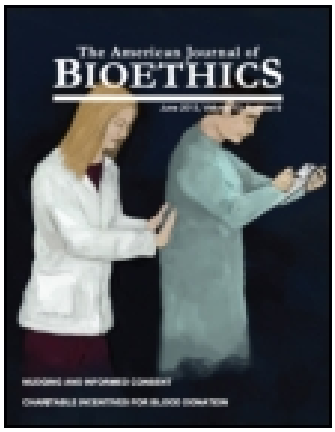

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The Indirect Psychological Costs of Cognitive Enhancement

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The Indirect Psychological Costs of Cognitive Enhancement

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One of the main goals of the debate on the "new" cognitive enhancement substances like Ritalin and Adderall is to develop an appropriate policy regarding their regulation. In order to suggest such a policy, Veljko Dubljević (2013) compares these enhancers to well-known drugs in their relative potential for harm. Implicit in his argument is the assumption that the new cognitive enhancers are not relevantly different in kind from other substances like alcohol or the "old" enhancer caffeine. We argue that, in being perceived negatively by the public, the new cognitive enhancers are *psychologically* different from other well-known drugs. Further, this negative social perception might generate indirect psychological costs for users. These costs should be factored in to any risk–benefit analysis informing the regulation of the use of the new cognitive enhancement substances.

THE SOCIAL PERCEPTION OF COGNITIVE ENHANCEMENT

The "Multi-Criteria Drug Harm Scale" (Nutt et al. 2007) is a tool to assess and compare the danger of pharmacological substances on different dimensions ranging from their acute toxicity (physical harm) to the costs they generate for the health care system (social harm). Using this scale to assess the relative danger of new cognitive enhancers like Ritalin (methylphenidate) and Adderall (mixed amphetamine salts), Veljko Dubljević (2013) puts them on a par with other publicly well-known substances like tobacco. Such a nondifferentiation between the "new" enhancers and "old" substances indeed makes sense from the perspective of both pharmacology (e.g., when assessing toxicity or addictiveness) and certain philosophical discussions (e.g., when assessing their impact on autonomy or authenticity). However, given the aim to generate a risk–benefit analysis that is as comprehensive as possible for policy purposes, this approach overlooks the importance of the social psychological dimension of cognitive enhancement, namely, how the new enhancers are seen by the general public. Do people *perceive* them as like other substances they know well? Research tells us that they do not: for example, despite the strong parallels in pharmacological effects and reasons for consumption, people tend to refuse to adopt analogies between the new cognitive enhancers and caffeine (Forlini and Racine 2010). A reason for this perceived difference in kind is that people are familiar with the effects and side effects of the old substances, and their consumption (e.g.,

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drinking coffee) has gained some positive cultural meaning. This is not the case for the new cognitive enhancement substances.

Also, the public *valence* of a substance does not necessarily correspond with its danger profile as assessed by the Multi-Criteria Drug Harm Scale. An obvious illustration for this is alcohol. Alcohol is a very dangerous substance, causing more harm on every dimension of the scale than methylphenidate. However, it is generally perceived far more favorably: treating a colleague to a glass of red wine is widely accepted as cordial behavior, whereas offering them a pill of Ritalin surely is less so. Indeed, increasing empirical evidence shows that the general public sees the use of the new enhancement substances as unacceptable (e.g., Bell et al. 2013). Moreover, not only are these new enhancers judged negatively, but their efficacy is strongly exaggerated by lay people—even if they take them themselves (e.g., Ilieva, Boland, and Farah 2013). Further, people tend to hold the unsubstantiated views that the new cognitive enhancers reduce the self-esteem of users, make users appear more intelligent than they are, and even make them more likely to commit suicide (Forlini and Racine 2010).

THE INDIRECT PSYCHOLOGICAL COSTS OF COGNITIVE ENHANCEMENT

As long as there are these misconceptions regarding the actual effects of the new cognitive enhancers in the general public, it is reasonable to assume that people taking them will be treated in a way that can damage their psychological well-being. In other words—independent of their actual direct physiological effects—these enhancers might generate some *indirect psychological costs* for users. Social psychological research implies a range of such costs, three of which we discuss in the following: *attribution of performance*, *dehumanization*, and *ostracism*.

A first cluster of indirect psychological costs of the use of new enhancers relates to the way in which people *attribute performance* to agents. Given that people tend to exaggerate the efficacy of new enhancers, they may see the performance of users as not fully attributable to them. For example, a good result in an exam might be attributed less to a student but rather to the Ritalin the student took, and the student may consequently be seen as less praiseworthy for it. Compounding this, a robust cognitive phenomenon known as the "correspondence bias" (Gilbert and Jones 1986) could worsen perceptions of users in a further way: people may be inclined to believe that individuals are motivated to take such enhancers due to dispositional rather than situational factors. For example, a student's peers might think that she/he took Ritalin before the exam to cope with her/his lack of intelligence, rather than with lack of time to study, negatively affecting judgments of the student's capacities. The student may also be seen as a cheater, and this might affect her/his well-being. Finally, the student might even partly share these attributions about her/himself, and this could, in turn, harm the student's self-esteem and contribute to the addiction potential of the enhancement substance.

