

Prozac Homework

Read both articles about the “Prozac Revolution” and answer the following questions:

Article #1 – One Pill Makes You Larger, One Pill Makes You...

1. What does the idea of “off-the-shelf, made-to-order personality” mean?
2. Explain the idea that “mental disease differs from endearing quirks only in degree.”
3. List 2 or 3 of the ethical concerns raised by the creation of new medications that are raised towards the end of the article

Article #2 – The Culture of Prozac

1. Why is Helen Baker taking Prozac?
2. How is Prozac different from older anti-depressants?
3. What is dysthymia?
4. List 2 or 3 ethical concerns raised towards the end of the article.

One Pill Makes You Larger, And One Pill Makes You

By [Sharon Begley](#)

.. THAT WAS 1960S PHARMACOLOGY. IN THAT turned-on, tuned-out decade, the pharmacopeia of mind-altering drugs was about as subtle as a sledgehammer--uppers replaced sleep, downers offered calm, hallucinogens projected visions of marmalade skies into the brain. Many of them were illegal, and all of them threatened to stop the heart, blow out neurons or cause permanent addiction. This is 1990s pharmacology: suffering stage fright before delivering a speech? Pop a little orange pill. Moping around in the winter doldrums? Try a white one. Want to boost your self-esteem, focus better on your work, tame the impulse to shop till you drop, shrug off your spouse's habit of littering the floor with underwear, overcome your shyness or keep yourself from blurting out your deepest secrets to the first stranger who comes along? Science has, or soon will have, just the legal, doctor-prescribed pill for you.

It's gone beyond Prozac. That antidepressant has spawned a culture of pill poppers: people who do not suffer from severe depression (for which the Food and Drug Administration approved Prozac in 1987) but who find that the little green and white capsule makes them more cheerful, more mellow, more self-assured (page 41). Now the same scientific insights into the brain that led to the development of Prozac are raising the prospect of nothing less than made-to-order, off-the-shelf personalities. For good or ill, research that once mapped the frontiers of disease--identifying the brain chemistry involved in depression, paranoia and schizophrenia--is today closing in on the chemistry of normal personality. As a result, researchers are on the verge of "chemical attempts to modify character," writes neuropsychiatrist Richard Restak in the soon-to-be-published "Receptors." "Most of the new drugs will be aimed not so much at 'patients' as at people who are already functioning on a high level ... enriching [their] memory, enhancing intelligence, heightening concentration, and altering for the good people's internal moods."

That prospect has brought psychopharmacology--the science of drugs that affect the mind--to "the brink of revolution," as psychiatrist Stuart Yudofsky of Baylor University puts it. It is a revolution propelled by three advances. First came the theory that every memory, every emotion, every aspect of temperament originates in molecules called neurotransmitters. These chemical signals course through specialized circuits in the brain. Research on brain chemistry starting in the 1940s produced lithium, Valium and other psychoactive drugs, which correct chemical imbalances responsible for grave mental illnesses. Second, "brain mapping" pinpoints which areas of gray matter become active during particular thoughts or mental states. PET (positron emission tomography), for

instance, is a sort of sonogram of the brain that can, among other things, trace sad thoughts to parts of the frontal cortex. Finally, researchers are identifying which neurotransmitters travel those circuits. For example, too much of the neurotransmitter dopamine in the brain's emotion centers, and too little in the seat of reason (diagram, page 39), seems to cause suspiciousness--raving paranoia and maybe even a habit of wondering if the plumber overcharged you.

Major mental illness wasn't always linked to personality disorders. But according to the model of the mind emerging in the 1990s, mental disease differs from endearing quirks only in degree. Personality disorders arise from subtle disturbances in the same systems that produce serious mental illnesses, argues Dr. Larry Siever of Mount Sinai School of Medicine in New York. "Someone just barely able to restrain his impulsive actions wouldn't [seem] psychotic," says Siever. "But he could act rashly"-habitually ducking into a movie instead of going to work, or buying unseen property in Florida on a whim.

