Hi, I'm Miah Godek, and I'm Monika Jarbouh, and this is our audio essay on evidence and placebo.

The definition of a placebo from dictionary.com is "a substance having no pharmacological effect but administered as a control in testing experimentally or clinically the efficacy of a biologically active preparation." In order for a drug to be proven effective and go through to market, it must be tested against a placebo, and the drug must be better than the placebo by a statistically significant margin. Ideally, a double blind trial is conducted, in which neither the patient nor the doctor know which treatment is the placebo and which is the active drug. Ada Jaarsma, professor of Philosophy at Mount Royal University describes the placebo effect in a different way. ----------Ada----------

The astonishing part about placebos is that a placebo is often a treatment in itself. According to Harvard studies conducted by Dr. Kaptchuk, even when a group of research participants were told they would be taking placebo pills, and that placebo pills often have positive effects, they were reporting twice as much relief from Irritable Bowel Syndrome as the group that got no treatment at all. These participants were even given pill bottles labeled "placebo". The placebo effect has also been shown to create chemical effects in the brain. Also, neurotransmitters are activated during the placebo effect, including those that use the same pathways as opium and marijuana. Placebos and nocebos activate the same areas of the brain that the actual medicine would activate.

In a study of asthma patients, some of the patients were treated with either medicinal inhalers, non-medicinal inhalers, sham acupuncture, or no treatment at all. The patients that received the real treatment were the only ones that showed an actual increase in their asthma

relief when tested by the doctors, and the fake treatments showed no improvement in their asthma in the tests; however, when Kaptchuk's team looked at how the patients measured their own improvement, they reported the same amount of improvement in their symptoms from the real treatment as the sham treatments. From the article "The Placebo Phenomenon", Cara Feinberg writes of the results that: "The patients' subjective responses directly contradicted their own objective physical measures." End quote. Furthermore, the placebo effect is not just dependent on sugar pills. It is affected by every part of the environment. Feinberg goes on to describe the placebo effect in other terms: "The team showed that images flashed on a screen for a fraction of a second—too quickly for conscious recognition—could trigger the [placebo] response, but only if patients had learned earlier to associate those specific images with healing. Thus, when patients enter a room containing medical equipment they associate with the possibility of feeling better, "the mind may automatically make associations that lead to actual positive health outcomes." End quote.

The placebo effect is also very pronounced when it comes to antidepressants; antidepressants averaged two points greater on the Hamilton Rating Scale for Depression than placebos. This is statistically significant but not clinically significant. The severely depressed patients did benefit more from the medication than the placebo, but they also benefitted more from the placebo than the mildly depressed patients. Pharmaceutical companies defend their drugs by claiming that antidepressants have proven to be very effective, but their effectiveness was never in question. Placebos are very effective but that does not mean they should be prescribed to people as a treatment. In an article by WebMD, quote. "Between 1988 and 2000, prescriptions for antidepressant medications tripled for adults in the U.S., with 118 million

prescriptions written in 2005 alone, according to the CDC." End quote. And Psychology Today stated that the pharmaceutical industry brings in 11.3 billion dollars a year selling antidepressants. But do antidepressants work because of their active chemical ingredients, or because of the placebo effect?

Recently researches have challenged the longstanding theory that depression is caused by low levels of serotonin in the brain. Experts believe that this theory is possibly a "gross oversimplification and probably is not correct." Antidepressants are thought to remedy the serotonin production and levels in the brain, so if depression is not in fact caused by lack of serotonin, antidepressants are likely to be placebos. With all of the controversy and lack of information around depression and depression treatments, it makes you wonder why antidepressants are prescribed at all.

This raises the question of what constitutes evidence that a medicine is effective? Is it enough to test it against a placebo? ----------Ada----------So, how much of the placebo effect is dependent on subjectivity? Could the patient just think they are getting better but objectively not be? ----------Ada-------

Illnesses like depression are measured subjectively through tests like the Hamilton Scale, but conditions like asthma are measured objectively, with tests administered by doctors, which potentially has a profound impact on what the placebo effect means for each situation. It is possible that the placebo effect, if it is primarily subjective, will only work initially, but its effect will wear off over time. However, since the placebo effect has been shown to light up/stimulate parts of the brain that the medicine would be targeting, it does not seem possible for the placebo effect to be only subjective, since it can be objectively measured through a brain scan. It can

also be argued from a Nietzschean point of view, that is from the view of the famous philosopher Friedrich Nietzsche, that the patient who subjectively claims to feel better, has in fact received benefits from the treatment. Is it fair to give the doctors the authority to decide what constitutes treatment or even betterment? Even if the patient feels as though the treatment was effective? In Western society, and especially North American society, the white coat signifies authority, expertise, and healing. This powerful association between healing and medicinal practices is a cultural and social construct, but it has significant implications for society, especially in the form of the placebo effect. This leaves the question: How much of treatment is the medicine itself vs the expectation of getting better? ----------Ada----------

The placebo effect is inseparable from the medicine itself because of the cultural associations of anything medical with healing. Even going to the doctor's office is a placebo because people will expect to get better, even if it's just on a subconscious level. Since the placebo effect cannot be isolated or separated from the treatment itself, it's up for debate if doctors and medical practitioners should utilize the placebo effect to enhance healing or if they should try to minimize the placebo effect to ensure the treatment itself is doing its job.

Also, the placebo effect is not only in the medical field. In the book *Blink*, by Malcolm Gladwell, Gladwell discusses the very real impact that priming has on people's actions and behaviors. Gladwell first describes a test where students were either asked to spend five minutes writing down what it would mean to be a professor or spend five minutes writing down what it would mean to be a soccer hooligan. Then the students were asked questions in a format similar to the game Trivial Pursuit. The students who were primed by thinking about professors got 55.6% of the questions right, whereas the students primed to think about soccer hooligans got

42.6% of the questions right. Gladwell goes on to describe a similar test done using cultural associations with race. Here is a short excerpt:

Quote: “The psychologists Claude Steele and Joshua Aronson created an even more extreme version of this test, using black college students and twenty questions taken from the Graduate Record Examination, the standardized test used for entry into graduate school. When the students were asked to identify their race on a pretest questionnaire, that simple act was sufficient to prime them with the negative stereotypes associated with African Americans and academic achievement -- and the number of items they got right was cut in half. As a society, we place enormous faith in tests because we think that they are a reliable indicator of the test taker’s ability and knowledge. But are they really? If a white student from a prestigious private high school gets a higher SAT score than a black student from an inner-city school, is it because she’s truly a better student, or is it because to be white and to attend a prestigious high school is to be constantly primed with the idea of “smart”?” (56-57). End quote. The idea of priming is basically the equivalent of acknowledging an association between two things. A student at a prestigious private high school is going to be exposed to constant associations of people at this particular school being smart and successful. Similarly, there is a profound association between whiteness and goodness, success, and smartness.

This is an example of the nocebo effect because the cultural associations with race changed how the students performed. The power and drama of the abstraction of placebo is that the phenomenon extends past medicine to virtually every aspect of life. People make sense of their world through their culture. It is impossible to make sense of the world as human beings without the social and cultural context. It is impossible to separate a person from the culture they

grew up in and live in. The culture that a person lives in shapes who they are, how they act, and even how their brains operate.

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