

## [Transcript] Huberman Lab / Mental Health Toolkit: Tools to Bolster Your Mood & Mental Health

Welcome to the Huberman Lab Podcast, where we discuss science and science-based tools for everyday life.

I'm Andrew Huberman, and I'm a professor of neurobiology and ophthalmology at Stanford School of Medicine.

Today we are discussing tools for mood and mental health.

I will include tools and resources taken from the guest episode that I did with Dr. Lisa Feldman Barrett, who is a psychologist and neuroscientist whose laboratory focuses on mood and emotions.

During that episode, she mentioned several important tools that I do believe everybody should apply and that indeed I've been applying to my own life and have found to be extremely beneficial.

I will also highlight some of the specific research articles those tools are based on, which were not covered in the podcast with Lisa.

I will also discuss tools gleaned from the four-episode series that I did on mental health with Dr. Paul Conti, who is a medical doctor specializing in psychiatry, and that episode as some of you may already know, focused on mental health and the self, as well as relationships, and it included a deep discussion of what is the self.

We talked about the unconscious mind and the conscious mind, and we also covered a lot of tools for understanding oneself, both within the context of therapy, but also within the context of things that one can do alone and that require zero cost.

In addition, we talked about tools for improving relationships.

We talked about first principles of self-care, so I will provide highlights and takeaways of those tools during today's episode.

And thirdly, I will include tools, what we often refer to as protocols, gleaned from some recent publications, indeed publications that came out as recently as two weeks ago, which really emphasize specific things that we can all do that, again, are zero cost, that have been shown in quality peer-reviewed research to significantly improve mood and mental health.

For instance, if you are a regular listener of this podcast, you are probably familiar with my nearly constant reminder that people should view morning sunlight and afternoon sunlight, and if you can't, to embrace some alternatives, like looking at bright artificial light, although sunlight is best.

Well, there was a recent paper published in the journal Nature Mental Health, an excellent journal focusing on not just the positive effects of viewing light at those times of day and indeed throughout the day, but also the independent and positive effects of being in darkness for six to eight hours every night.

That's right, not only is light during the day correlated with significantly improved mental health outcomes, but darkness at night, that is avoiding lights, not just bright lights, but lights for up to eight hours at certain periods of your 24-hour circadian cycle has been correlated with improved mental health outcomes, and indeed has been shown to significantly offset certain negative mental health outcomes.

This is a spectacular study.

Again, it involved an enormous number of research subjects, more than 85,000 research

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subjects, and it touches on a large number of actionable protocols that I've distilled down to just one or two things that all of us can easily do to improve our mood and mental health on a consistent basis.

Before we begin, I'd like to emphasize that this podcast is separate from my teaching and research roles at Stanford.

It is, however, part of my desire and effort to bring zero cost to consumer information about science and science-related tools to the general public.

In keeping with that theme, I'd like to thank the sponsors of today's podcast.

Our first sponsor is Plunge.

Plunge makes what I believe is the most versatile at-home self-cooling cold plunge for deliberate cold exposure.

I've covered the topic of deliberate cold exposure several times on this podcast.

Indeed, we did an entire episode about deliberate cold exposure, and what's very clear from the research literature is that deliberate cold exposure can induce dramatic positive shifts in so-called catecholamines, that is dopamine, norepinephrine, and epinephrine. This is a small collection of molecules that are released in the brain and body when we do deliberate cold exposure and that subjectively lead to greatly enhanced feelings of mood, alertness, and focus for many hours afterwards.

That's perhaps the best substantiated reason and the most popular reason why people who get into deliberate cold exposure, no pun intended, continue to do deliberate cold exposure on a consistent basis.

Plunge uses a powerful and very easy-to-use cooling filtration and sanitation unit to give you access to deliberate cold exposure in clean water whenever you want.

I've used a plunge for several years now, and I really like it because, first of all, it can use a standard outlet.

You don't have to modify the electricity in your home or yard, and it's very easy to clean.

Plunge stays clean for long periods of time, which makes it very easy to maintain as well. Plunge has several different models to select from, including their new all-in cold plunge, which offers faster cooling, smartphone connectivity, and more.

If you're interested in getting a plunge, you can go to [plunge, spelled P-L-U-N-G-E, dot com slash huberman](https://plunge.com/slashhuberman), to get \$150 off your cold plunge.

Again, that's [plunge dot com slash huberman](https://plunge.com/slashhuberman) to get \$150 off.

Today's episode is also brought to us by Eight Sleep.

Eight Sleep makes smart mattress covers with cooling, heating, and sleep tracking capacity. I've spoken many times before in this podcast about the fact that sleep, that is, getting enough quality sleep on a consistent basis, is the foundation of mental health, physical health, and performance.

One of the key things to getting the best possible night's sleep is to control the temperature of your sleeping environment.

That's because in order to fall and stay deeply asleep, your body temperature needs to drop by about one to three degrees.

In order to wake up feeling refreshed and energized, your body temperature actually has to increase

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by about one to three degrees.

With Eight Sleep, controlling the temperature of your sleeping environment is made extremely easy.

Eight Sleep mattress covers allow you to program the temperature of your sleeping environment at the beginning, middle, and end of your night.

It can even divide the temperature on the two sides of the bed for different people.

It also has sleep tracking capacity.

It will tell you how much slow wave sleep and rapid eye movement sleep you're getting, and really help you dial in the exact parameter so you can get the best possible night's sleep.

I've been sleeping on an Eight Sleep mattress cover for well over two years now, and it has significantly improved my sleep and therefore my daytime mood, focus, and alertness.

If you'd like to try Eight Sleep, you can go to [eightsleep.com](https://eightsleep.com) slash huberman and save up to \$150 off their pod three covers.

Eight Sleep currently ships in the USA, Canada, UK, select countries in the EU, and Australia.

Again, that's [eightsleep.com](https://eightsleep.com) slash huberman.

Today's episode is also brought to us by Waking Up.

Waking Up is a meditation app that includes hundreds of meditation programs, mindfulness trainings, yoga nidra sessions, and NSDR, non-sleep-depressed protocols.

I started using the Waking Up app a few years ago because even though I've been doing regular meditation since my teens, and I started doing yoga nidra about a decade ago, my dad mentioned to me that he had found an app, turned out to be the Waking Up app, which could teach you meditations of different durations and that had a lot of different types of meditations to place the brain and body into different states, and that he liked it very much.

So I gave the Waking Up app a try, and I too found it to be extremely useful because sometimes I only have a few minutes to meditate, other times I have longer to meditate, and indeed I love the fact that I can explore different types of meditation to bring about different levels of understanding about consciousness, but also to place my brain and body into lots of different kinds of states, depending on which meditation I do.

I also love that the Waking Up app has lots of different types of yoga nidra sessions.

For those of you who don't know, yoga nidra is a process of lying very still but keeping an active mind.

It's very different than most meditations, and there's excellent scientific data to show that yoga nidra and something similar to it called non-sleep deep rest or NSDR can greatly restore levels of cognitive and physical energy, even with just a short 10-minute session.

If you'd like to try the Waking Up app, you can go to [wakingup.com](https://wakingup.com) slash huberman and access a free 30-day trial.

Okay, let's talk about tools for improving mood and mental health.

I think it goes without saying that these are extremely important topics for everyone, not just to know about, but in my opinion also for people to implement.

And the reason is that we are currently in a worldwide mental health crisis.

And while we could debate the reason why we are in a worldwide mental health crisis, it's very, very clear that we are in a world of mental health crisis.

It's very, very clear that mood disorders and challenges with mental health abound.

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And of course, there are many different therapies for the treatment of mood disorders and mental health.

Everything from talk therapy with a psychologist or psychiatrist or social worker, prescription drug treatments, their nutritional approaches, somatic approaches.