As neuroscientists learn what chemicals cause which personality traits, the temptation to fool around with nature will be irresistible. The drugs that perform the mental makeovers are supposed to have no serious side effects and not cause addiction. But more than 40 years of psychoactive drugs has proved that nothing is without hazard (at first, Valium, cocaine and nicotine were not thought to be addictive, either). "If someone takes a drug every day for four years because it makes him feel or work better, something may happen that we don't know about," warns psychiatrist Solomon Snyder of Johns Hopkins University. That caution, however, has a difficult time standing up against the Faustian power of the new drugs. "For the first time in human history," says Restak, "we will be in a position to design our own brain."

... Prozac to cheer you up and Ritalin to focus are merely the most prominent new mind drugs. Anticonvulsants such as Dilantin, prescribed for epileptics, turn out to reduce stress in some people. Beta blockers are heart drugs: they lower blood pressure and heart rate. But doctors figured out an entirely new use for them: combating stage fright. The drugs block receptors for norepinephrine; with less adrenaline igniting their brain circuits, people like oboist Stuart Dunkel, who plays for the Boston Opera, have no trouble calming performance anxiety. Before, complicated solos would make Dunkel's heart beat like a jackhammer and his breathing so shallow he couldn't sustain notes. With beta blockers, "there's a psychological release," he says. The drugs are not addictive, and Dunkel reports no side effects.

Other mind drugs are in the pipeline. One, with the tongue-tying name dexfenfluramine, seems to smooth out mood swings, especially those caused by winter doldrums and premenstrual syndrome. Naturally, it targets neurotransmitters: it keeps brain neurons bathed in serotonin longer than otherwise, explains Judith Wurtman of the Massachusetts Institute of Technology. Already used in Europe and South America as an anti-obesity drug (mood swings often trigger eating binges), dexfenfluramine has been submitted to the FDA for approval. A few weeks ago researchers at UC Irvine announced the discovery of the first drug that seems to improve working memory. The discovery sprang from work on neurotransmitters and their receptors, the shapely molecules that

neurotransmitters fit like keys in locks (diagram). Researchers led by Gary Lynch found that in rats, the drug BDP binds to receptors for the neurotransmitter glutamate, which triggers neuronal changes that constitute memory. As a result, it acts like the father who lowers the basketball net for his vertically challenged child, reducing the amount of stimulation neurons require to form memories. If BDP works in people, the history lesson that once took hours to learn would take mere minutes. An Irvine-based start-up, Cortex Pharmaceuticals, Inc., plans to test BDP's safety.

Who could criticize a drug that stamps the rules for long division into your child's head after a single lesson? As psychiatrist Daniel Luchins of the University of Chicago points out, society accepts plastic surgery (albeit with some jokes): "If we have something that made people unshy, are they obliged to stay shy because of some ethical concern? What's the difference between 'I'm unhappy because I don't like my looks' and 'I'm unhappy because I'm shy?'"

For openers, one's core being is defined more by character traits than by the shape of one's nose. Just ask Cyrano. And not everything we feel, let alone everything we are, is shaped by too much or too little of some polysyllabic brain chemical. Yet as society moves ever closer to minds-made-to-order, the pressure on those who cannot, or choose not to, give their brain a makeover becomes intense. Some colleagues, and competitors, of Ritalin-popping executives feel themselves at a disadvantage, like rules-respecting sprinters facing a steroid user. Will guidance counselors urge parents to give their kids memory pills before the SATs? Will supervisors "suggest" workers take a little something to sharpen their concentration? The prospect of pills to make the dour cheery, and the tense mellow, calls into question the very notion of the self--is it truly the "self" in any meaningful sense if it is as easy to change as a bust measurement? "The brain is where our soul and spirit lie," says Harvard's Kagan. "People are very threatened by this."

Perhaps most worrisome is the idea of sandpapering away personality traits that not only make us individuals, but which evolved for a good reason. Anxiety, for instance, "probably evolved in tandem with the evolution of the human brain," writes Restak. Blunting that edge has a price. And just as physical pain keeps us from burning our flesh, perhaps mental pain, like that brought on by the death of a child, serves a purpose--one that is defeated by a pill that soothes when one should instead be raging. Shyness has also served civilization well. Some of history's great thinkers and creators--T. S. Eliot, Emily Dickinson, Anton Bruckner--were--shy. "Inhibited children tend to wander off into vocations like music, literature and philosophy," says Kagan. A society that uses drugs to induce conformity does so at its peril.

