MEDICAL ETHICS

Building a Better Brain?

Is it wrong to use drugs to enhance your brain's performance? Are you really acting as yourself when you do? **Richard Dees**, associate professor of philosophy, examines issues of health care ethics—especially the use of medicine to make ourselves feel better than we feel normally. He investigates the ethical implications of modifying our brains to improve memory, thinking, moods, and personality.

Are there already drugs available to enhance our brains?
Absolutely. There are stimulants to improve focus, attention, and memory—and to improve motor tasks. Already 30 percent of students, according to current estimates, use such drugs. There are medications to regulate moods and emotions. Prozac and beta blockers are some of the best known examples. Selective serotonin reuptake inhibitors—more commonly known as SSRIs—make people less aggressive and more cooperative. Oxytocin helps people be more trusting and so can enhance care-giving.

What kinds of ethical questions does their use raise?
There are various arguments you can make in support of their use, such as people's right to autonomy, with the caveat that their actions can't cause harm to others. There's also the consequentialist argument: that people will be happier and more productive if they can use these drugs. You could also argue their use is inevitable, because of market forces and demands.

But if their use is immoral, then we should oppose it.

Is it immoral?
There are several categories of possible objections. First is safety. But that's a concern that can be overcome. It's a matter of caution, but not an objection of principle.

What about coercion?
The worry is that people will feel compelled to take drugs just to keep up. But we already accept many subtle coercions in employment—for example, the necessity of a college education. And our objection to coercion depends on what is being coerced. Most of us don't view coercion to quit smoking as such a bad thing.

Another objection you could raise is authenticity—that the medicated person isn't a "true self." But we often seek out such changes. And sometimes we see an altered self as our true self. A person on Prozac doesn't necessarily believe that his depressed self is his true self, for instance.

So where do you come down?
A drug can produce contentment, and perhaps the means to happiness. But it can't produce happiness—which isn't simply a feeling, and which requires the possibility of real failure. Enhancement drugs are morally suspect if they cut us off from the world and therefore from the possibility of failure. For safety reasons, we should be wary of enhancements now. And we should reject drugs that prevent us from having truly human experiences.

—Kathleen McGarvey

PSYCHOLOGY

Taking the Stress Out of Stress

Feeling stressed? **Jeremy Jamieson**, assistant professor in the Department of Clinical and Social Sciences in Psychology, says that's not necessarily bad. In fact, a pounding heartbeat and butterflies in your stomach might actually be setting you up for success.

What happens when we're stressed?
A lot of our stress responses deal with social stressors—and those responses are built on the biological architecture that was there to deal with physical stressors. And so physical threats, social threats—our bodies treat those like the same thing.

There are two broad types of stress responses that we call challenge and threat. In challenge, your body is enacting changes to help you go and address something, with increased blood flow to our arms, our legs, our brain, the major muscle groups that help to address stressors.

Threat response is the opposite. The expression "cold feet" comes from the way our vasculature constricts down, cutting the blood flowing to our hands and our feet. Your body is seeking to center blood in the core of the body, because if you're physically threatened, you're more likely to be injured in your limbs than your chest. With blood in your core, you're less likely to bleed to death.

How do most people interpret stress?
We have chronically negative appraisals of arousal and stress in general. When our heart

CORBIS

DERMATOLOGY

Made in the Shade

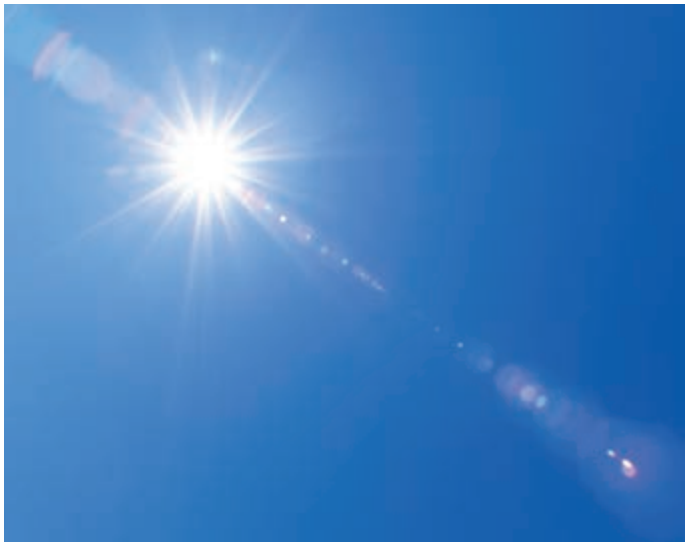
About half of people who live to age 65 will have skin cancer at least once. Heading into the sunshine of spring and summer this year, what's a prudent person to do? **Mary Gail Mercurio**, professor of dermatology who treats many patients with skin cancer at the Medical Center, sheds a little light on the subject.

