

# The Expectation Effect with David Robson

**David Robson:** the changing your, my expectations is the first step.

And it might help me to push myself outta my comfort zone or to deal with the thing that's upsetting me. , it's this kind of iterative process. It's like I'm focusing on the journey. It's not like I'm immediately expecting like everything to be solved just for one change in mindset, but actually it's an important tool that's helping me to make the progress I want, you know, more quickly, , and with less discomfort than I would've otherwise felt.

**Yael Schonbrun:** That was David Robson on Psychologists off the clock.

We are three clinical psychologists here to bring you cutting edge and science-based ideas from psychology to help you flourish in your relationships, work and health.

**Debbie Sorensen:** I'm Dr. Debbie Sorensen, practicing in Mile high Denver, Colorado, author of Act Daily Journal, the Act Daily Card Deck, and the upcoming book Act for Burnout.

**Yael Schonbrun:** I'm Dr. Yael Schonbrun, a Boston-based clinical psychologist, assistant professor at Brown University, and author of the book Work Parent Thrive.

**Jill Stoddard:** And from Coastal New England. I'm Dr. Jill Stoddard, author of Be Mighty, The Big Book of ACT Metaphors and the Upcoming Imposter No More.

**Debbie Sorensen:** We hope you take what you learn here to build a rich and meaningful life.

**Jill Stoddard:** Thank you for listening to Psychologists Off the Clock.

**Yael Schonbrun:** This is Yael here with Debbie to introduce an episode that I'm really, really excited about. The book that I got to discuss with the author, David Robson is called The Expectation Effect, How Mindset Can Change Your World. And as any listener of the podcast knows, I love books, but this is one of those books that I've literally been telling everyone that they have to read.

It's a really transformative book. It's a fun read, but it will change your mind, and your mind changing will change your day-to-day experience in some really surprising, cool, powerful ways.

**Debbie Sorensen:** You told me this the other day and I listened to this episode and I immediately followed your advice cause I trust your instincts on that.

**Yael Schonbrun:** Yeah, this is probably one of my top recommended books of the past year, um, and there were so many take homes, so I'm curious, Debbie, what were some of the main things that that stuck out for you as you listened?

**Debbie Sorensen:** I mean, there were so many. I guess I was familiar with some of the concepts in the conversation. Of course, things like the placebo effect and that kind of thing. for instance, when they prime people for certain traits, they'll perform better or worse on a math test and those kinds of things.

So definitely was a little bit familiar with some of the concepts, but to hear it framed in this particular way and to think about the impact on our daily lives, I thought it was really fascinating and. I have an example, which was one of my children who shall remain nameless. I'm not trying to out anybody here, had a tough morning where things just were not going her way, you know, I was like, couldn't find anything to wear and woke up too late and was tired and she said to me, My whole day is ruined, you know, everything's gonna be terrible today.

And I just said to her, you know, listen, I know that this is a tough morning, but let's not go into the day just assuming that it's gonna be terrible all day long. I mean, I think sometimes we think that it's like, I, I'm tired, or I didn't get enough sleep, or I woke up on the wrong side of the bed this morning.

Or you know, I ran out of paper towels or whatever the case may be. And we almost expect that means the whole day's gonna be terrible. And then you think about, well what does it look like when you go into your day expecting that and sort of locked into how terrible everything it might actually cause you to have a pretty terrible day.

Cuz you're gonna be really attuned to everything that's going wrong. You might, I don't know, I just, I, so I'm trying to. Get a little bit out of that mindset. I think this book really validates that concept.

**Yael Schonbrun:** It does, and from this super cool science backed way because what he does in the book, and, and he describes it in our conversation too is he

describes how our brain is really a prediction machine. And it's not just preparing us behaviorally, it actually sets the stage physiologically.

So for example, if you think you're going to be eating a meal that is heavy in calories, your body prepares for that versus if you think you're gonna be eating a meal that is light in calories, your body prepares for that. Same thing goes if you think that you're gonna get sick or, or you're sick, and that your recovery will be slow.

Your brain preps your body for that at a physiological level. So it's funny that you're saying that you kind of use some of this evidence with your kids, cuz I've been doing the same. First of all, as I was reading it, I was like, there's some really cool, visual stimuli that he actually walks the reader through.

In the book that I was having, I showed my kids like, okay, what do you see here? And then like later on, you, you. Get the, a different cue and you see something totally different. So experientially, this book is pretty cool and I was involving my kids in it, but also I've been like sharing with them all these different tools that come from this research on the expectation effect from, you know, how, how my kids go into their sports game.

So one of my kids is deep into soccer and is struggling with, you know, he really wants to make more goals. And so, you know, some of the data suggests that if you do visual imagery, then it creates these neural pathways in the brain that make it much more likely for you to be able to perform the activity that you most wanna perform.

So there's actually something to the science of practicing in your mind. And then one of my kids got the stomach flu and, and the science suggests that if we think that we're taking medicine that our body prepares to get, that's part of the placebo effect that our body prepares us to get better more quickly.

So we were like joking that I was giving him medicine and that we were trying to initiate the expectation effect. So there's all these really fun little tools that the, the science really helps us access and use to our benefit, both in terms of increasing positive experiences and better managing the harder experiences that are unavoidable.

**Debbie Sorensen:** This is where I love when these psychology experiments are done, and they're so fascinating intellectually, but it's also, it can help you be aware of these kinds of things. And sometimes that awareness makes a huge

difference. Just knowing about some of these things can help you, you know, just

be less likely to fall into some of the traps that we tend to get into without realizing it. And so I, I love that cuz you can almost take this information and these really interesting studies and see ways to apply it in your life.

**Yael Schonbrun:** Hundred percent. And I hope everyone listens all the way to the end of this episode because David actually shares some of the ways that he's used these tools to manage his own mental health in really helpful, practical, accessible ways. So we hope that you listen all the way to the end and that you pick up the book cuz it's a really good read.

**Yael Schonbrun:** Hi, I'm here with David Robson, who's an award-winning science writer specializing in the extremes of human brain, body, and behavior. David is written for The Guardian, the Atlantic New Scientist, men's Health, and many more. His first book was the Intelligence Trap, and his second, which we are here to discuss today, is the expectation effect, how your mindset can change your world.