The Culture of Prozac

From <http://www.thedailybeast.com/newsweek/1994/02/06/the-culture-of-prozac.html>

SHE HAS NEVER SUFFERED FROM DEPRESSION, AND SHE'S not one to pop pills for fun. So why would a successful, 43-year-old public-relations executive take Prozac? Helen Baker of Chicago (who wants to be identified by this pseudonym) takes it to give

herself an edge. Like any busy professional, she often juggles competing priorities. Faced with looming deadlines and a dozen calls to return, she used to find herself paralyzed. "I would be unable to focus," she says. "I would end up waiting until the last moment to get things done." Now that she's on the antidepressant, she not only handles job pressures more gracefully but sports a more buoyant personality. She recently found her hand shooting up when a nightclub comedian asked for a volunteer from the audience. "I couldn't believe I got up there and wasn't nervous," she says. "I was being open and making people laugh. In the past, I might have wanted to do it. but I wouldn't have done it without Prozac."

No one has tried to count the number of people who fit Helen Baker's profile, but her experience is a parable for the '90s. Compared with the anti-depressants of the past-obscure compounds that only psychiatrists and their patients could name-Prozac has attained the familiarity of Kleenex and the social status of spring water. The drug has shattered old stigmas. Americans now swap stories about it at dinner parties, joke about it in cartoons and essays and recommend it to stressed-out friends and relatives. For those with modems, there's even a computer bulletin board devoted to the drug. Introduced in 1988 by Eli Lilly & Co., Prozac now boasts worldwide sales of nearly \$1.2 billion a year. Doctors, most of them nonpsychiatrists, write nearly a million prescriptions a month, and the recipients are often healthy people seeking nothing more than a cheerier disposition. "Prozac helps people think in new ways," says Chicago psychiatrist Marc Slutsky. "It helps you get out of ruts. It helps people who are obsessively driven to loosen up a little." The question is whether that's an appropriate use for a mind-altering drug with unknown long-term effects.

Prozac's popularity is not hard to fathom. Though the drug and its chemical cousins Zoloft and Paxil are no more effective than older treatments for depression (the success rates are 60 to 80 percent), they're vastly easier to use. The most common older drugs, known as tricyclics, have little effect at low doses and quickly become toxic at higher ones. Finding the middle ground can require weeks of blood monitoring. Even at therapeutic doses, the tricyclics leave many users feeling fat, sluggish and constipated. Prozac and family can take three weeks to bring results, but because they bolster just one of the brain's many signaling molecules (serotonin), anyone can safely start at a standard daily dose. Most patients can weather Prozac's common side effects, but they're not trivial. In addition to jitteriness and insomnia, many users experience nausea and poor appetite. And though sexual side effects were--once dismissed as rare, recent studies suggest that more than a third of all patients experience a loss of libido or difficulty reaching orgasm. No one has found a way around such drawbacks, but drug makers are now developing compounds that promise faster action against depression and higher success rates.

Depression is just part of the Prozac story. One reason the drug has become cultural currency is that folks are using it for just about everything but hang-nails. Though depression is still the only condition for which it's currently licensed in the United States, doctors are directing it at such socially topical concerns as gambling, obesity, premenstrual syndrome (PMS) and fear of public speaking. Dr. Asha Wallace, a family

practitioner in Needham, Mass., started treating her PMS patients with Prozac three years ago on the advice of psychiatrists she knew. "There were no real side effects," she says, "and the patients love it." Dr. Michael Lowney's patients love it, too though they take it for chronic back pain. "I've tried some of the other serotonin enhancers," says the Massachusetts osteopath, "and I find they're helpful too." Encouraged by studies linking low serotonin levels to violent behavior, some clinicians even speculate (to the dismay of social critics) that the drugs could be used to soften criminals' antisocial impulses.

For now Prozac's most popular unapproved target is "dysthymia," or chronic discontent that falls short of clinical depression. Like most dysthymics, 40-year-old Annette Dawson (a pseudonym) has always gotten along passably without medication. Her friends think of her as stable, not moody. But until she started taking Prozac last June, she often felt hobbled by self-doubt. "It was my therapist who felt I ought to investigate Prozac," she says. Dawson resisted at first-"I didn't like the idea of taking a drug"but she now counts herself a convert. "I'm not as introspective as I used to be," she says. "And now that I'm introspecting less, I'm not bothered as much."