And I want to be clear that I do believe that there's value in all of these approaches.

What tends to matter in terms of what sorts of tools and approaches one adopts includes both access, so whether or not people have access to these type of therapies, whether or not they can afford them on a consistent basis.

And also, of course, the severity of the mood or mental health disorder.

And I'd be remiss, of course, if I didn't make the statement, and I don't say this just to protect me, I also say this to protect all of you and those that you know that if you are concerned about yourself or somebody else having a serious mood or mental health disorder, please do seek out help from a licensed clinical psychologist or psychiatrist or other health care professional who's qualified to help you in that regard.

With that said, we can now have a discussion about tools and protocols for enhancing mood and mental health that truly apply to everybody regardless of age.

To start off, I want to talk about a fundamental aspect of mood and mental health enhancement that was discussed both in the guest episode with Dr. Lisa Feldman Barrett, as well as in the guest series with Dr. Paul Conti.

And that has to do with what Dr. Paul Conti referred to as the first principles of self care or mental health.

The first principles of self care include but are not limited to taking excellent care of one's biology, which of course includes both the mind and the body.

And in order to make this very simple and actionable, I've distilled out what I referred to as the big six.

I've sometimes referred to these as the six major pillars of health, both mental health and physical health, as well as performance for that matter.

But if we're going to talk about tools for mood and mental health, we absolutely can't discard discussions about our biology.

That is, we need to make sure that we're taking care of our normal biological function and indeed enhancing the production of specific neurotransmitters and neuromodulators that we are optimizing.

Yes, I use the word optimizing the function of our so-called autonomic nervous system, that aspect of our nervous system that's humming in the background all the time.

It's operating unconsciously to regulate our sleep wake cycles.

It's regulating how well or poorly we react to things.

It's regulating how much dopamine, serotonin, epinephrine, acetylcholine we're producing.

All of this stuff is humming in the background and sets the stage for all the conscious work that we might put to, for instance, try to understand what our life narrative is, what our unconscious mind is doing, what sorts of defenses it might produce.

All of the high level and directed work that we're going to talk about a little bit later exists on a background of autonomic function, of neurotransmitter production, of hormone production, not just testosterone and estrogen, but things like cortisol, prolactin, and on

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and on.

It's important to understand that if our goal is to be in the best possible mood, given our life circumstances, and to have the best possible mental health, given our life circumstances, and to improve our mood and mental health consistently over time, that we have to pay attention to what I'm referring to here as the big six or the six pillars of mental health.

Those are, just to list them off, then I'll go into a little bit more detail.

Sleep, sunlight, although I'd like to modify sunlight because based on some new data that just came out a couple of weeks ago, I'd like to now make that second pillar, not sunlight, but light slash dark.

So we could even just think about it as light, when and how much light you get.

But what you'll soon learn is that how much dark you get is also extremely important.

So we've got sleep, light, movement is the third, nutrition, social connection, and stress control.

Now, these are topics that I've spoken about extensively on previous Huberman Lab podcast episodes.

So I don't want to go into a deep dive of each of these six pillars right now, but I am going to just give you a few highlights of each.

And then of course, we will provide links in the show note captions for which you can go on the deep dive if you like.

And I also would like to mention that if you ever have questions about specific protocols or tools and you're seeking those out or previous episodes or specific time stamps of previous episodes of this podcast, you can go to our newly revamped Huberman Lab.com website and put any topic of interest or even several topics of interest into the search function and it will take you to the very specific time stamps and other resources that provide information on those topics.

So I'm going to go into a few of the key bullet points about each of the six pillars or what I also refer to as the big six of self-care and mental health.

Again, this is a necessary list, but it is not sufficient.

Again, necessary to do these things every 24 hours, indeed every 24 hours, if you want to have the best possible mood and mental health, but it is not sufficient.

That means you still need to do some of the other things that we're going to talk about in terms of directed approaches at improving mood and mental health.

If you are to quote unquote, optimize your mood and mental health, or if you are, let's just say trying to constantly improve your mood and mental health.

But these are the necessary but not sufficient pillars of mental health.

So under the heading of sleep, it's safe to say that most people need between six to eight hours of sleep per night.

Some people can get away with five.

Some people need as much as nine or 10.

Certainly growing kids, babies, teenagers, and those that are suffering from some sort of illness are going to need more as much as nine, 10, maybe even 12 hours of sleep per night.

However, most people do well to get somewhere between six and eight hours of sleep per night.

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You're just going to have to experiment and figure out what's best for you.

Now, one thing I heard recently, so I can't claim this as an original idea, but that I think is a really good way to think about sleep is that sleep much like physical fitness is something that we have to constantly be working on.

It's not the sort of thing where you can get a great night's sleep one night and then the next night just kind of let all the protocols go and expect to get a great night's sleep.

You don't have to be neurotic about getting a great night's sleep.

Indeed, I do believe that we should strive to get enough quality sleep as many of the nights of our life as possible.

And if you can't do that, hopefully it's for good reasons.

But of course, things happen in life, raising kids, you have emergencies, all-nighters to study so you can make sure you get that best possible grade on an exam, et cetera, et cetera.

But we should all strive to get the best quality sleep that we can and as much of it most nights of our lives.

So it's important to look at sleep as a process that you're going to be working on for the rest of your life, just like fitness.

And I don't say that to overwhelm you.

I say that so that if on any given night you get a poor night's sleep, you don't stress that too much, you just get right back on the wagon and you try and get the best possible night's sleep the next night and the next night and the next night, much like fitness.

There's no 10-week program that's going to transform your physical fitness forever.

Just like there's no sleep program that's going to transform your sleep forever.

It's a daily or rather I should say nightly investment, although some of the things that are going to positively impact your sleep or perhaps damage your sleep are things that you do during the daytime.

So avoid that caffeine too late in the day, get that morning sunlight and on and on.

But view sleep as something that you're constantly investing in.

And it is a critical investment for your mood and mental health.

The other thing that's not often discussed and I really haven't talked about terribly much on this podcast is the importance of having a fairly consistent sleep routine.

Now, I realize that not everybody can get to sleep at the exact same time each night and wake up at the exact same time each morning.

And frankly, that's not practical.

I certainly don't do that.

However, what we know from the circadian health literature is that everybody should strive, again, that's strive, nobody's perfect, but strive to get to sleep at more or less the same time each night and wake up at more or less the same time each morning.

It turns out to be really important for regulating mood and mental health and indeed for improving your overall levels of sleep, getting the optimal amounts of slow wave sleep, aka deep sleep and rapid eye movement sleep.

And what we know is that ideally you're going to get to sleep within plus or minus one hour of your regular sleep time.

So if your regular two bed time is 10 o'clock, you're used to getting in bed at 10 o'clock

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and falling asleep somewhere around 10.30.

Well then if the next night you fall asleep at 9.30, great, you're still within the plus or minus one hour.

And if the next night you go to sleep and you don't fall asleep till 11.30, don't sweat it.

In fact, you're still within that plus or minus one hour.

However, if you start getting into a habit of going to bed at vastly different times, deviating more than or less than one hour from your normal to bed time, well then you're going to start to run into issues such as waking up feeling groggy, even if you've got enough sleep.

So even if you slept the full eight hours that you're used to getting, people who go to sleep much later than they normally do or much earlier than they normally do start getting into kind of issues of mood regulation, energy regulation, not just in the morning but in the afternoon.

Likewise, try and wake up at more or less the same time each morning plus or minus one hour.

That's really going to help you anchor your overall sleep schedule and it's really going to help lead to predictability of your overall levels of energy, mood, and focus throughout the day.

The second pillar in that big six is light.

And I used to refer to this as sunlight, right?

I'd say, and I'm going to say it again now, although I've covered this in a lot more detail. So again, just hitting the top contour critical elements, try to view sunlight, that is with your eyes, view sunlight as early as possible after waking.