The expectation effect is when all sorts of awards, and I heard about it on a podcast that I was interviewed on. The host told me he thought I'd love it and. I do, I read it, and I cannot stop recommending it to everyone. This is really one of those must-read books and I'm so excited to discuss it with you today.

David, welcome and thank you so much for making the time to chat with me.

**David Robson:** No, it's absolutely my pleasure. Thank you so much for inviting me.

**Yael Schonbrun:** So the topic of this book may initially seem like one of those, if you believe it, you can make it so books, and yet it really couldn't be more different than books like The Law of Attraction or The Secret. But you are, you're calling readers attention to this fantastic and sort of fantastical power that the mind has in making expectations become a reality.

So I'm really excited to dive into the science of this. So to start off with, One of the ways that you describe the mind is as a prediction machine. I wonder if you can tell the listeners what you mean by this.

**David Robson:** Yeah, I mean this is kind of really fundamental to the book because like you say, it's not kind of pseudoscience. It's not claiming that

anything is possible just with the power of thought. It's like founded on a very good scientific theory, and that is this idea that the brain is this prediction machine, um, where it's constantly building simulations of the world around it, and it's you know, drawing on his previous experiences and then like contextual clues within the environment, um, that then it's using to simulate, um, the world around it. And so, you know, from those simulations, uh, tho those predictions are actually shaping the way it processes the sensory data. So, you know, the sensory data is quite ambiguous, which often it is.

Um, the simulations can help kind of fill in the gaps or, you know, organize it more sensibly so we can extract meaning from uh, from what we're receiving, the data we're receiving. And so that can, you know, result in lots of, um, uh, perceptual illusions. But actually most of the time it works great. You know, it's very accurate.

Um, but also what happens with these simulations is that they. They help the brain to kind of prepare the body for the challenges that it's going to face in the seconds, minutes, even hours ahead of it. So things like the stress response, you know, the balance of hormones that you might be experiencing, the actions of the gut, the actions of the circulatory system.

So it's really changing our kind of subjective, conscious, perceptual reality, but also then our actual physical reality, what the body's doing.

**Yael Schonbrun:** And I think that is such a pivotal, really eye-opening insight that your book really nails down in so many different pockets of, of our lives that our expectations help us prepare, but not just through action, like there's actual physiological changes. That occur internally, physiologically when we're anticipating certain things.

And you cover areas from like how we anticipate of how calorie rich a food is gonna be, or how painful a workout is gonna be, or how effective we think a medication is gonna be. And we'll talk about those, some of those specific areas. But, um, you know, I've read a lot of mindset research and you, you talk for example, about

Alia Crum hotel worker study that a lot of people are familiar with, and maybe we can even just start there because it was one of the best, I think I had never fully understood how it is that telling somebody that they're going to be doing that, that the work that they do is going to burn more calories, causes them to burn more calories.

It's really fascinating. So maybe you can help us unpack that study a little bit.

**David Robson:** Yeah, I mean this was one of the studies that really attracted me to kind of write the book, um, because I think like we have. I did the placebo effect in medicine for so long that we actually, you know, we know our expectations can have these physiological effects, but that had always been limited to the, you know, hospital ward or the kind of clinic, rather than seeing that actually similar expectation effects are happening, you know, in everyday life.

And I think that was what was so great about Ali's, um, research. Um, I mean in this study, um, you know, she. Yeah, she educated these hotel cleaners essentially about the egen, uh, energetic demands of their work, and showed that actually, you know, when you're moving beds or doing, uh, the vacuuming, cleaning windows, you know, you're burning calories and it's, it meets the kind of surgeon general's recommendations for physical exercise each week.

And she kind of gave them that talk and then left some kind of leaflets around the hotels to help them to kind of absorb that information and remind them of that information. And then a month later she found that they did see some, uh, physiological changes. You know, they had lower blood pressure. They kind of fell below the threshold now of having, um, problematically high blood pressure.

And they also seem to lose a, a couple of pounds and questionnaires, you know didn't seem to show any differences in their lifestyles. It's not like they had started eating less or actively going to the gym, so it was really puzzling kind of why that would be. Um, one possibility is that they were just kind of doing more work.

You know, they felt more enthusiastic, putting a bit more oomph into their cleaning, but that didn't seem to be the case from, you know, what their supervisors were saying, and they certainly hadn't changed their hours, and so it really did look like there was this kind of placebo effect. Now why that is is still under discussion, I think.

But there's, you know, lots of other studies that have looked at placebo effects in sports and you know, we do know that, um, when you raise people's expectations of their fitness, that that can actually change, you know, how they work out. So it can change the efficiency of their movements. And even physiological markers like the, exchange of gas within their lungs becomes more efficient.

So they're kind of getting rid of more oxide, pulling in more. Oxygen, , through this expectation things. So, um, you know, there's lots of potential mechanisms. It could also be due to the fact that they were feeling more positive and that was changing their, , balance of stress hormones like cortisol, which could also have an effect on things like metabolism.

So there are multiple pathways there, but you know this study taken within a larger body of studies looking at physiological effects of expectations does seem very convincing that just, you know, recognizing the exercise that you are doing as exercise can have positive, uh, effects for your health.

**Yael Schonbrun:** Yeah. And I will say like, so I've read the original study and I've, for the longest time really thought that probably what happened is they were just more, you know, energetic in the way that they were cleaning and they must have burned more calories that way. But after reading your book, it really, I am really convinced that the expectations really do kind of help you set up your body in a way to take advantage of activity, of physical activity.

And, and again, this is sort of like one example among many where e expectations can really change sort of how your body prepares to engage in whatever kind of task. So it kind of begs this broad question. I'm gonna ask this sort of overly broad, simplistic question that I know is very complicated and then we'll dive into some of the more specific pockets of, of functioning that that you cover in your book.

But do you think that there's a simple answer to the question of whether it's better to be an optimist, have positive expectations, and deal with hard things as they come up, or a pessimist and be able to better prepare for the hard stuff?