Many experts would consider her story a triumph. Treatable psychiatric problems are far more common than most people realize, they say, and the rise of the Prozac culture shows that we're confronting the epidemic. Though Prozac hasn't been thoroughly tested as a treatment for dysthymia, small studies suggest it might help more than half of all sufferers. Dr. Roy Young, a Los Angeles internist, says he himself has seen dysthymics transformed by the new antidepressants. "When you see that kind of result," he says, "the hard thing to know is whether the drug should ever be stopped." Dr. Robert Birnbaum, director of psychopharmacology at Boston's Beth Israel Hospital, agrees. "I can't just dismiss the [mildly depressed] person as looking for a quick fix," he says. "if anything, depression is undertreated."

Not everyone is so sanguine. The evidence to date suggests that the new antidepressants are remarkably safe: they're nontoxic at high doses: they don't appear addictive, and because they don't produce a high they make unlikely candidates for abuse. But because their long-term effects are largely unknown, some experts worry that millions of people are basically selling as test subjects. Many medications, including Valium and thalidomide, have shown their true hazards only after coming into broad use. "People have to factor that risk into their decision making," notes University of Chicago psychiatrist Daniel Luchins. Dr. Sidney Wolfe, director of the Public Citizen Health Research Group, figures the unknown dangers are worth risking if you're clinically depressed, but not if you're merely unhappy.

A second concern is that drugs will become a substitute for fixing what's wrong with one's life. Unhappiness stems naturally from many situations, offering a potent incitement to change. As Columbia University medical historian David Rothman writes in the current *New Republic*, "some people may believe that they have fulfilled their potential, satisfied their ambitions and mastered the skills of relationships [through Prozac]. Many others may be skeptical." Most psychiatrists seek the cause of a person's discontent, bad job, bad boss, bad marriage--before prescribing a pill, but the family doctors who now

prescribe Prozac are less practiced confessors. In a 1993 survey, researchers at the Rand Corporation found that fewer than half the general practitioners treating depressed patients had spent three minutes or more discussing their problems with them. Specialists, too, are reaching more quickly for the prescription pad. As medical plans cut back on coverage for psychotherapy, says Birnbaum of Boston's Beth Israel, psychiatrists feel pressure simply to "medicate and then monitor side effects."

The ultimate question, assuming that the new antidepressants can safely banish unpleasant feelings, is whether we really want to be rid of them. In his recent best seller, "Listening to Prozac," Rhode Island psychiatrist Peter Kramer describes how his own patients have grown "more confident, popular, mentally nimble, and emotionally resilient" on the drug. Yet, as Kramer acknowledges, there's something a little creepy about using chemical agents to give everyone a Dale Carnegie demeanor. Prozac might have brightened Hamlet's outlook ("Think not of the sky as spotted with cloud but as partly sunny," he chirps in one humorist's reverie) and softened Marx's dour views ("Sure! Capitalism can work out its kinks!" he gaily concedes in a recent New Yorker cartoon) but it would have made both figures forgettable.

Although many patients are thrilled with their Prozac personalities, some find it disconcerting to be shielded from their sorrows. Jackie McMann of Los Angeles (not her real name) took Prozac while mourning the death of her 21-year-old son. "I felt better," she says, "and my friends saw an immediate difference. But I still don't like to have my mind altered. It short-circuited my grieving." McMann stayed on the drug while regaining her emotional balance, but some don't. Dr. Randolph Catlin, a campus physician at Harvard, says several of his patients have dropped the drug, even while responding to it. Dr. Keith Ablow, a Boston psychiatrist and a columnist for The Washington Post, describes the same phenomenon. He recalls a patient who suffered terrible abuse as a boy, doused himself with drugs and alcohol as an adult and wound up seriously depressed. His mood quickly brightened when he started taking Prozac. Yet as Ablow tells it, "he worried that he was living out his life without a core understanding and might never be able to gain it." Painful as it was, the patient went drug-free and has never regretted it.

Introduced just six years ago, Prozac is now the world's top-billing antidepressant, and similar drugs are finding markets of their own. Because the new treatments are prescribed so widely, industry analysts expect the growth in overall sales to continue.