

Title: Effects of Caffeine on Cognitive Performance, Mood, and Psychological Disorders
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Caffeine, consumed by more than 90 percent of adults in America, is one of the most widely used and socially accepted drugs. While some people are more concerned with the immediate benefits, others have a more negative association to caffeine, claiming that it can be harmful. This literature review will examine both sides of the caffeine controversy to see if the benefits outweigh the detriments. More specifically, this literature review examines the effects of caffeine consumption on cognitive performance, mood, and symptomatology and risks for various psychological disorders. Studies have shown that caffeine greatly improves cognitive performance and mood. One study has shown that caffeine consumption can decrease the risk of depression when consumed moderately (Wang et al, 2016) while other studies have shown that caffeine can induce and increase anxiety disorder symptoms. Yet another study on psychological disorders demonstrated that caffeine can provide protection against the neuron degeneration of Parkinson's disease, thereby restoring motor symptoms (Prediger, 2010). Despite these benefits, however, caffeine can harm one's physical health if consumed excessively. A person can develop a tolerance for the stimulant, consequently becoming both physiologically and psychologically dependent. In conclusion, research suggests that when consumed in moderation, caffeine possesses more benefits than detriments. Due to the popularity of this stimulant and the negative stigma associated with it, there needs to be greater awareness of its beneficial long term impacts when consumed in moderation.

References

- Doty, T. J., So, C. J., Bergman, E. M., Trach, S. K., Ratcliffe, R. H., Yarnell, A. M., Quartana, P. J. (2017). Limited Efficacy of Caffeine and Recovery Costs During and Following 5 Days of Chronic Sleep Restriction. *Sleep*, 40(12). doi: 10.1093/sleep/zsx171
- Gohary, M. I. E., Salama, A. A., Saeid, A. A. E., Sayed, T. M. E., & Kotb, H. S. (2013). Influence of Magnetic Field on Brain Activity During Administration of Caffeine. *Cell Biochemistry and Biophysics*, 67(3), 929–933. doi: 10.1007/s12013-013-9584-x
- Hameleers, P. A. H. M., Boxtel, M. P. J. V., Hogervorst, E., Riedel, W. J., Houx, P. J., Buntinx, F., & Jolles, J. (2000). Habitual caffeine consumption and its relation to memory, attention, planning capacity and psychomotor performance across multiple age groups. *Human Psychopharmacology: Clinical and Experimental*, 15(8), 573– 581. doi: 10.1002/hup.218
- Nabbi-Schroeter, D., Elmenhorst, D., Oskamp, A., Laskowski, S., Bauer, A., & Kroll, T. (2017). Effects of Long-Term Caffeine Consumption on the Adenosine A1 Receptor in the Rat Brain: an In Vivo PET Study with [18F]CPFPX. *Molecular Imaging and Biology*, 20(2), 284–291. doi: 10.1007/s11307-017-1116-4
- Smit, H., & Rogers, P. (2000). Effects of low doses of caffeine on cognitive performance, mood and thirst in low and higher caffeine consumers. *Psychopharmacology*, 152(2), 167–173. doi: 10.1007/s002130000506