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[▶ Does physical activity protect against drug abuse vulnerability?](#)

Bardo M.T., Compton W.M.

Drug and Alcohol Dependence: 2015, 153, p. 3–13.

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Review assesses the evidence on whether physical exercise helps prevent or overcome drug use problems but finds it generally lacking or not sufficiently rigorous to answer these questions, despite some promising evidence in relation to overcoming dependence on tobacco and reasons to believe the physical changes induced by exercise would be protective.

SUMMARY The featured review examined recent literature to determine the state of knowledge about the potential ability of physical activity to protect against vulnerability to drug abuse. Both preclinical [animal] and clinical [human] studies were reviewed. In addition to examining drug use as an outcome, the potential neural mediators linking physical activity and vulnerability to drug abuse were examined.

Several important conclusions may be drawn. First, the preclinical evidence is solid in showing that physical activity in various forms has a protective effect on self-administration of drugs by laboratory animals, although voluntary alcohol drinking appears to be an exception. Second, the clinical evidence provides some evidence, albeit mixed, to suggest a beneficial effect of physical activity on tobacco-dependent individuals. In contrast, there exists only circumstantial evidence that physical activity may reduce use of drugs other than nicotine, and there is essentially no solid information from randomised studies to know whether physical activity may prevent initiation of problem use.

Finally, both preclinical and clinical evidence shows that various brain systems are altered by physical activity, with the medial prefrontal cortex serving as one potential node that may mediate the hypothesized link between physical activity and vulnerability to drug abuse.

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