**David Robson:** Hmm. Uh, I'm going to try. Try to avoid that question slightly and I won't give like a binary answer. And I think that there is a really sweet spot in between the two that's optimal actually. Um, I think to be overly pessimistic is inherently irrational. Just like being overly optimistic is in that, you know, you should never kind of have this binary way of looking at the world where everything's either positive or over it, either negative.

It should depend on the situation, but I think what we can do when we're applying the expectation effect is just try to make sure that we're not needlessly negative and that we have this kind of open mind, and that then we're able to apply these techniques like reframing to the situation at hand. So that might not be, that's not denying the facts of what's happening, but rather changing your interpretation of those facts.

Um, So, you know, one example that I love with working out again is that, you know, if you are kind of, you've been a bit of a, a couch potato all your life and you go to the gym and then you start working out, you can start to really catastrophize the feelings of exercise. Things like the, your heart racing, you, you know, you're struggling for breath.

It can feel like you are ill, like you worry about your muscles aching. But actually, You know, it can be uncomfortable while simultaneously also you can interpret those, um, symptoms that you're feeling as being something positive. It's actually a sign that you're pushing your body to its current limit, and it's going to bring about growth and development and strength, and you can focus on, on the fact that you're actually, you know, building more strength for the future while still acknowledging that it can feel quite unpleasant.

And that's just one example. But that's what I really think we want to do, is to get to that kind of sweet spot. And actually all of the other expectation effects that I talk about really, you know, depend on reaching that kind of goldilock zone where you are changing your interpretation of events without denying the facts or denying the discomfort that you might be feeling.

**Yael Schonbrun:** Well, I love that answer of, of, of suggesting that people find this sweet spot and that it really gets informed by how your expectations can best help you capitalize in whatever whatever it is that you're doing or, or trying to work towards. Um, and the, and the reason that I ask the question is, I, I am a couple's specialist.

I do a lot of couples therapy and, and study relationships. And this comes up a lot, right? This difference of like one partner being, uh, a real optimist and the other being a pessimist in them, both arguing for the value of each of their uh, approaches to expecting outcomes. And I think you're absolutely right, which is, you know, it's really that sweet spot.

And actually, if they can sort of take advantage of the middle ground between them, it, it works quite well. But I wanna use that to kinda segue into another couple's related question, um, which is, has to do with how we hear one another. And, and this again, comes up a lot in, in intimate partnerships, so people perceive the exact same stimuli differently or, or situations totally differently. So, you know, one example that's just kind of a funny example is if one person says this room is really hot and they're hoping that their partner, you know, gets the hint and turns on a fan, and then the other one thinks that they're flirting and, you know, coming onto them and, you know, making a romantic invite and both are so mad because the other person isn't understanding the, the actual meaning



of their words, but the way that they contextualize the words is so different. So based on the research, we know that we can come away with totally different understandings of the exact same event and the world at large. And you talk a lot about this in the book and, and so you know, how can we understand the way that our interpretations of events can be so different when it's the exact same event?

**David Robson:** Hmm. I mean I think that, you know, that is crucial cuz actually, you know, there has been some research on kind of mindset, people, you know, who have these different mindsets and you do find that, so people who have, uh, Of kind of non-limited mindset about willpower, for example, like there are some people who think that, , the, you know, willpower is essentially self-perpetuating.

It's, you know, keeps its own momentum. , and you know, those people then do through an expectation effect, end up having more self-control, and they find it easier to resist temptation and to stick to their goals. Now the problem is that because they have that experience, they find it really difficult to empathize with people who have the opposite mindset, that willpower is limited and that, you know, it's gonna wear out quickly. So when they see their partner, you know, um, stopping work to kind of watch TV or you know, because they need a break, they're like, no, you should just keep on going. And it's, you know, they're basically, if you see mindsets, these kinds of.

You know, lenses through which we view the world and our own behavior and other people's behaviors, you know, they're seeing very different things, that they're experiencing very different things and it can be difficult to bridge that divide. But I think what, you know, with my understanding of the expectation effect, and mindsets is that actually what, you know, what has really helped me to to understand is that, I'm not saying that there's no objective truth, but I mean like both mindsets end up being true through this self-fulfilling prophecy.

And that in a way, like I think that awareness, when you understand that it can actually help you to kind of bridge that divide. Because you know, like say my partner does have, I'll say a more of a limited view of willpower and when I see he's you know, like he's struggling with these things. Well, it's like I can recognize that actually he's really experiencing that through this self-fulfilling prophecy and that it's not an excuse.

It's actually, you know, there are good psychological and physiological mechanisms why it's having that effect. And so I think like we, yeah, we do have to kind of be compassionate and empathetic to people and even if you

know, their mindsets are leading them to behave in ways that seem alien to us, cuz we have a different mindset.

I think actually just recognizing that and recognizing that, you know, there are two different psychological mechanisms and both can be true for different people. I think that can be really helpful.

**Yael Schonbrun:** Yeah, I love how you're describing it and, and I, my partner probably feels that way about me in terms of the ego depletion, but um, and I think that's also a common difference. I actually wanna talk about that particular finding, but I'm gonna put a pin for just one sec because I think what you're saying is so powerful and it maybe goes to help us understand our partner as well as to unhook a little bit ourselves from the stories that we tell about how the world is, you know, is with a truth, with a capital T. Because when we recognize that we're each guided through the world by a set of beliefs and we hold onto them cuz it helps us to develop a coherent understanding and helps us to prepare and helps us to anticipate what's gonna happen.

It helps us to sort of recognize that like that is one set of beliefs and that there are lots of alternative sets of beliefs and our partner may hold a different one, but that, you know, there's not like a right or wrong, it's just sort of something that helps you develop coherence and, and plan accordingly, and that most sets of beliefs have some flaws because there's no way to capture all of the truth of the world in one set of beliefs anyway.

**David Robson:** Right, exactly. And also I think, you know, some sets of beliefs. Yeah. Like you kind of said is they can be adaptive in one context but not another. So actually I think you know, there, there could be, as a couple, you might be stronger to have the variety of beliefs between you, which means that you can navigate different challenges and play to your strengths.

But again, I just think it is the, the, the key there for me would be to have that awareness of what those two different ways of viewing the world are and respect for the other persons we're viewing the world and then trying to work out well, like, how can we, you know, use this to our advantage rather than seeing it as a point of conflict.