Whenever I say that, the most common question I get is, what do I do if I wake up before the sun comes out?

Well, unless you have superpowers that I'm not aware of, you can't make the sun come out any earlier.

So just flip on artificial lights as needed until the sun comes out and then get outside, face east in the morning, take off those sunglasses.

It's perfectly safe to look at low solar angle sunlight without sunglasses, providing you're not, you know, driving into bright light and you crash this kind of thing.

Get outside, look at the sunlight, definitely blink to protect your eyes as needed.

But get that sunlight in your eyes early in the day.

This has myriad positive effects on mood, focus and alertness and nighttime sleep later that night.

And it does so through a number of well-defined biological and endocrine hormonal pathways that I've discussed on many previous podcast episodes.

And you want to do this for about 10 minutes on non-overcast days and as long as 20 or 30 minutes on overcast days.

And that highlights the second most common question I get, which is, what do I do if there's no sun where I live?

I live in an area where there's no sunlight.

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Look, if you live on planet earth, there's always sunlight.

There might not be very much of it that might be very overcast where you live.

It might seem very dark, but trust me, there's far more photons, light energy coming through that cloud cover, even in the darkest mornings of winter than there are at night in those dark winters.

So get that light in your eyes and do it as consistently as possible and also do that in the late afternoon and evening.

That's critical for regulating your circadian clock.

There are reasons that I've talked about previously, but I'll get into in a future podcast, really explaining how those clock oscillators and mechanisms work.

But just to keep it really simple, since this is a toolkit episode for mood and mental health, your mood and your mental health will benefit tremendously from getting morning sunlight in your eyes.

Now, if you need to get more light in your eyes because indeed there's just not enough sunlight or you don't have the opportunity to get outside and view sunlight in the morning, for whatever reason, you might invest in getting a bright light source that you can plug in.

You probably want one that's as bright as 10,000 lux.

So that's pretty bright.

Those fall under the category of so-called sad lamps, SAD, seasonal affective disorder lamps, and you can purchase those.

They can be somewhat expensive.

You can also opt to get a 900 lux drawing tablet.

By the way, I have no financial relationship to any of these sorts of light sources, but you can find them pretty easily and in the case of the 900 lux light tablet, fairly inexpensively online.

And you can put that on your desk or where you have your morning coffee and try and enhance the total amount of light that you're getting in the morning.

But frankly, nothing is as good as sunlight.

So if you can't get sunlight, you might think about investing in one of those SAD lamps.

And indeed those SAD lamps aren't as good as sunlight, but they are the next best thing if you really can't get sunlight on a consistent basis.

A few other fine points that I always get asked about, first of all, it is absolutely okay to wear eyeglasses or contact lenses.

Those sorts of corrective lenses are actually going to focus the light to your retina, which is where you want it.

However, this whole process of viewing morning sunlight in afternoon light does not, again, does not work through a window or windshield because windows and windshields filter out the relevant wavelengths of light that you want to get directly onto your retina.

Okay, so that's the reality of it.

In addition, please don't feel that you have to look directly at the sun and certainly don't stare at the sun.

Never force yourself to look at any light sunlight or otherwise that's so bright that

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it's painful to look at.

So if it's comfortable for you to look directly at the sun and just blink every once in a while and you can do that without any pain or discomfort or watering of the eyes, please do that.

You're getting a lot of photons into your eyes and they're transmitting that to your brain and your brain to the rest of your body and on and on.

However, if you find it uncomfortable to look directly at the sun, in that case, what you'll want to do is offset your gaze to, you know, 10 or 20 degrees, which is nerd speak for just a little bit to the right or a little bit to the left and get the sunlight into your eyes indirectly.

Okay.

And I often also get asked, well, can I stand in the shade while I do this?

Well, if I have an overhang in my apartment, the best thing is of course going to be to face directly to the sun and look either directly at it or slightly offset.

But if you can only get morning sunlight by going out onto your balcony and your balcony doesn't face east rather it faces west, you'll still get a lot of photons from the sun reaching your eyes there.

But ideally, you would find some way to look toward the sun first thing in the morning.

I realized that with kids and work and other obligations, this can be challenging, but it is a challenge worth meeting, meaning don't lose your job or forget to take care of your kids to do this, but you can bring your kids to do this.

And indeed you should.

It sets their circadian rhythms also.

And people often will ask, well, does it work on dogs and indeed dogs and other animals have these exact same circuits and pathways for setting their circadian rhythm.

So it's great for them too.

Now there are also clear and documented benefits for mood and mental health to getting bright light in your eyes, ideally from sunlight throughout the day as much as you safely can.

Please don't get sunburned.

Don't get cataracts by getting too much sunlight, but getting outdoors and getting sunlight in your eyes during your lunch break or a walk here and there.

Or if you have to remain indoors during the day, getting the lights in that environment as bright as possible, as it's safely possible, I should say, is known to improve mood and mental health.

Why?

Well, because there's a special so-called opsin within the cells of your eyes called melanopsin that doesn't respond to the same differences in color that are present in sunlight in the morning and the evening, but rather responds to the overall brightness of light.

So very bright lights either from artificial sources or ideally from sunlight activate these cells and these cells project these little wires we call axons into specific parts of the brain that improve your mood and feelings of well-being.

So I can't give you a specific number of five minutes a day or 10 minutes a day.

Just get as much light in your eyes ideally from sunlight throughout the day as is safe

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for you, meaning where you're not getting sunburned and you're not damaging your retina. If you want to know if you're damaging your retina, well, anytime you have to blink or turn away from light because it's really bright, that's a signal that the light is too bright. So while you want to place yourself into bright environments, you don't want to place yourself into any environment so bright that it's painful to be in.

Okay, so use that as a metric and you should be just fine.

And the last point about light for mood and mental health is a relatively recent theme that's emerging from the scientific literature and that really was driven home by a recent study that I mentioned a little bit earlier in the episode.

This is the study published in Nature Mental Health showing that darkness during a particular stage of your 24-hour cycle, your so-called circadian rhythm, is also very beneficial for mood and mental health.

And it's beneficial for mood and mental health in a way that is independent from light and from sleep.

Now, what do I mean by that?

Okay, well, there are a number of different ways that this can be examined.

But in this particular study, which I like oh so much, I entitled day and night light exposure are associated with psychiatric disorders and objective light study in more than 85,000 people.

What the researchers did is they analyzed how much light and or dark people were getting across the 24-hour cycle and correlated that with mental health outcomes, looking at a range of different mental health challenges, including bipolar disorder, schizophrenia, depression, PTSD, and much more.

And I'll go into this study in a lot of detail in a future episode because it's such an important study with so many gems within it that we should all know about.

But one of the key things from this study is that the positive effects of daytime sunlight exposure and the positive effects of nighttime dark exposure, that means, of course, the absence of light, are independent of one another, put differently, making sure that you are in very dim to completely dark environments for a continuous six to eight hours within every 24-hour circadian cycle is correlated with much better mental health outcomes.

In other words, we shouldn't just think about the presence of light in the morning and throughout the day as positive for mental health.

That's all true.

It's absolutely true.

And this study further verifies that.

But that's been known for some time, indeed decades, from the scientific research.

And of course, it's been known for thousands of years intuitively and subjectively without detailed scientific measurement.

But in addition to that, this study shows that people who stay in very dim to dark environments for eight hours every 24 hours, or I should say approximately eight hours in every 24-hour cycle, they benefit from improved mood and mental health outcomes in a way that's independent of how much light they're getting and independent of how much sleep they are getting.

The point is this, the time when you wake up, consider that time zero.

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And then about, again, you don't have to be super strict about this, about 16 to 24 hours after that wake-up time.

You should be in a very dim to dark environment for that 16-hour to 24-hour period after waking up.

