Cocaine: ----------

Monitoring the Future Study: Trends in Prevalence of Various Drugs for 8th Graders, 10th Graders, and 12th Graders; 2019 (in percent)*				
Drug	**Time Period**	**8th Graders**	**10th Graders**	**12th Graders**
Cocaine	Lifetime	1,20	2,50	3,80
	Past Year	0,70	1,50	2,20
	Past Month	0,30	0,60	1,00
Source:	NIDA. "Cocaine." National Institute on Drug Abuse, https://www.drugabuse.gov/drugs-abuse/cocaine. Accessed 7 Jun. 2020.			

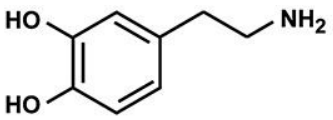
- National Institute On Drug Abuse - Commonly Abused Drugs: link to PDF
- National Institute On Drug Abuse - Commonly Abused Drugs - Prescriptions And OTCs: link to PDF
- National Institute On Drug Abuse - Commonly Abused Drugs And Withdrawal Symptoms: link to PDF

Amphetamines: ----------

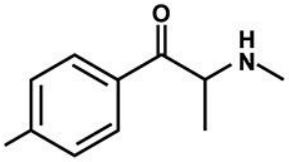
- “Over 12 million Americans have used methamphetamine in their lifetimes” - United States National Synthetic Drugs Action Plan (2004)

Substituted Cathinones: ----------

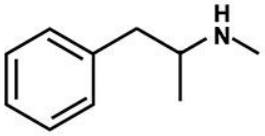
A Molecular Comparison Between Naturally Occuring Hormones and Substituted Cathinones:



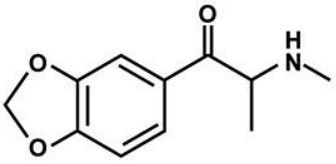
Dopamine



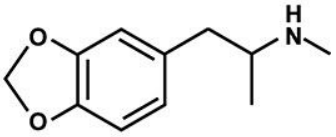
Mephedrone



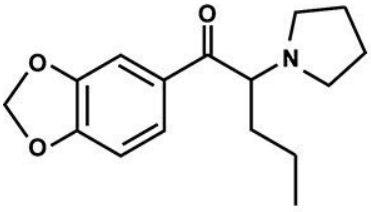
Methamphetamine



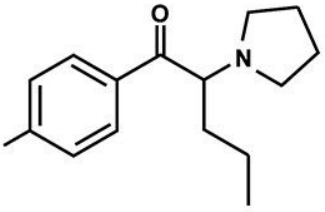
Methylone



MDMA



MDPV



Pyrovalerone

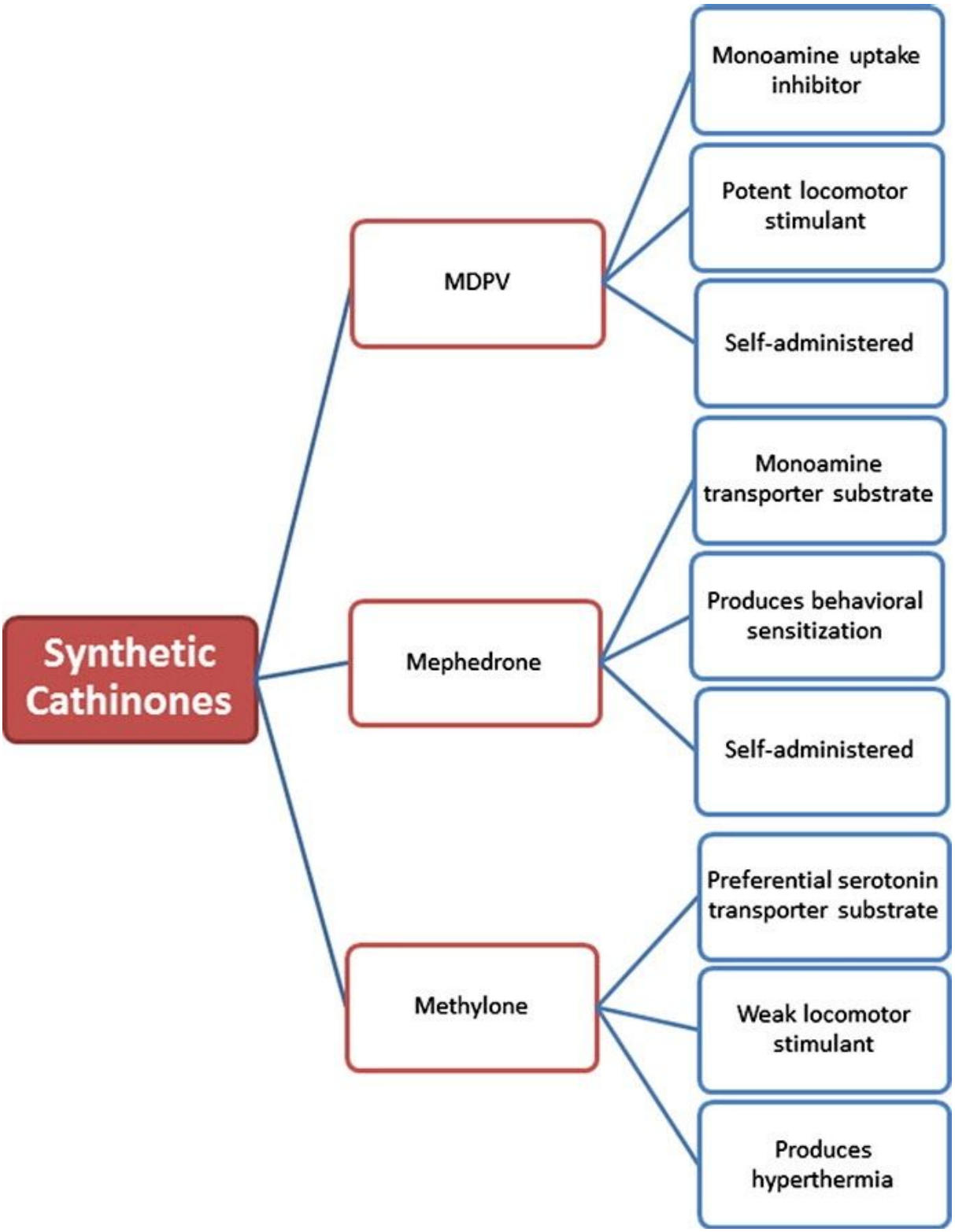
"Synthetic cathinones are an emerging class of designer drugs abused for psychostimulant and hallucinogenic effects similar to cocaine, methylenedioxymethamphetamine (MDMA), or other amphetamines. Abuse of synthetic cathinones, frequently included in products sold as 'bath salts', became prevalent in early 2009, leading to legislative classification throughout Europe in 2010 and schedule I classification within the United States in 2011. Recent pre-clinical and clinical studies indicate that dysregulation of central monoamine systems is a principal mechanism of synthetic cathinone action and presumably underlie the behavioral effects and abuse liability associated with these drugs. This review provides insight into the development of synthetic cathinones as substances