**Yael Schonbrun:** One other point that I wanna bring up in this couple's domain is, is sort of literally that context matters so much for how we understand what's happening. You give this really interesting example of a study of a musician virtuoso who's playing in a subway and because people aren't expecting to hear a virtuoso playing in the subway, they, they don't notice it.

You know? Whereas if that same individual were playing in a concert hall, they would get wrapped attention and, you know, people would really appreciate the beauty of their music. And, and I wonder if you can speak a little bit to that context effect that really directs our expectations in particular ways, and then impacts how we experience the world.

**David Robson:** Yeah, I mean, I think this is, you know, again, it's that prediction machine creating those simulations, and that's actually shaping the way that your brain is processing the sensory data. And in the context of music, I think it just might be, you know, what you're listening out for in the, you know, the phrasing of that violinists um, you know, playing, you know, or you know, the quality of the sound that they're creating. It's like if you are in the, um, in the subway, your attention just isn't going to be focused so much on that. So you're just not going to, um, you know, you expect that they're, you know, maybe someone who you know, still a student or maybe they dropped outta music school.

You know, you're just not thinking of it in the same terms. So yeah, it can be exactly the same sound, but um, the simulations are changing the way that you process that sound. And actually, I think like coming back to this idea of, um you know how this plays out in couples. You know, I quote from, you know, one of Anaïs Nin novels, um, where, you know, there's this kind of thinly veiled, um, uh, you know, character who's like the kind of, um, Henry Miller, uh, figure.

And, you know, there's the Anaïs Nin figure in that walking along The Seine in France and, you know, he only sees all of the garbage and you know how dirty it is. And she sees like how beautiful the water is and the play of the light and the bridge is, and you know, that is how, I think like as couples, sometimes we can walk through exactly the same place, but we can be worlds apart in what we're experiencing.

**Yael Schonbrun:** I think that is so well put. . You give this other example that's sort of like, we can miss what's in front of us or we can create something out of nothing.

Can you describe the White Noise Studies and the Bing Crosby music that it was so interesting?

**David Robson:** Yeah, I mean, you know, it's the same phenomenon, but I feel like at a real extreme. So, you know, there was one study that looked at, um, kind of visual white noise. They primed people to kind of think that they were

gonna see faces, and sometimes there were actually outlines of faces appearing in the white noise.

But o you know, other times it was pure white noise. But the, because the participants expected to see faces, they actually started reporting, seeing them in the white noise, uh, even when they weren't there. And you could even see the brain activity in the ffa. , I think that's the fuse form, face area in the brain.

That's, um, you know, Used for facial recognition. So the neural activity was almost indistinguishable from when they actually saw the faces and they, you know, then exactly the same thing happened when they played, , audio of white noise and told participants that they were going to hear Bing Crosby singing.

They were gonna hear white Christmas, and, you know even when the, you know, there wasn't a trace of the song, , for about 30% of the time about a third of the time these participants reported actually hearing it in the white noise. And what I think is happening there is that the prediction machine, you know, The song is so familiar, the, and the expectation of hearing it was leading the, the brain as a prediction machine to actually start simulating it as simulations were so strong and it was shaping that sensory reprocessing so much that it felt like a real conscious phenomenon.

**Yael Schonbrun:** Yeah, it's, it's really wild, how the, the processes of the mind can sort of really have such a monumental shift in, in how you experience the world. And what's so interesting, so your, your book is just replete with science, but what's so important to recognize is that science also helps to shape our mindsets and our expectations.

And you had mentioned this before, the ego depletion effect or sort of how we understand how willpower can get depleted over time through the course of the day. And this was sort of a finding that we used, that used to go one way and now more recently has turned a different direction. And I think it's so interesting because if you had bought into the science before as I did, I, it really feels untrue to me the the new findings.

So what are those findings, but also what are your thoughts on how science can really impact people's expectation effects and how that can evolve over time.

**David Robson:** Yeah, I mean, you know, they're both fundamental points and I think actually the second one, you know, gives room for optimism, even though in this case I think, you know, it is a bit problematic. But yeah, essentially we'd had this view for ages that, you know, willpower was depleted, that this might

even be linked to kind of some kind of, um, Uh, limited resource within the brain, like glucose that's then used up as your, you know, in the classic study as you're like re resisting the temptation to eat cookies.

Um, and instead you're eating radishes or whatever it was.

**Yael Schonbrun:** At the beginning of the day, and then by the end of the day you're like, oh, I'm all used up with the willpower. I'm going to eat the cookies.

**David Robson:** Right. That's it because yeah, like after, you know, a full day of kind of sticking to work, when you could be doing, you know, looking at funny YouTube videos, you know, holding your tongue when your boss says something really annoying and you really want to snap, but you have to like smile and, you know, pretend to like, like their suggestion.

You know, all of those things before to kind of, um, deplete willpower. And then, yeah, by the end of the day, um, you're really low on reserve. So rather than going to the gym, you might watch, you know, a box set or, um, you know, and you might have junk food rather than sticking to a healthier diet. Um, And you know that there have been some problems with re replica ability with some of the laboratory experiments, but I think in general, like the kind of longer term, you know, effects of the ego depletion did seem to be true still.

Um, But what the research kind of has suggested is that maybe this was a mindset effect. It was, um, a self-fulfilling prophecy and what these researchers like, um, uh, Veronica Yo who was in Switzerland at the time, you know, what she discovered was that actually, you know, there were broadly two mindsets.

Some people who seem to think of willpower as being depleted. The others who see willpower as being self-perpetuating has its own momentum. You know, you get into the zone when you are working and actually it's easy to stay focused once you're actually already doing a task. Um, if you've resisted cookies throughout the day, it is like, you know, you've got stronger.

It's not so hard in the evening. Um, and you know, she looked at, at this in short term laboratory tests, but also then, you know, broader kind of, um measures of people's self-control in their daily lives. And she found that those, uh, willpower mindsets, you know, have real, IM important consequences for how much people exercise, how well students deal with the stress of exams, how much they procrastinate, you know, all of these things.

