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The Adverse Psychiatric Consequences of Recreational Stimulant Drugs Such as Methamphetamine, Cocaine, Ecstasy/mdma, and Mephedrone: a Unified Psychobiological Explanation.

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Stimulant drugs such as amphetamine, nicotine and Ecstasy/MDMA, are taken for positive reasons such as mood enhancement. Yet their repetitive use can lead to a range of psychobiological deficits and psychiatric distress. There are several underlying neurobiological factors for this. Their acute subjective effects are typically positive, with greater alertness and emotional engagement. However during the post-drug recovery period the opposite states predominate, with feeling of tiredness and sadness. Every recreational central nervous system (CNS) stimulant drug causes this mood fluctuation. They are most evident in drugs with a very rapid onset and come-down, such as cocaine or nicotine. Hence regular smokers report good moods immediately after smoke inhalation, followed by poor moods 30-60 minutes later. This rapidity of these mood changes with nicotine and cocaine, helps explain why they are also the most addictive. Parallel fluctuations occur across many other psychological functions, with impoverished cognitive skills when off-drug. CNS stimulant drugs also adversely affect the HPA axis, impairing sleep and disrupting homeostasis. These core psychobiological problems help explain their adverse psychiatric effects, since fluctuating mood states and disrupted homeostatic stability, can exacerbate any prior psychiatric susceptibilities (for anxiety, depression, schizophrenia, or other disorders). In summary, the repetitive stimulation of the CNS by recreational drugs can be very damaging to the organism, both acutely and chronically.