What do I mean by this?

I mean, if you go to sleep at 10 p.m. and you wake up at 6 a.m., well, that 10 p.m. to 6 a.m.

phase of your circadian cycle, you should be in very dim light or entirely dark environment.

This is a great opportunity to reference another study which was published in the Proceedings of the National Academy of Sciences, which shows that even having a small amount of light in the room, which isn't even that bright, while you're sleeping with eyes closed, can disrupt morning glucose levels.

In other words, keep your sleeping environment dark.

Keep your nighttime environment dim to the best of your abilities.

Right?

Certainly.

Go out to dinner every once in a while.

Go to the movies.

Go out and have a party.

Enjoy yourself.

If you have to go to the hospital, God forbid, or you have to tend to some emergency, do that.

But to the extent that you can control it within the confines of life and its demands, keep your nighttime environment dim or dark because that independently of any sunlight and other bright light that you're viewing during the daytime and afternoon is going to positively improve your mood and mental health.

Now, moving on to the other pillars, and these I'm going to move through a bit more quickly than I have the previous two because we've done an entire series on these, or I should say serieses.

Serieses?

Is that how you pronounce it?

Someone put the plural of serieses in the comments on YouTube.

The third pillar is movement.

When I say movement, I mean exercise.

As you all know, we should all strive to get anywhere from 180 to 220 minutes of zone two cardio per week.

That's movement that allows you to hold a conversation, but were you to do it more intensely or even a bit more intensely, you wouldn't be able to hold that conversation.

In addition, we should do some VO2 max work.

We should get our heart rate very high at least once a week, doing some sort of movement that's safe for you so that could be running or cycling or swimming or Pilates, whatever it is for you, getting your heart rate way, way up is also important and to do that at least once a week.

But daily movement, either cardiovascular training or resistance training, and it's

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very, very clear that we need both, maybe not on the same days.

In fact, I split them to separate days.

Resistance training done for anywhere from six to 10 sets per muscle group, either close to or to failure.

This could be with weights.

It could be with bands.

It could be with machines.

All of that was covered in detail in the podcast series that I did with Dr. Andy Galpin, an exercise physiologist who's expert in all those areas.

I also did an episode on a foundational fitness protocol that has been distilled into a very simple three-page PDF that you can get for completely zero cost by going to [hubermanlab.com](https://hubermanlab.com) and just put foundational fitness protocol PDF and you'll be taken to that toolkit.

So all of the details of a weekly exercise routine that involves daily movement, but also, certainly in my case, includes at least one full day of rest per week, because many people do indeed need one, maybe even two full days of rest per week.

So that highlights the third pillar movement, but we know that cardiovascular training and resistance training aren't just great for our body.

They also improve mood and mental health.

That's so very clear from the research literature.

So we can't overlook those in a conversation about mood and mental health.

Now the fourth pillar is nutrition and nutrition is a big topic.

It's a very barbed wire topic.

If you get involved in this stuff online, you've got your people who believe that carnivore is better than vegan.

You have the people who believe vegan is better than carnivore.

Most people are omnivores.

You have your seed oil debates and on and on and on.

We're not going to touch any of that now.

Indeed, if you want to learn more about nutrition and what works and what doesn't work for sake of aesthetic changes, weight loss, muscle gain, et cetera, I would refer you to the guest episode that we did with Dr. Lane Norton.

You can find that again at [hubermanlab.com](https://hubermanlab.com) where we do a deep dive on all the variations and different nutritional protocols, but suffice to say that regardless of whether or not you're vegan, omnivore, carnivore, or keto or whatever, everybody needs to consume sufficient amounts but not excess amounts of quality calories per day.

Now you may do that by intermittent fasting.

You may do that by a more traditional meal scheduling, but everybody's going to need to do that because your body and brain and indeed the parts of your body and brain that translate to mood and mental health require macronutrients, proteins, fats, and carbohydrates, as well as micronutrients.

The key takeaway with nutrition is to make it quality nutrition within the bounds of whatever nutritional program that you're following.

That means getting most of your food sources from either non-processed or minimally processed

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foods.

These are the foods that you're going to need to prepare or foods that would perish over time.

These are not the sorts of foods that live in boxes and cans and other packages that would allow them to live on the shelves forever and ever.

As I say that, I know many people are shouting, well, what about rice?

Rice can live on the shelf for a long time and yes, okay, I consider rice a minimally processed food because of course it can live on the shelf for a long period of time.

Here I'm just going to back out of the whole conversation about nutrition at this point because as you can probably tell, it's a deep series of rabbit holes that we can fall into and really get distracted.

The point is make sure you're getting enough food.

Don't overeat.

We know energy toxicity is a problem for not just body composition, but for mental health. You want to get enough calories, but not too few calories and you'll want to make sure that you're getting them from quality sources.

I say that because of course food is not just the substrate for the cellular repair and indeed production of tissues in your body, but it's also the substrate for all the sorts of neurotransmitters, which are derived from amino acid precursors that are derived from food.

All of that dopamine stuff and serotonin stuff is derived from amino acids that come from food sources.

The link between nutrition and mental health should now be an obvious one.

As we all know, quality nutrition influences of course our physical health, but also our mental health and our cognitive functioning, our memory, our ability to learn new things and to focus.

And we know that one of the most important features of high quality nutrition is making sure that we get enough vitamins and minerals from high quality, unprocessed or minimally processed sources, as well as enough probiotics and prebiotics and fiber to support basically all the cellular functions in our body, including the gut microbiome.

Now I like most everybody try to get optimal nutrition from whole foods, ideally mostly from minimally processed or non-processed foods.

However, one of the challenges that I and so many other people face is getting enough servings of high quality fruits and vegetables per day, as well as fiber and probiotics that often accompany those fruits and vegetables.

That's why way back in 2012, long before I ever had a podcast, I started drinking AG1.

And so I'm delighted that AG1 is sponsoring the Huberman Lab podcast.

The reason I started taking AG1 and the reason I still drink AG1 once or twice a day is that it provides all of my foundational nutritional needs.

That is, it provides insurance that I get the proper amounts of those vitamins, minerals, probiotics and fiber to ensure optimal mental health, physical health and performance.

If you'd like to try AG1, you can go to [drinkag1.com](https://drinkag1.com) slash Huberman to claim a special offer.

They're giving away five free travel packs plus a year supply of vitamin D3K2.

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Again, that's drinkag1.com slash Huberman to claim that special offer.

The fifth pillar in the big six is social connection.

And we're going to talk a little bit more about this later in the episode, but let's just be very brief and specific about this.

We all need to strive to limit the number of social interactions that we feel tax or even vex us that cause us stress.

This is something that was covered in depth in the episode with Dr. Lisa Feldman Barrett where she talked about the fact that we don't just have a nervous system that regulates itself through experience and through our thoughts and our actions.

We are as a species interacting with other nervous systems, both of our own species, other humans, as well as non-human species, dogs and cats and if you have them horses and other animals.

So we need to think about our nervous system as being both regulated from the inside and through our own actions and choices and thoughts, but also through interaction with other nervous systems.

And while we don't always have as much control over which social interactions or work interactions we have to engage in, we should really strive to understand and indeed pay some serious attention to whether or not certain types of social interactions are what she referred to as net savings, neutral or taxing, right?

Certain types of social interactions with certain people or groups of people just make us feel taxed.

It makes us feel stressed.

It leads to negative affect that is not good feelings or emotions and often elevated levels of autonomic arousal that leave us ruminating and leave us having challenges with sleep.

We really should all strive to limit those interactions to the extent that we can.

On the reverse side of that, as Lisa Feldman Barrett so beautifully pointed out, we also have the capability to regulate each other's nervous systems in ways that produce savings.