And you know, she also found, interestingly that even though in the west the, um, limited willpower mindset is more common than in countries like India. The non-limited mindset was more common. So, you know, it seems to be something about our cultures, , that, you know, that have, , have led to these self-fulfilling prophecies.

But she found that by educating people about the different mindsets, So people who had the limited mindset, who were educated about the non-limited mindset and given a bit of information about those studies, that they could shift their mindset and it seemed to then have an effect on their behavior. So that is positive.

I think that our mindsets are malleable. But like you said, you know, what happens if you read all of those books about limited willpower? Like was that actually reinforcing this idea and was that then leading people to struggle even more with their self-control? my hunch like no one's tested that, that particular idea of the effects of that, that science, but my hunch is that it would've done so actually. And that, yeah, like we, that's why we have to be careful, I think in science communication often. You know, and I think we, we can see the same with, you know, maybe some of the messages about stress, for example, like if you paint stress as being universally bad. And dangerous and, a kind of precursor to failure that's reinforcing an idea that then can create a self-fulfilling prophecy.

So we, we do have to be careful with these things, and I think it really tells us that we should be nuanced in, in our messaging. But I think, you know, ultimately it is a good sign that our mindsets are malleable because it does mean that, you know, knowledge is power by educating people about the, you know, the expectation effect that people can actually then put new beliefs into use and that, you know, with the scientific, scientific evidence behind them, it, it's, it's not like you need to deceive people. Just knowing the facts about mindsets can be enough to bring about that initial change.

**Yael Schonbrun:** Yeah, I mean there's this kind of fundamental truth that if you are able in, in so many different pockets of life to adopt a mindset that you can find a way through and grow from hard things and, , learn and, , Make realities work well for you. You know, if you sort of look out for opportunities to do that, that there's often a, a, a possibility to do that.

And I think the, the willpower effect, the, the ego depletion effect is such an interesting one because it is like a mindset shift that you can, with that knowledge do for yourself. Like, oh, okay, there's a way to think about this as a

resource that gets diminished by the end of the day. But there's also a way to think of this as, oh, I've been practicing all day.

And now I have all this practice under my belt and, and a way to go about doing it. And that really can change how I go about my diet or, um, my willingness to hold my tongue or, my, you know, efforts at getting my work done carefully.

**David Robson:** Right. And you know what I think it, you know, uh, talking of nuance, I think is that actually, you know, people do broadly according to, , Veronica's research do broadly seem to fall, you know, on one side of the spectrum or the other. But actually it does depend on context again. And so it could be that you know, when it comes to like resisting cookies, you know, you actually do find that your mind power is like non-limited.

You know, once you start, you find that it is easier. While you might have been previously struggling with like focusing and concentrating on your work and you, you might have simultaneously had the belief while in that domain, you know, your willpower is very limited and that, you know, it's easily depleted.

But I think what, what this research shows is that, you know, you can try to, maybe it would help if you think of the one domain where you do show really good willpower, and you can use that to reinforce this idea that your willpower is within your control and that is empowering. And then you can try to kind of take that with you to all of those other areas of life where you might find it harder to, , practice self-control. And that is something that I, you know, try to do myself. You know, when, when there's a task I don't want to do, and that I do, , would tend to have the idea that, oh, you know, I need regular breaks and that, you know, my productivity's falling and I can excuse myself of procrastinating.

Well, actually with those, I'd think like, no. Like if I'm writing, which is my real passion, like I can get in the zone and I can write for hours without even noting, no time passing. And that does really show that like there isn't this, Because it's hard mental work, so that resource should be depleted, but in that case it's not.

So I can try to think, well, if that's the case there, then maybe when I'm doing, you know, those other tasks that are, that I'm currently finding a bit more depleting, well maybe, you know, I can just kind of try to apply the same mindset there. And you know, personally for me, that's worked really well.

**Yael Schonbrun:** Yeah. I love that tip.

So I wanna talk a bit, you, you spend a good amount of time in the book talking about the placebo effect and then something called the nocebo effect that people might be less familiar with. And so maybe we can start by having you define those and then dive into some of the science there too.

**David Robson:** Right. I mean, yeah, I think people are familiar with the basic concept of the placebo effect, and that is, you know, if you are receiving a medical treatment and that you expect it to work, then often it will bring about relief even if you're receiving a sham treatment. Um, now we know the placebo effect doesn't work in every case.

You know, it can't perform miracles. Say if you've got a terminal illness like cancer, like having a placebo chemotherapy isn't going to be beneficial. Um, but like for lots of treatments actually through this mind body connection that comes from the brain's prediction machine, you know, you do often see physiological changes that accompany those positive beliefs.

And you know, my favorite example would be with pain relief. Um, so if you take a painkiller and you believe that it's, um, you know, you've had experience with something like morphine and you believe that you are, you're getting a shot of an, an opioid drug, well actually the brain then starts to produce its own endogenous opioids that can then help, um, to, you know, re reduce the pain.

Not just that this kind of purely subjective kind of level of kind of having emotional comfort, but that it also, you know, is physiologically somehow changing the pain signaling. Um, there's also studies showing that, you know, positive expectations can shape, you know, things like inflammation in the body, which accompanies lots of illness and can actually contribute to our sick feelings.

Um, so, you know, it can be powerful. I think it's really important in determining patients comfort and even, you know, there are longer term studies looking at things like, um recovery from heart surgery. Um, and you know, I found that study so exciting because these patients weren't taking a deceptive placebo.

They were actually just given psychological therapy that was trying to do the job of the placebo. So, you know, Before the surgery, they had a few sessions with a, a psychologist who was helping to allay some of their worries about the, surgery and to se help them set some kind of optimistic, but realistic expectations of what their recovery would look like.



So, you know, when they could return to work, when they might be able to go on the holiday, you know, that kind of thing. , and what they found was that, you know, these patients did leave hospital more quickly than those who had just had this standard treatment as usual, without the positive expectation therapy, they returned to work more quickly.

They seemed to report lower levels of disability in their recovery , and importantly, it did also then change some of the physiological marker of recovery. So they had lower levels of certain inflammatory cytokines that might have been slowing their progress. So, you know, it all added up to a, a kind of healthier return to their normal life after they'd had this therapy. , so that's why I'm so excited about expectation effects is that you don't. They don't need to be kind of deceptive, , you know, is actually enough again, just to give people knowledge to help, to assuage people's fears, you know, , all of that.

