

Lucke, J., Partridge, B., & Hall, W. (2013). Dealing with ennui: to what extent is “cognitive enhancement” a form of self-medication for symptoms of depression? *AJOB Neuroscience*, 4(1), 17. doi: 10.1080/21507740.2012.757569

Vrecko (2013) reports the findings of a qualitative study of people who had used stimulants as an aid to study that focuses on the contribution of elevated mood to their perceived effectiveness as “cognitive enhancers.” We agree that nonmedical stimulant use may not be primarily motivated by cognitive enhancement, since there is growing evidence that prescription stimulants do not significantly improve cognitive performance in students who are already functioning at high levels (Lucke et al. 2011 ; Smith and Farah 2011). In light of this evidence, the experiences of those who use stimulants as a “study aid” need more of the detailed empirical examination reported by Vrecko.

We would also suggest exploring the extent to which stimulants may be used by students to self-medicate symptoms of depression. The participants in Vrecko's study were uninterested in their studies (“even just getting to the library can be difficult, it's the last place I want to be”) and were prone to report being easily distracted, procrastinating, and being easily bored. Many of these feelings sound like symptoms of mild to moderate depression, for example, finding it hard to get going, lack of motivation, lack of self-efficacy, and lack of self-confidence, all of which may be associated with poor cognitive function (Lucke and Partridge 2012). Students suffering from depression or ennui may well look for ways to artificially boost their motivation to study.

There is no direct evidence that prescription stimulants are being used to self-medicate untreated depression or ennui, but Vrecko's findings suggest that we should broaden the exploration of motives for use to include self-medication of depressed mood. We would also examine the extent to which students self-medicate with a range of other substances, such as alcohol, prescription medicines, and illicit drugs. Vrecko's article emphasizes that a more nuanced analysis of motivations for nonmedical stimulant use is required in the bioethical literature.

We also believe it is important to examine ways in which students may improve their study skills without resorting to self-medication with potentially harmful drugs. As a recent article in *American Psychologist* notes, mental health professionals have significantly underestimated the importance to good mental health of exercise, nutrition and diet, time in nature, relationships, recreation, relaxation and stress management, religious or spiritual involvement, and service to others (Walsh 2011).

We have also argued elsewhere that the most effective and the most ethical way of enhancing cognitive functioning on a population-wide scale may be to promote a balanced lifestyle that includes adequate sleep, physical activity, healthy diet and substance use habits, and good mental health practices (Lucke and Partridge 2012).

Students who feel a need to boost study performance by using stimulants may gain the most from taking up healthy lifestyle habits. To deal with ennui by pharmacological “motivation enhancement” involving nonmedical stimulants is unlikely to be conducive to good mental health. The study also raises implications for the bioethics debate about the use of stimulants for cognitive enhancement. We believe that bioethicists should avoid implicitly condoning the practice by uncritically referring to it as cognitive enhancement.

#### REFERENCES

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