That is, that allow us to feel and indeed cause physiological changes that make us feel not just happier, not just relaxed, not just happy because we enjoy interacting with somebody but we're a group, but that give us a savings that give us the kind of resources, literally metabolic and neurochemical resources that make us feel more capable and give us a sense of elevated mood and improved mental health when we are not engaging with those people.

And this is highly subjective, of course, but you should be able to distinguish.

In fact, I encourage you to spend a little bit of time, maybe even just five or 10 minutes thinking about who are the individuals and groups that I interact with that leave me feeling taxed, that really seem to drain my energy and have me ruminating and in a not good space when I leave whatever interaction I had with them.

This could be a real interaction or an online interaction.

Indeed, I did this the other day based on Lisa's suggestion.

I found it to be tremendously useful.

What I did is I decided to, and by the way, this was happening on a run where I was thinking, you know, a lot of my mind is in a conversation with people that aren't even here.

I was sort of working through a conversation.

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I was thinking about what I would say, what I did say, what they said in an interaction that unfortunately was pretty unpleasant.

It wasn't extremely unpleasant, but it was pretty unpleasant.

And I realized, okay, that is a sort of interaction that I would like to avoid in the future because it wasn't happening right then, but it was carried forward into a portion of my day, my morning run that for me is normally very pleasurable and quite sacred to me, actually.

So paying some attention to how much of your internal dialogue is with yourself versus with others and how much of that is positive or negative is extremely beneficial.

And I'm not talking about always just thinking about oneself and not thinking about others.

To the contrary, we also need to think, as Lisa pointed out, about who are the people with whom we interact with or observe that lead us to have ongoing dialogue with them in our mind or think about those interactions in ways that give us energy, that lead to energetic savings, literally metabolic savings that we can apply not just in those interactions, but in our work endeavors and our solo endeavors, whatever that we're doing when we are away from those people.

So while this concept of savings or neutral or taxation of our metabolic and our neurochemical systems might seem a little bit squishy, it is not squishy.

This is a neurobiological concept.

It's also a psychological concept.

And it's one that I'm so glad that Lisa brought up because social connection, social interaction is so vital to our mood and mental health.

But oftentimes we hear social connection and we think, oh, that means we have to spend a lot of time with friends.

We have to organize dinner parties.

Well, sure, that's all fine and good if you can do that.

And I do, of course, encourage people to spend time with those that they love.

But it's also important to take a step back and just think a bit, maybe even write out a bit.

You know, who are the groups and sorts of individuals and interactions that really tax you?

Who are the people you find kind of neutral?

And what are the individuals and groups that really provide what Lisa referred to as savings?

That is, they tap into the metabolic and neurochemical pathways that lead us to have improved mood and mental health, not just during those interactions, but away from those interactions as well and often pervasively and extremely positively so.

So this is no small deal.

This is a really important aspect of our mental health.

Now the sixth pillar in the big six is stress control.

And the reason it's included is that, look, stress is going to happen.

Life is filled with so-called stressors.

And for a good number of years, in fact, the last 15 years has been a lot of debate in the field of psychology and neuroscience as well, whether or not stress is good for us, whether or not stress is bad for us, whether or not we simply need to reframe stress as good or bad.

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And to some extent, all of that is true.

You know, we know that chronic stress is not good for our memory, our immune system, or our health.

We also know that if you understand the reality, which is that stress also allows us to harness our mental and physical resources to perform better than we would otherwise in certain circumstances and that provided we can get to sleep each night, that perhaps stress isn't so bad and perhaps is even performance enhancing.

I talked about this in the guest episode with Dr. Ali Crum from the psychology department at Stanford.

And I've talked about this in other podcasts as well.

And I'm not here to tell you that stress is good for you.

I'm not here to tell you that stress is bad for you.

What I am going to tell you is that it is extremely important that we all have readily accessible stress management tools that work the first time and every time.

And these fall into two categories.

The first category are real-time tools, so tools that you can use to reduce your level of stress in real time.

And the best way that I'm aware of that's grounded in excellent physiology and neuroscience to reduce your stress in real time is the so-called physiological side.

I did not invent this pattern of breathing.

It's not breath work per se.

This is a pattern of breathing that we all naturally do in our sleep to restore carbon dioxide and oxygen levels to their proper ratios.

We also do it periodically throughout the day without noticing.

Indeed, we have a defined or specific neural circuit in our brain that extends to our diaphragm and communicates with aspects of our heart, etc., that allow physiological side to calm us down faster, at least to my knowledge, than any other directed protocol.

And the physiological side, as many of you know, is very simple and straightforward.

Anyone can do this.

You simply do a big inhale through your nose, try and maximize the inflation of your lungs, and then before you exhale, sneak in another brief inhalation, even if it's just a tiny micro-inhalation to maximally inflate the lungs.

And that has an important effect on the little sacs in the lungs called the avoli of the lungs.

It's going to open up whatever avoli were collapsed in there, and then you're going to do a long extended exhale through the mouth.

And typically just one, although sometimes it requires two or three, but just one physiological side is effective in bringing down one's level of stress significantly enough that you don't need to do it again.

So this can be done essentially anywhere and by anyone, I suppose probably couldn't do it if you were underwater or certainly don't do it if you're underwater.

But otherwise it's a very safe and very effective way to calm down and reduce your levels of stress in real time, maybe before public speaking or in whatever circumstance you feel you need

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to calm down in real time.

So I'll demonstrate the physiological side for you here.

I've done this many times before in previous episodes, but for those of you that haven't heard or seen those episodes, I feel obligated to do it again now.

Okay, so it's a deep inhale through the nose followed by another brief inhale through the nose and then a long exhale through the mouth.

And before you start asking questions about what do I do if I have a deviated septum?

Can it be just through the mouth?

Do the first two through the nose, do the third through the mouth.

So it's like this.

And indeed I feel calmer.

And indeed if you do it, you will feel calmer.

So notice that second inhale through the nose was kind of sharp in the sense that I had to really push, put some physical effort into making it happen.

And my shoulders jolted upwards.

If you're just listening to this and not watching my shoulders jolted upwards, that second inhale through the nose is important for a variety of reasons I've talked about elsewhere.

So the physiological side is going to be the go-to protocol for you, again, not invented by me.

This is not Huberman breathing.

This is a pattern of breathing discovered in the 1930s by physiologists.

It's hardwired into our nervous system and that's what makes it so great.

It works the first time and it works every time.

So that's, to my knowledge, the best way to control your stress in real time.

Now, why is that important for mood and mental health?

Well, as we'll talk about later, if you want to access your so-called generative drive, a theme that we're going to get into in a bit more detail, this is something that came up during the series with Dr. Paul Conti, you will learn that stress and anger and negative emotions, while they can be very motivating, very arousing, they are not going to be good for your long-term mood and mental health, period.

So having tools to regulate your stress and your levels of anger, your levels of reactivity, and also to elevate your feelings of agency and control over your life, starting with agency and control over your physiology, your internal state is going to be vital.

And what I love about the physiological side is that, of course, it's completely zero cost, but also there's a dedicated circuit in your brain and body for this particular pattern of breathing.

We do it spontaneously, but you can do it intentionally and it works just as well, if not better, to regulate your levels of stress, that is to bring them down, which has outsized positive effects on your mood and mental health, not just in the moment, but it also should improve your confidence that when stress comes, because the world is filled with stressors, it's not if it's when stress comes that you will have a physiologically, scientifically supported tool to deal with and reduce that stress.

Now in addition, I do believe it's important for sake of mood and mental health to also

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have a tool or a protocol to raise your stress threshold, that is to increase your capacity to deal with life stressors without them feeling so stressful.

And there are a number of different ways to do this, but they all center around elevating your levels of adrenaline, epinephrine, and norepinephrine, noradrenaline, those are the same thing, just they have multiple names, forgive me.

I didn't give the same two things, four names, so don't blame me, blame the other scientists that did it.