But then the, the nocebo effect is really the kind of flip side of the placebo effect, and that is where our negative expectations can you know, exacerbate illness or create illness from nothing. , so lots of, , side effects that people experience from their medications. Things like, um, , nausea, headaches, , you know, digestive problems.

You know, sometimes these can be nocebo effects. So we know that if a doctor gives them, you know, the medi patient's medications and gives them the warnings of those side effects, even if it's a sham treatment, they still report those side effects. So, you know, it's, it's the flip side of the placebo effect and it's actually working through the the same mechanisms where a placebo might reduce inflammation, and negative suggestion might increase inflammation. It might change the vasculature in your brain, so you are experiencing a headache, whereas if you have positive reassurance, it might reduce the, um, change the vasculature, so you, you don't have that experience of pain.

So yeah, it's, the nocebo effect is very powerful and actually it's something that we should be trying to combat. , as much as we should be trying to use the placebo effect, we should be trying to reduce the effect too in the way that we frame certain, , you know, descriptions of side effects or how we kind of frame people's, understanding of their illness.

**Yael Schonbrun:** Yeah, and you talked about sort of an intervention that you did for yourself when you were having, , a negative side effect and, and how helpful that was? So, you know, the, there's this question of like, if we know that the expectations that we have can strengthen the effects of a treatment or reduce the effects of a nocebo effect, how, how should we sort of position ourselves

with our expectations to, to get the best you know of, of treatment and, and avoid the worst of it.

**David Robson:** Yeah, I mean, I think, you know, this is what's so exciting and there's some great work happening in New Zealand with people like Keith Petri who's really looking into this. But actually, you know, in terms of like what medical providers can do, , I think it's really important for them to just like kind of explain why treatments are work and like the rational behind what they're suggesting to the patients.

And to really like make sure that the patients understand that because, you know, that does seem to kind of, through this kind of placebo mechanism seems to enhance the benefits of the treatments. And we saw that with the, , example of the heart surgery study that I spoke about, but there were lots of others, you know, like people who are receiving, um, An iron transfusion for severe anemia.

You know, if you explain to the patients, like why they're receiving that, what's happening in their bodies when they receive that, like how they might expect their energy levels to change over the next few days and weeks. You know, that actually boosted the benefits that they received. So it changed, you know, the fatigue that they were experiencing and, and the discomfort.

So, and I found that exciting because, you know, as a science communicator, I think like people should really have that understanding and autonomy over, you know, Their healthcare. And I think this is, you know, it, I don't think it costs so much considering the benefits that you are receiving, like the costs, say for those heart surgery patients, they left a hospital a few days earlier.

The cost of the therapy is tiny compared to the cost of, of keeping people in hospital and of course the added discomfort that the patient is suffering because of being in hospital rather than having the comfort of being at home. So yeah, I think it's so exciting and it works on so many levels, you know, economically, but most importantly for the patient's benefit.

**Yael Schonbrun:** Yeah. Yeah. No, it's, it's so powerful and it's so exciting. On the other side, and this is sort of more from my position as as psychologist, who's also interested in psychiatric medication and , what we know from randomized control trials of active treatment for say, depression or anxiety, , with various, medications compared to placebo, is that a lot of the effect is placebo effect. And yet there are significant side effects. And so, you know, I'm, I'm of two minds because one is, you know, Depression and anxiety and other mental health illnesses are so desperately painful.

So even if it is placebo, maybe we should just allow people to take it because it's helping. On the other hand, it, they often do come with side effects and there's, you know, we don't have perfect knowledge of how some of these medications I impact people's physiology long term or even their mental health long term.

And so there's, there's kind of these open questions. And then you sort of bring up, so, so this is like a conversation that I've had on the podcast before, but you bring up this really interesting idea of open-label use of placebo, you know, of like telling people, you know, this is a placebo and you're gonna take it for your depression and it'll probably help and that that actually can help.

And this is sort of a multi-layered question, but I'm curious how you understand that to help if the prediction machine, the expectation effect is so much carrying the way that medication works. If we know that it's a sham treatment, how are we holding onto that expectation effect? Does that make sense?

**David Robson:** Yeah, I mean, it is mysterious, but, um, so I think, you know, cuz there's lots of different open label studies of lots of different, uh, , illnesses and I, I do think it probably the precise mechanism by which it's working probably depends on, you know, , the kind of context in the situation. But, um, You know, in some sense, I think what we found in medicine is that like, , for things like pain, actually, like if you look at the evolution of pain, you know, it's there as this kind of warning signal.

So physical pain, I'm talking about, it's this warning signal and it's. I'm kind of telling you to get to safety and to get help, to get someone to look after you. , now if you are in a setting, and even if you're given these open label placebos and someone's telling you, They're, they're gonna be effective like we are looking after you by giving you these.

That's a ritual, that's a medical ritual that's actually helping to reassure the brain that like now it is getting the kind of support that the body needs, that you're safe and so it can afford to reduce. The, , pain signals in that case, or, you know, maybe the discomfort of your inflammation could be affected too, because you can, if you know that you're kind of safe, the body can afford to reduce inflammation, which is a first kind of barrier to infection.

And then it can start to, um, the adaptive immune system can kick in. So the production of antibodies, that kind of thing can kick in to actually target the pathogens themselves. So there's those kinds of mechanisms. It's part of the

medical ritual, the sense of being safe that might come from having that, , you know, open label placebo pill.

It's telling you that you're being looked after. But I think there's other things that are happening here too. I think in some of these studies, the scientists, you know, gave them the scientific knowledge of the expectation effect. They told them how the brain is operating, how, you know, the, the brain is capable of producing this relief that it can actually produce those endogenous opioids for pain relief, for example.

And so I think what's happening there, , then is that it's, it's kind of giving people a sense of empowerment and that that can also be very important for coping with with their illnesses, you know, so it's kind of triggering the, kind healing response in this way. But then some of the studies have also looked at things conditioning.