What's the greatest misconception about sun exposure that you encounter?

That indoor tanning is safe. Studies have confirmed that even a few indoor tanning sessions significantly increase the risk of all three of the most common forms of cancer—basal cell carcinoma, squamous cell carcinoma, and melanoma—as well as premature aging of the skin. Contrary to what's touted by the indoor tanning industry, there's no such thing as a "safe tan."

How does sunblock protect skin? Is it as protective as covering up with clothing?

Sunblock is only one part of a comprehensive sun protection regimen. Studies have shown that many people apply only half, or even less, of the amount of sunscreen needed to meet the rating on the package. And it's easy to miss body parts such as the tops of the ears and the feet. Clothing offers more effective protection—but heavier, more tightly woven fabrics aren't practical in the heat. There are lighter fabrics now that block both ultraviolet A and B (UVA and UVB) rays. Widebrimmed hats protect the most vulnerable skin on the scalp, neck, and face. Avoiding the midday sun and seeking the shade help, too.



Is there an advantage to higher SPF numbers once you get above 30?

The higher the number, the more protection—but the SPF number only refers to one type of ultraviolet rays, UVB. The Food and Drug Administration is soon to release new labeling guidelines to incorporate a labeling scale for UVA, too. Thirty is the magic number recommended by most dermatologists. Most important is to apply sunscreen often and in sufficient quantity.

What about those who've had blistering burns—what should they look out for?

That would be me. My friends and I spent our youthful upstate New York summers basted with baby oil. Now my contemporaries are seeking the best cosmetic treatments to erase the damaging effects of all that sun. Efforts to reverse sun-induced premature aging is a multibillion dollar industry. Many of my young women patients are more willing to heed my advice about protection when they hear about wrinkled, leathery skin while they deem themselves invulnerable to cancer. Warning signs include new or changing moles, sores that don't heal, or new growths.

Is sun protection in children all about prevention, or do you sometimes find skin cancer in the very young?

In children, it's mainly about protection, although I have seen several skin cancer patients in their 20s—mainly those who use tanning beds. Sun protection strategies really need to be established early to become routine. I liken it to buckling up with a seatbelt. Most parents are vigilant about sun protection for their infants, but it seems to drop off after that, especially in the teenage years, when not wearing sunscreen is a means of showing independence.

—Kathleen McGarvey

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rate increases or our hands are sweaty, these are actually just signs of general physiological arousal. We think it's a bad thing when the sympathetic nervous system is activated—but it isn't. But once you make that negative label, that's going to produce a threat response, because it's implying you don't have the ability to cope. There's a strong link between the brain and the body, and any change that we have in our minds has direct consequence for what happens downstream in our bodies, and vice versa, too. It grows out of the biopsychosocial model, which was developed at Rochester.

What have you found in your research?

One of the main prongs of my research program is looking at how stress impacts decisions and cognitive performance. We try to get people into high-stress situations and teach them how to reinterpret the meaning of their stress response.

So what's your advice for a student headed off to take a test, for example?

If you have completely flat affect, that might be better than being in a really strong threat state—but it's not good. There's a reason why our body responds like this. You're going to have this increase in arousal. Your heart's going to be beating faster. Your body's trying to get blood to your brain. It wants to get oxygen to places where you're going to need it. And that can help you do well.

—Kathleen McGarvey

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