The point is, there are several ways that you can self-induce elevations of noradrenaline and adrenaline, and then to learn to anchor your mind and you're thinking to stay calm in those elevated adrenaline states as a practice for when stressors hit you in the outside world and your adrenaline and noradrenaline spike.

Now one of the best ways to do this, because it works the first time and every time and is also zero cost, in fact it will save you money, is to put yourself in a cold shower or other deliberate cold exposure environment, but most everyone has access to a cold shower, not everyone, but most people, and of course by turning off the heat you're going to reduce heating costs, right, your water bill.

So getting into a cold shower for a minute or so to elevate your levels of adrenaline and learning to either use your breathing, you could do physiological size, or to distract yourself or whatever tools and approaches you need to be able to stay calm while you have elevated levels of adrenaline in your body.

And the reason deliberate cold exposure works so well to do this is that it is pretty non-negotiable. Even if you really love cold showers or cold plunges or things of that sort, you're still going to get that elevated adrenaline and noradrenaline.

It's pretty much non-negotiable.

For the first 10 or 15 seconds that you get into a cold plunge or a cold shower, you should fully expect yourself to feel stressed and for your breathing to accelerate, and then your goal is to try and anchor or control your breathing in that stressful environment.

The reason for doing this is that it's a practice.

It's a practice that's going to translate to a better ability to manage your internal state and therefore your thinking, your cognition and your ability to make good decisions under stress.

It's not about becoming untouched by stress, it's about being able to better navigate stress.

Indeed, I think of this as analogous to driving in fog, something that I had to learn to do because I grew up in the Bay Area and it can be very foggy there sometimes.

Of course, you don't learn to drive in fog the first day you learn how to drive, but the first time you hit heavy fog driving where you can only see one reflector in front of you at a time, it is truly stressful.

You don't know if you're going to come up on another vehicle in an instant, which of course can happen.

You have to adjust a number of things.

You have to learn how to do that.

While I would never elect to drive in fog, learning to drive in fog teaches you how to

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be comfortable driving in different weather environments.

Same thing with driving in a rainstorm or for you east coasters from the Northeast, learning how to drive in a snowstorm.

You would never elect to do that, but once you do it a few times, you feel more comfortable in those extreme conditions.

That's really what raising your stress threshold is all about.

Of course, do it safely, do it under conditions in which you're not going to get hurt or anyone else will get hurt, but learning how to do this can be extremely beneficial.

Of course, deliberate cold exposure isn't the only way, but frankly, it's the most reliable way and it's the most versatile way to do that because you can do it in your shower or in a cold plunge at home so you can practice these things.

Again, safety first, always make sure you're not exposing yourself to cold to the extent that you're going to damage yourself mentally or physically, but it's a great practice and you could probably think of other ways to spike your adrenaline that was safe.

Of course, life will spike your adrenaline, so you can also use real life as your stress inoculation tool, and we all have to do that anyway.

What I'm suggesting is that you adopt a real-time tool, physiological size, and that you adopt at least one offline tool that you do anywhere from one to three, maybe seven days a week, but at least one day a week that you put yourself into a cold shower, deliberate cold exposure, not for sake of increasing metabolism or anything else, but really just to learn how to calm yourself and maintain clear cognition when stress hits because indeed, stress is going to hit.

That's the big six for improving mood and mental health.

The big six apply, that is they are the cornerstone for mood and mental health, regardless of who you are, regardless of your age, regardless of whether or not you're dealing with an acute or a severe mood or mental health disorder, or you find yourself to be reasonably healthy with respect to mood and mental health, and you simply want your mood and mental health to be stable and or improve over time.

Now, the reason why the big six, those six pillars, are so important for mood and mental health and indeed form a critical component of what Dr. Paul Conti referred to as the first principles of self-care, is that those six pillars establish a milieu that is an environment of neurochemicals, including neuromodulators such as dopamine, serotonin, epinephrine,

norepinephrine, acetylcholine, and other neurochemicals as well as hormones, testosterone, estrogen, prolactin, cortisol, and immune molecules, and on and on that lead to a high degree of predictability in your brain and nervous system.

Now, what do I mean by that?

Why would predictability be such a key component of mood and mental health?

Is it really just about knowing that you're going to feel energized in the early part of the day and tired at the end of the day?

Now, that might be part of it, but that's not the major takeaway.

The major takeaway is that as Dr. Lisa Feldman Barrett, so aptly pointed out, your brain

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and indeed your entire nervous system has a couple of major jobs, you know, has the job of regulating your breathing and your heart rate, et cetera.

It also has the job of regulating your thinking and your planning and your memory.

Those are the jobs of the brain and nervous system that we normally hear about.

But if we think about the more macro jobs that the brain has, the key function of the brain, certainly the parts of the brain that are more recently evolved, the ones involved in thinking and planning, et cetera, are really involved in generating predictions, predictions about what's going to happen next and whether or not you're going to be prepared for what's going to happen next.

And indeed, Dr. Lisa Feldman Barrett also beautifully illustrated this model of the brain as regulating

a brain body budget and moods and a related topic, which she called affect, I'll explain what affect is in a moment, setting the stage for being able to better predict what's going to happen next and therefore regulating your mood in the moment.

Let's just take a moment and explore that statement in a little bit more detail.

Essentially what she was saying and what I'm now again saying is that your brain and body go through different states.

Your state at a given moment can be labeled as your affect.

Your affect includes a lot of different things, including levels of autonomic arousal, levels of hormones, levels of transmitters, all of that stuff.

But it falls under the umbrella of affect.

It essentially sets the stage for particular emotions to be more likely or less likely to emerge.

So emotion and affect aren't the same thing.

Affect is a bit more general and sort of undergirds the possibility of having certain moods like feeling elated, happy or sad or depressed.

It really sets the general stage for different types of specific emotions, even highly specific emotions.

So in that way, when you're taking care of the big six, when you're tending to these six pillars on a regular basis, and I should point out that we really want to tend to those six pillars every single day or every single 24 hours, we really need to make those a regular investment to the extent that we can.

When we do that, we create a neurochemical and a neural milieu that allows the brain to be in a better predictive state.

It allows the brain to give rise to certain affects spelled AFFECTS, so affects that lead to certain emotions being more or less likely to occur.

Put very simply, when we're tending to those six pillars on a regular basis, we feel better more generally and therefore the emotions that we tend to have under different conditions, even conditions of a difficult interaction with a coworker or with a family member tend to be more positive than if we are not tending to those six pillars.

Now, in some sense, that's sort of a duh statement.

For instance, if you're sleep deprived, if you're not fed well, like you haven't eaten in a few hours, of course, you're going to be more irritable, you're going to be more

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reactive, you are going to be more emotionally labile.

But sleep and nutrition are just two of those six core pillars.

When we talk about those core pillars and the necessity for tending to them on a regular every 24-hour basis, what we're really talking about is creating a milieu within our brain and nervous system that allows the nervous system to do what it does best and, in fact, what its main job is to do, which is to predict what's going to happen next.

Because as Lisa Feldman Barrett pointed out, emotions are really context-dependent states that allow us to navigate not just our present circumstances, but they are our nervous system and bring the best guess about the circumstances that we are soon going to encounter.

Now, I don't offer you all of that as kind of a bunch of tangled mess of nerd speak to confuse you.

What I'm saying is that by tending to those six core pillars, you are shifting the likely affects that you will experience and therefore the likely emotions that you will experience.

So you're biasing your whole system towards more positive affect and more positive emotions, regardless of what your life circumstances happen to be and the stressors that you encounter.

And indeed, you also are including that six pillar of stress control.

So when those stressors arrive, you'll be better able to navigate them.

Now this view of emotion regulation of mood and mental health is certainly not a novel concept.