So if you combine an open label, plus if you first of all combine someone's, you know, conventional drug, like, their opioid pills with a particular smell, and then you give the open-label placebo, but attached to that distinctive smell, then you have this conditioning response and that's also triggering the body to start to respond as if it's receiving the real drug.

And you know that that's not perfect cuz the re um, effects of conditioning kind of wear off after a few days. But you can kind of top it up by having maybe a day when you're on the real drugs again, combined with the smell, then going back to the open label placebos. And what that's very effective at doing is you know, helping people to wean themselves off of the drugs. So it's not immediate that they can go kind of cold Turkey just having the open label placebos, but you can definitely reduce their dosage significantly. So that's another exciting mechanism, , that can be used and harnessed with kind of effective, kind of smart, , strategies.

So, yeah, I think there's, you know, lots of possibilities there. I think the same is probably true of these, , um, know, with the treatment of depression, for example, it could be that having that kind of medical ritual, the sense of being cared for could be helpful. There could be an element of conditioning there as well.

You know, all of these things can combine to, to kind of bring about these positive effects. And what we really need to do now is just conduct more of these studies to work out, you know, what's the best, um, particular strategy for, particular patients.

**Yael Schonbrun:** One other thing that occurs to me specifically with depression, I'm not sure if you're familiar with something called behavioral activation, but it's an, it's a, you know, evidence back treatment for depression. And I wonder if maybe that there's some piece of that too, that like you are doing something and there's, and, and because you're doing something that there's an effect on depression.

Just the doing of something.

**David Robson:** Yeah, I think that's totally true, and actually I think something similar. It's probably important for all of these expectation effects in that, um, you know, I talk about there being three different mechanisms for these expectation effects, and it can be perceptual, as we mentioned, changing the way we're processing the sensory data to change our subjective experience. It can be physiological, but it can also be behavioral. , and actually they're all interacting. You know, if you feel better temporarily, whether that's from physical pain or from , you know, emotional pain and depression that can then help you to change your behavior.

And then I think that can have a knock on effect back to the other two mechanisms. You know, so if you receive that placebo pill for pain or depression and then that allows you to become more active, maybe do some exercise that could then kind of start this kind of more positive, like virtuous cycle of behaviors, that's then shaping,

kind of feeding back into the, your perception, your physiology, and, you know, together they're helping to bring you closer to recovery. , so I don't think we should ever kind of look at, , you know, expectation effects as being like one thing or the other. Actually, they're all working in tandem, but it's kind of the end point that's so important.

**Yael Schonbrun:** Yeah, I, I talked to another, um, researcher Dr. Tracy Dennis-Tiwary and she talked about, mindset shifts as really being like a ripple effect, right? It's sort of like you change your expectation and it, it sort of causes this cascade that can be, you know, a virtuous cycle or, or a vicious cycle.

And, and so being careful about, you know, sort of how you're setting up your expectations really can create this opportunity to, to cycle in a, in a new direction.

**David Robson:** Yeah, exactly. And you know, I think that's really clear to me and say the effects of mindset on stress. , so, you know, we've been taught stress

is dangerous. It's negative, you're gonna fail. If you're stressed, you should chill out. But actually, you know, we evolved this stress response for good reason.

It's not like we only have the fight or flight response called the rest. And digest response. But actually, you know, we have like lots of like moderations in like how you can experience stress and actually, you know, it's more like calibrating the suitable level of stress to the situation that's important.

And you know, what we find is that having, , a positive stress mindset helps you to do that. And the positive stress mindset is simply recognizing that even if you have the discomfort of, you know, anxiety before an exam or a a. You know, giving a public talk, they're actually some of those changes that you're feeling like you're racing heart, , being kind of your nerve strangling.

They can be positive because you know, you're having more oxygen pump to your brain, cortisol's keeping you, , aware and alert. You know, you don't want to be drowsy in these important situations. And then, you know, so you are. You're changing your perceptions of that, and then you see that actually it becomes a bit of a self-fulfilling prophecy physiologically, in that you have a, a kind of health, uh, healthier, more moderate, um, stress response.

It's not pushing you towards panic when you stop seeing stress as being your enemy, but also then it's changing things like your creativity. You find it easier to be proactive with your problems and to find novel solutions, which can then in turn help you to deal with the thing that's actually stressing you out.

You know, to deal with that more constructively and then that obviously is gonna reduce the, the stress levels fervor, and help you to actually go on that positive trajectory kind of step by step. , and so, yeah, know, personally for me, that's how I see this as like the changing your, my expectations is the first step.

And it might help me to push myself outta my comfort zone or to deal with the thing that's upsetting me. , but it's like, it's this kind of. Iterative process. It's like I'm focusing on the journey. It's not like I'm immediately expecting like everything to be solved just for one change in mindset, but actually it's an important tool that's helping me to make the progress I want, you know, more quickly, , and with less discomfort than I would've otherwise felt.

**Yael Schonbrun:** Yeah. Well, I love that point that it's focusing you on the process in a more productive way

and. And I think the, the science on the, on the stress mindset is so fascinating. And actually I'm so glad you, you turned to talk about that because the researcher that I spoke to, Tracy Dennis-Tiwary, we had on our podcast to talk about her book Future Tenses, which is all about

**David Robson:** Hmm.

**Yael Schonbrun:** this stress mindset.

It's a great book and, and it was really fun talking with her and. I'm curious sort of to dovetail on that, how do you think we can, set up the expectation effect when we feel feelings that are more on the level of depression or sadness? Right. Because I think it's, it feels more intuitive to understand how to set up a productive, helpful mindset with stress and anxiety because they are emotions that kind of propel us to take care of things, whereas depression tends to kind of retract us and slow us down. And so what are, what are your recommendations there?

**David Robson:** Hmm. So, I mean, I guess I would say, you know, , first of all, I really do think people. You know, mindset is something that can be useful in combination with other treatments, whether that's, you know, cognitive behavioral therapy, behavioral activation, you know, mindfulness treatments, pharmacological, uh, solutions.

But yeah, like mindset alone should never be like your first port, port of call. But you know, from my own experience, I think it can be really helpful when you're already kind of on track to kind of help you to, , to kind of deal with your depression and then to kind of prevent relapse as well.

