanscientist.org/libraries/documents/200645104835\\_307.pd...](http://www.americanscientist.org/libraries/documents/200645104835_307.pd...)

5.

*(addictive properties - harm by substance)* "Method: Members of the Independent Scientific Committee on Drugs, including two invited specialists, met in a 1-day interactive workshop to score 20 drugs on 16 criteria: nine related to the harms that a drug produces in the individual and seven to the harms to others. Drugs were scored out of 100 points, and the criteria were weighted to indicate their relative importance."

"Findings: MCDA [multicriteria decision analysis] modelling showed that heroin, crack cocaine, and metamfetamine were the most harmful drugs to individuals (part scores 34, 37, and 32, respectively), whereas alcohol, heroin, and crack cocaine were the most harmful to others (46, 21, and 17, respectively). Overall, alcohol was the most harmful drug (overall harm score 72), with heroin (55) and crack cocaine (54) in second and third places."

Source:

Nutt, David J Nutt; King, Leslie A; Phillips, Lawrence D, "Drug harms in the UK: a multicriteria decision analysis," The Lancet (London, United Kingdom: November 1, 2010) Vol. 376, p. 1558.

<http://download.thelancet.com/pdfs/journals/lancet/PIIS0140673610614626....>

(Note: To access this PDF file, users will need to log into the website.)