People have talked about the physiological regulation of mood from the time of William James and even earlier, you know, it's been a longstanding question, for instance, or debate in psychology and philosophy.

You know, do we feel anxiety in our body and then label it as anxiety?

Or do we feel anxiety in our mind and then our body follows?

That's been a longstanding debate.

And frankly, there's evidence on both sides, which leads me to the conclusion.

I think most neurobiologists and psychologists at the conclusion that those things are interrelated in a way that we can't really dissociate them completely at any level, right?

When your heart rate goes up and you start breathing faster, you know, if I were to induce that state in you, you'd probably interpret that as feeling anxious.

In addition to that, something can make you anxious before your heart rate and breathing increases and then your heart rate and breathing increases.

So no need to tease those apart, but if you think about the brain in large part as a prediction machine and your brain as a metabolic regulator, it's trying to decide which organs need resources, how much resource can I dedicate to thinking, to creativity, to enjoying social interaction, to paying attention to what somebody else is saying as opposed to what's going on inside my body.

All of those major functions of the brain as they relate to affect and emotions are going to be best supported.

That is biased toward positive mood, positive affect, positive emotions, and therefore positive mental health outcomes when we're tending to those six pillars.

Dr. Lisa Feldman Barrett referred to that whole process as the brain regulating a brain body budget.

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And she had beautiful analogies for that budget and that's what led to the description of social interactions as either generating savings or being neutral or generating a taxed feeling, literally taxing that brain body budget.

And I love that concept and it's one that you can keep in mind.

And indeed we can inject a lot of specificity into this whole process of improving mood and mental health through specific protocols.

If you simply remember, if you make a daily investment in the six core pillars, you are building up that brain body budget.

You will have more energetic resources to spend on whatever life circumstances come your way.

Now, before we move into a discussion about protocols for how to better understand your life narrative to enhance your sense of self and confidence and things of that theme, I briefly want to mention that of course there are known tools out there in the medical community and psychological community for improving mood and mental health.

And while there are a variety of tools, one of the main tools of the psychiatrist is prescription drugs that target specific neuromodulator systems in the brain and body.

For instance, SSRI, Selective Serotonin Reuptake Inhibitors or atypical antidepressants that target the dopamine and epinephrine systems such as well butchered for prior own or other types of antidepressants or for instance, nowadays there's a lot of growing excitement about clinical trials using relatively high dosages of psilocybin, which by the way, closely mimics the chemical serotonin.

That's right, psilocybin, which is converted to psilocin in the brain.

If you look at it chemically, it looks very much like serotonin, although it has distinct effects from serotonin.

I talked about psilocybin and what's being done in terms of the clinical trials, safety considerations.

I talked about the potential hazard considerations and where the legality and all of that is going in that episode if you want to check that out.

The reason I'm taking a moment to mention these drugs, things like SSRIs, Prozac, sertraline, well, butrynsilocybin and so on, is that all of them target specific neuromodulator systems in the brain and body.

At the same time, it's fairly clear that mood disorders such as major depression are not necessarily deficits in things like serotonin or dopamine.

They can be, but most often they are not.

Why are such drugs prescribed for mood disorders and for mental health disorders?

Well, because if specific neuromodulators like serotonin, dopamine, or epinephrine are dramatically increased above baseline, that affords the brain the ability to rewire itself.

Really, the way to think about SSRIs or atypical antidepressants or psilocybin for the treatment of major depression is really to think about them as chemical tools to open or access neuroplasticity.

That's why it's so important that those drugs be combined with talk therapy where people are actively working through the sources, the real life sources and the historical sources, maybe even the trauma-based sources of their depression.

I mention this because there's a lot of debate nowadays as to whether or not these drugs

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are useful, whether or not the side effect profiles justify their use, whether or not they are applicable to young populations.

There's a lot of debate about this and certainly in the case of the psychedelics, there's a lot, a lot of debate because this is newly emerging area and there's still not a lot of data, although it's starting to increase over time.

The key point here is that all of these drugs have the potential to work in some people, not others.

They simply don't work for and they cause more problems than solutions they solve, but they tend to work by increasing the propensity for neuroplasticity by changing the neuromodulator milieu in the brain.

This is an important point when thinking about tools for enhancing mood and mental health, that when we think about tools for enhancing mood and mental health and next, of course, we're going to talk about the tools that are specifically designed to target a specific aspect of one's life story or concept of self, all of that is always operating on a backdrop of two things, that overall neurochemical milieu and autonomic function that the six pillars relate to and support if we're tending to those, but any improvement in mood and mental health that's going to be significant, it's going to be noticeable and it's going to be stable, it's going to be pervasive over time is going to require that some degree of neuroplasticity, some degree of neural rewiring occur.

So I'm not bringing up the topic of these particular drug tools to say that they are the best way to improve mood and mental health, I'm certainly not saying that, they are but one way to potentially improve mood and mental health.

And if they are going to work, they always work best when done in concert with talk therapy because they are opening the opportunity for neuroplasticity, but then that neuroplasticity has to be directed toward a particular endpoint, there has to be specific work that's being done by the individual or ideally the individual with an expert trained clinically certified therapist or psychologist or psychiatrist in order to make sure that the neuroplastic changes that occur lead to longstanding improvements in mood and mental health over time.

Indeed the drugs that I just described were originally designed as tools to allow people to access changes within their brain that would then allow them to enhance mood and mental health, but not have to rely on the drugs themselves for improved mood and mental health. And along those lines, I'm sure some of you out there are thinking about the supplement based or nutrition based approaches to enhancing these new modulators.

And indeed, while they don't have the same potency as things like well buttern and SSRIs that increasing things like dopamine and serotonin respectively, there is a growing number of people out there that are relying on a daily supplementation with anywhere from one to three grams of L-tyrosine, amino acid precursor to dopamine, combined with often 300 to 600 milligrams of alpha GPC as a way to enhance dopamine and acetylcholine and to set the stage for elevated levels of neuroplasticity. But it's very important to point out that the amino acid precursors to the various neuro modulators like L-tyrosine, like L-tryptophan, L-tyrosine precursor to dopamine, L-tryptophan precursor to serotonin and so on, that those don't have the same degree of potency, that is ability to enhance those neuro modulators.

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And so the extent to which they enrich the possibility for neuroplasticity still remains somewhat obscure. There haven't been clinical trials on that yet, at least not clinical trials that I am aware of. So I mentioned all of that stuff about drugs, whether or not it's psychedelics or whether or not it's prescription antidepressants or whether or not people are using a supplement-based amino acid-based protocol for increasing certain neuro modulators. I feel it's important to mention all of that because, well, first of all, it's quite prominent out there, certainly in the case of prescription antidepressants. And there's growing prominence and use of relatively high-dose psilocybin. Again, always done with support talk therapy. This is done in a legal setting. I said legal, not illegal, a legal setting with a board-certified therapist. This is being done on university campuses, within research labs. And of course, I acknowledge that there are people who are using these compounds

outside the realm of the university clinical study environment. So I mentioned these chemicals not because I'm pointing to them as the path to improved mood and mental health. They can be, but they aren't always, and as I mentioned before, they can sometimes cause problems that lead people to wish that they hadn't taken them or to decide to not take them any further, a decision that absolutely has to be made with a healthcare professional who's well-certified to do that. But I'm mentioning these tools because I want you to understand if they work, why they work. And one key point that was really emphasized by Dr. Paul Conti, who, as I mentioned before, is a psychiatrist, so he uses pharmacology in his practice, although he uses other non-pharmacologic tools as well, is that these pharmacologic tools are never to be viewed as the be all end all of enhancing mood and mental health. They are but one path to improving mood and mental health and indeed should be viewed as a path to getting people who are otherwise unable to engage in those six core pillars, those first principles of mental health to be able to do those things on a regular basis. And then perhaps, based on a discussion with their clinician, these people could come off those pharmacologic agents. Maybe yes, maybe no. It depends on the individual. It depends on the circumstances. Those core six pillars, those first principles of mental health that include but are not limited to those core six pillars are absolutely essential. There's no drug that can replace those core six pillars. I'd like to take a quick break and thank our sponsor Inside Tracker. Inside