That's what I found personally was, um, so I had had depression in the past, but I really felt like writing the expectation effect, understanding all of this science, like really has helped to prevent me from relapsing, , for a few years now. ,

**Yael Schonbrun:** That's amazing.

**David Robson:** Yeah, I mean it's, you know, it's such a positive process for me. Actually, you know, just personally, like, notwithstanding like professionally, but just personally for me, like it really did change my life. But, and I, I think like what really struck me with, , the, was the most important thing concerning depression was actually that, um, I saw a lot of research on how you can kind of have a bo effect with negative emotions in that. What I mean is that the meaning we attached to negative emotions can actually exacerbate our

discomfort and, and prevents us from recovering more quickly. So people who, and I was certainly one of these people are really feared negative emotions like, Disappointment, frustration, sadness, loneliness, and I would start to catastrophize them when I felt them.

So it's like, you know, partly maybe because of my previous experiences with depression, I, you know, very quickly kind of worked myself up into this kind of panic that if I didn't, you know, eliminate those feelings, I was gonna relapse back into depression. And that was, you know, what the research shows is that that was really counterproductive for me.

And actually, we don't have to kind of. Embrace these emotions. And you know, we certainly don't want to actively cultivate negative emotions, but we can learn to recognize that sometimes, you know, when you are psychologically healthy and you feel those emotions, they serve a really important purpose in your life.

You know, frustration. And disappointment. They help you to kind of change track when you know things aren't working out. They're like giving you that important signal. Similarly loneliness. You know, it, it really hurts if you feel excluded, but it can also tell you that your. You know, to reach out to other people to, like, it is a reminder that actually, like it's a basic need, to have social interactions and that you, you know, you have to pursue that.

, and so just for me reading that research, the researchers, that when people do have those pos, uh, not positive associations, but kind of more nuanced interpretations of their emotions, you know, their mental health is generally. Much better. So they, they're actually much less likely to, to suffer from depression or anxiety or all of those, , mental health issues.

Um, and for me, you know, that certainly has helped a lot, I think, to just kind of accept my bad moods and like disappointments as being this kind of temporary weather that like if it's raining, it's not gonna rain for forever. , but actually you can, you know, you can sit, breathe the rain and you can accept it without fighting it.

And I think that's how I see my negative emotions now. And that helped a lot.

**Yael Schonbrun:** I love that. It, it really fits. So my co-host and I all practice an evidence-based treatment that's similar to cognitive behavioral therapy. It's called Acceptance and Commitment Therapy, if you're familiar

with



**David Robson:** Yeah. Yeah, yeah.

**Yael Schonbrun:** Um, And we talk a lot about sort of learning to relate to our internal experiences in particular ways and, and what you're speaking to really is sort of like unhooking a little bit and really noticing what kind of meaning we're attaching to the internal experience and, and seeing that there are more and less helpful ways to attach to meaning and, and also to recognize impermanence, right? That emotions come and go. And that often the really uncomfortable ones are really intended to be helpful. , and, and not, and they're not tragic, even if they're uncomfortable. And if we can sort of hold them lightly, allow them to help us, but not sort of panic about them, sort of add insult to injury when we experience them, that, that they can help us and that we can sort of endure them with a, a bit less discomfort. And that it sounds like you, you sort of, , your understanding of that really comes through the expectation effect, but it re it's really parallel.

I love that.

**David Robson:** Yeah, I think it is. And that's what I love about this research on, you know, the expectation effect is that I think it is, you know, is drawing on, you know, kind of techniques and strategies and, you know, an understanding of the human mind that we'd, we'd seen in like cognitive behavioral therapy and, acceptance and commitment therapy, you know, and all, you know, and also in like older traditions like Buddhism.

, but it's just showing. Like different ways that they can be applied and you know, then kind of showing also that often those same strategies we might use like kind of cognitive restructuring, you know, reframing actually, then they're also having these physiological effects often too. So, but yeah, I think there's so much parallel between all of these different fields.

**Yael Schonbrun:** Yeah.

All of these different, you know, disciplines and, and philosophies and, and eastern tradition, right. Sort of way before we were looking at cortisol or other physiological effects, you know, really, I. Is true too, right? That expectation effect that is captured in Buddhism is, you know, of learning to look at our internal experience in, in the right way with the right attitude.

And, the fact that it all converges makes it seem very, very true and, and that we can rely on it and use these as a set of practices. And I think the, the way that

you talk about the expectation effect, it, it's really neat that it has changed your trajectory with your depression.

And I imagine that for people reading it, it will be the same kind of transformative effect for for many readers. So, um, I just wanna say that you cover loads of ground in the book that we didn't have time to cover, like intelligence, learning, creativity, aging, fitness, and, and so much more. And, and gonna sound like a broken record, but it's really an incredible book.

Everyone should pick it up and, um, let me just give you a chance to say where else, can people find you and find out more about your work?

**David Robson:** Oh yeah. So, you know, I love hearing from readers. , so I'm on Twitter, uh, d underscore a underscore, Robson. But also you can come to my website, which is davidrobson.me uh, where I have kind of updates, you can read my portfolio of my journalistic writing. , yeah, those are the two main places and there's a contact form if you do want to get in touch.

**Yael Schonbrun:** Perfect. Well, thank you so much for taking the time. I really appreciate it and, and this was such a fun conversation for me. Thank you very much.

**David Robson:** Hmm. No, thank you. You know, I love the questions and it was Yeah, a real pleasure.

**Yael Schonbrun:** Thank you.

**Debbie Sorensen:** Thank you for listening to psychologists off the clock. If you enjoy our podcast, you can help us out by leaving a review or contributing on Patreon.

**Yael Schonbrun:** You can get more psychology tips by subscribing to our newsletter and connecting with us on social media.

**Jill Stoddard:** We'd like to thank our strategic consultant, Michael Harold and our podcast Production Manager, Jaidine Stoutt Williams.

**Debbie Sorensen:** This podcast is for informational and entertainment purposes only, and is not meant to be a substitute for mental health treatment. If you're having a mental health emergency, dial 9 1 1. If you're looking for mental health treatment, please visit the resources page of our website [offtheclockpsych.com](http://offtheclockpsych.com)