

Controversy question (NSP comprehensive exam, 2013)

The use of drugs to improve cognition is becoming more prevalent on college campuses. One study reported past-year prevalence rates of non-medical drug use ranging from 0-25% in a sample of U.S. colleges for such drugs as Ritalin, Dexedrine, and Adderall (McCabe et al., 2005). The use of such mental enhancers is controversial and both Farah (2002) and Gazzaniga (2005) claim that this issue is an important ethical dilemma emerging in the field of neuroscience. Questions emerge as to whether students taking mental enhancers are put at an unfair advantage compared to those who do not take them, similar to the controversy surrounding the use of steroids in athletes. Gazzaniga (2005) argues that these drugs have the potential to increase everyone's mental function and, unlike sports, cognitive function is not competitive so there is no unfairness in using mental enhancers. Farah (2002) remains more neutral but suggests that taking drugs to improve cognition may be too much of a short-cut – that people are happier when they feel that they've earned their success rather than "cheated" the system.

Choose 3 drugs used to enhance mental function. These can include nicotine, caffeine, methylphenidate/dextroamphetamine/atomoxetine (Ritalin, Adderall, Dexedrine, Strattera), piracetam, modafinil, donepezil (Aricept), and memantine.

- 1) For each of the 3 drugs you chose:
 - a. Explain the mechanism by which cognition is improved and identify and discuss the types of cognitive functions thought to show a benefit. (30%)
 - b. Describe research that supports or does not support the use of such drugs to enhance cognitive functioning for non-clinical populations (e.g., those without ADHD, Alzheimer's disease, narcolepsy, etc.). Also address whether differential benefits occur in different age groups (juvenile, adults, seniors). (30%)
- 2) In a more general discussion, state your opinion about whether non-medical use of mental enhancers is ethical and support your arguments using empirical research. (40%)