of abuse, current patterns of their abuse, known mechanisms of their action and toxicology, and the benefits and drawbacks of their classification."

"*Despite extensive legislation aimed at the criminalization of bath salts, several designer cathinones are gaining a foothold in the illicit drug scene; for example, in the United Kingdom, mephedrone (4-methylmethcathinone, MEPH) is highly popular among drug abusers whereas, in the United States, MDPV (methylenedioxypyrovalerone) and methylone are highly prevalent. To date, knowledge about the hazards of designer cathinones is based mostly on hospital reports and anecdotal evidence derived from online surveys. Despite the paucity of preclinical studies directed toward designer cathinones, a number of invaluable findings arising from those studies are enabling scientists to develop their neuropharmacological profiles. Despite their commonalities in chemical structures, synthetic cathinones possess distinct neuropharmacological profiles and produce different behavioral effects, including unique effects on locomotor activity, learning, anxiety, thermoregulation, and abuse liability. The present review will discuss the behavioral effects of MEPH, MDPV, and methylone and compare those effects to established psychostimulant drugs. The rise in the use of designer cathinones in the United States and abroad justifies further investigations into these compounds, both for a greater understanding of the danger that "bath salts" pose to the public, and to provide insight into replacement cathinones as they emerge onto the market."*

"Graphical abstract:

(substituted cathinones possessing overlapping and unique pharmacological properties)"



2016 - Synthetic Cathinone Pharmacokinetics, Analytical Methods, And Toxicological Findings From Human Performance And Postmortem Cases

"*Synthetic cathinones are commonly abused novel psychoactive substances (NPS). We present a comprehensive systematic review addressing in vitro and in vivo synthetic cathinone pharmacokinetics, analytical methods for detection and quantification in biological matrices, and toxicological findings from human performance and postmortem toxicology cases. Few preclinical administration studies examined synthetic cathinone pharmacokinetic profiles (absorption, distribution, metabolism, and excretion), and only one investigated metabolite pharmacokinetics. Synthetic cathinone metabolic profiling studies, primarily with human liver microsomes, elucidated metabolite structures and identified suitable biomarkers to extend detection windows beyond those provided by parent compounds. Generally, cathinone derivatives underwent ketone reduction, carbonylation of the pyrrolidine ring, and oxidative reactions, with phase II metabolites also detected. Reliable analytical methods are necessary for cathinone identification in biological matrices to document intake and link adverse events to specific compounds and concentrations. NPS analytical methods are constrained in their ability to detect new emerging synthetic cathinones due to limited commercially available reference standards and continuous development of new analogs. Immunoassay screening methods are especially affected, but also gas-chromatography and liquid-chromatography mass spectrometry confirmation methods. Non-targeted high-resolution-mass spectrometry screening methods are advantageous, as they allow for retrospective data analysis and easier addition of new synthetic cathinones to existing methods. Lack of controlled administration studies in humans complicate interpretation of synthetic cathinones in biological matrices, as dosing information is typically unknown. Furthermore, antemortem and postmortem concentrations often overlap and the presence of other psychoactive substances are typically found in combination with cathinones derivatives, further confounding result interpretation.*"