A second group of indirect psychological costs relate to the risks of *dehumanization*. The consumption of new cognitive enhancement substances by agents might lead observers to significantly shift their attention from these agents' emotional attributes to their cognitive capacities. Hence, users of new enhancers might be perceived as being slightly more similar to automatons than nonusers. This so-called "mechanistic dehumanization" is associated with the denial of certain attributes of human nature, such as emotional responsiveness and warmth. As shown by empirical studies, the experience of being dehumanized by others in such a mechanistic way has severe emotional and cognitively consequences. Subjects report not only negative emotions like anger, but also cognitive deconstructive states like mental lethargy and a reduced ability to think clearly (e.g., Bastian and Haslam 2011). Hence, other people's attitudes toward the users of new enhancers might not only negatively affect their well-being, but also counteract the possible cognition-improving effects of the enhancer.

Finally, using such new cognitive enhancement substances could even lead to *ostracism*, that is, to the deliberate exclusion of an individual from social relationships. As long as the use of these enhancers is uncommon and perceived negatively, their intake is a violation of a general social rule. People violating social rules can be seen as deviant and, hence, as a threat to a cohesive social group, which, in turn, can lead to them being excluded from that group. For example, it is easily conceivable that a student being the only one taking Ritalin in preparation for an exam is "given the silent treatment" by that student's group of peers who object to Ritalin use. Consequences of ostracism for the victim are severe, ranging from strong feelings of sadness and helplessness when ostracized only briefly to high levels of depression when being socially rejected for a longer time (Williams and Nida 2011).

Of course, which negative perceptions and aversive behaviors of others the use of the new cognitive enhancers actually generates is an empirical question that has not been answered yet. However, as long as the general public considers these enhancers to be unacceptable and believes them to be more effective than they are, we can safely assume that their intake will generate some indirect psychological costs like those just discussed. Given the relatively modest pharmacological effects of the new enhancers (e.g., Husain and Mehta 2011) and the current strong public objection to them, one could even argue that these indirect costs might be stronger than the direct benefits.

INDIRECT PSYCHOLOGICAL COSTS AND THE REGULATION OF COGNITIVE ENHANCEMENT

Veljko Dubljević (2013) reasons that the physical harm caused by new cognitive enhancement substances is a decisive element in the decision about their regulation and possible prohibition. We argue that the harm caused by an enhancer via its indirect psychological costs should be weighed alongside the harm caused directly by its pharmacological properties in these evaluations.

Admittedly, there is an important difference between a substance's potential for direct physical harm and its potential for indirect psychological harm, as the latter depends on the public perception of the substance and this perception changes over time. For example, the consumption of coffee—and therewith caffeine—was not only frowned upon but even prohibited in Sweden in the 18th century. Today, Sweden has one of the highest per-capita coffee consumption rates worldwide (Weinberg and Bealer 2001), and people taking caffeine clearly no longer suffer from indirect psychological costs caused by their consumption. Hence, the indirect psychological costs of a certain enhancer are likely to be far more variable across space and time than any physical harm it causes. However, insofar as a cost–benefit analysis is made with the aim of regulating the use of certain enhancement substances *in a given place and time*, indirect psychological costs should also be factored into that analysis. ■

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Regulating Methylphenidate: Enhancing Cognition and Social Inequality

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Veljko Dubljević (2013) contends that the appropriate regulation for extended-release methylphenidate is a moderately liberal permissive model. He claims the Economic Disincentives Model (EDM) is the most legitimate model currently available. According to Dubljević, EDM "avoids the pitfalls of both laissez-faire and overly harsh prohibitive policies" and "envisions all the measures required by the UN Convention of 1971" (31). To reach his conclusion, Dubljević applies the principles of autonomy, beneficence, nonmaleficence, and justice. We argue that if these principles are considered more thoroughly (specifically, the principles of justice and nonmaleficence), EDM must be rejected. First we examine Dubljević's account of EDM, then we consider his use of the four principles, and finally, we show that EDM cannot be supported by the principles of justice and nonmaleficence.

According to Dubljević, EDM would disincentivize the use of methylphenidate by creating "financial and regulatory burdens" for the users (25). EDM would require users to pay for a safety course, pass an exam to demonstrate proof of knowledge, and undergo annual medical tests. The drug would also be heavily taxed. The model is similar to

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