Tracker is a personalized nutrition platform that analyzes data from your blood and DNA to help you better understand your body and help you reach your health goals. I've long been a believer in getting regular blood work done for the simple reason that many of the factors that impact your immediate and long term health can only be analyzed from a quality blood test. A major problem with a lot of blood tests out there, however, is that you get information back about metabolic factors, lipids and hormones and so forth, but you don't know what to do with that information. With Inside Tracker, they make it very easy because they have a personalized platform that allows you to see the levels of all those things, metabolic factors, lipids, hormones, etc. But it gives you specific directives that relate to nutrition, behavioral modifications, supplements, etc. that can help you bring those numbers into the ranges that are optimal for you. If you'd like to try Inside Tracker, you can go to [inside tracker dot com slash huberman](https://insidetracker.com/huberman) to get 20% off any of Inside Tracker's plans. Again, that's [inside tracker dot com slash huberman](https://insidetracker.com/huberman). Okay, so setting aside the core

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six pillars, let's now talk about other tools for mood and mental health that center around really what we more typically think of when we think of mood and mental health, which is emotions. When Dr. Lisa Feldman Barrett was a guest on the podcast, she said something that was really incredible and it's something that's strongly grounded in excellent scientific data, which is the more specificity that we can put to labeling our emotions, the better off we're going to be in terms of our overall mental health. Let me restate that. The more specific language that we can put to our own internal emotions, even if that language is just to ourselves in our own internal narrative, we don't even have to speak out what those labels are, the better that we're going to feel over time. And indeed, this effect can be quite rapid. And indeed, Dr. Lisa Feldman Barrett has done research on this very specific topic. It's something that's referred to as emotional granularity. So while some of us move through life with a sort of what I call emojification of emotions, you know, you get your happy face, happy, your sad face, sad, you know, you're angry, depressed, anxious, you know, those are labels for emotional states or you could think of them as affects or emotions. I think of them as emotions, but they're not very specific. They're pretty broad bins. We say sad or depressed or super depressed or super sad, anxious panic. And we think of that as nuance, but it's not very nuanced. And Lisa's laboratory and other laboratories have explored two things. First, if people are asked to or encouraged to put more granularity, more specificity on what they're feeling, then it seems that their levels of emotional processing are better overall. How does that translate to emotions? Well, it translates to better overall feelings of wellbeing when one is placing more specificity on positive emotions. And the flip side is also true. So this is important to know if one places more specificity on negative emotions, it also can enhance one's kind of experience of those negative emotions. Now, that means that this is a two sided blade. All right, this isn't always a good thing. And if one is thinking about protocols for improving mood and mental health, the data make very clear that adding more specificity to our positive emotions in terms of the language we use, but also just the depth with which we process and think about those positive experiences can be very beneficial for us. So there are two studies that I'd like to highlight that relate to this. The first is entitled effective self monitoring through experience sampling on emotion differentiation in depression. And the second study is entitled emotional granularity increases with intensive ambulatory assessment methodological and individual factors influence how much. Now, each of these studies focus on something slightly different. The first study was mainly focused on people who have depression and they were queued several, if not many times per day to just think about and report on their emotional state. And that was done in order to get people to place more granularity, more specificity on what they're feeling, but also simply to tap into how they're feeling on a more regular basis throughout the day. The second study, which is one that included Dr. Lisa Feldman Bear as an author, was slightly different because it focused on non depressed individuals and it queued them to touch into their emotions more times per day. And it also included some physiological measurements and one in particular that we're going to talk about in some detail. Now, I don't have time to go into all the details of these studies. I may do that in a future podcast episode, but the key takeaways are very important for all of us to know, which are first of all, the more often that you can ask yourself, you know, what am I really feeling right now? How do I feel? And this is so critical. The more that you force yourself to not use broad labels or simply valence labels, valence labels

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are good or okay or bad. And instead, understand that good is not an emotion. Okay is not an emotion. Bad is not an emotion. But rather saying, you know, I feel, you know, curious, but a little anxious if that happens to be the case. Or I feel, you know, bored, but you know, also a little bit in positive anticipation about what's going to happen tomorrow. Things of that sort, putting more nuance and specificity on your emotions, but also touching into or thinking about your own emotional states more times per day clearly has positive outcomes for mood and mental health. And the reasons for that are incredibly interesting. And this is something everybody should understand. Why would it be that putting more specificity on what we're feeling? So perhaps just in our own heads like thinking, okay, how do I feel right now? Like if I were to do that right now, I'd say I feel energized and happy. I do. I really enjoy doing what I'm doing. So I wouldn't say I'm like off the charts in awe or elation, but I'm very happy and I feel energized. You know, earlier today, I was feeling a little bit fatigued and a little bit confused because I was trying to sort out something and it wasn't making sense to me. So assessments like that, which can be told to somebody else or that we just hold internally, done repeatedly throughout the day anywhere from three to six times throughout the day, just periodically pinging ourselves. Maybe you set an alarm or maybe you just decide to every once in a while, you know, maybe every time you go into an elevator, every time you go up a flight of stairs, you just ask yourself, yeah, how do I feel right now? And thinking about that for a moment. And you don't have to write it down, although I suppose you could. It turns out that just that practice can really enhance our so-called emotional granularity that can enhance our positive emotions and affect. And in addition, it provides us a better sensitivity to better understand those negative emotions, which sounds like it might be a bad thing, but those negative emotions have information in them, right? This is one thing that's often lost in those broad categorizations of anxious or sad or depressed. And keep in mind, of course, that some people are genuinely clinically depressed and that needs to be taken extremely seriously, just like some people are genuinely clinically anxious, and that needs to be taken seriously. But most of us, when we throw out the words depressed, angry, sad, we're not using enough nuance and it doesn't really apply to our internal states or the circumstances that we're in. And as a consequence, we suffer. It's not just about communicating our emotions. We suffer because the data say that the more nuance, the more emotional granularity that we have, the richer is our experience of the positive aspects of life, and the more effectively we can navigate the negative aspects of life, right? Again, negative emotions perhaps isn't the best way to even describe negative emotions because that label negative implies that we should avoid it. And in fact, those negative emotions provide a lot of information about perhaps social interactions that we should seek to avoid in the future, and so on and so forth. Now, one of the most interesting things about this whole process of increasing emotional granularity and touching in several times per day into how we feel, something that's completely zero cost, takes just a moment to do that we can get much better at over time. That was clearly seen in these studies that people get much better at doing this. It becomes more facile for them very quickly, is that it correlates with improvements in physiological metrics that relate to overall improvements in mood and mental health. And the specific physiological metric that I'm referring to is so-called vagal tone. Some of you have perhaps

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heard of the vagus nerve. It's the 10th cranial nerve. It's an extensive peripheral nerve that it goes out of the brain at the level of the neck. It's one of the cranial nerves that extends to essentially all the organs of the body, the heart, the lungs, etc. But it's a two-way street. It's a superhighway of nerves out of the brain and into the body, and it's a superhighway of nerves back from the bodily organs to the brain. And it's involved in regulating a lot of so-called autonomic functions, so how fast our heart rate is, how fast our breathing is, rates of digestion, and all of that weaves together to create those things that we call affect our internal states. So without going into a ton of detail about the vagus nerve, there's something that's called cardiac vagal control. Cardiac vagal control is the extent to which that vagus nerve can impact your heart rate and your overall feelings of calm or alertness. Now, the simple way to think about this is more commonly referred to as heart rate variability. Heart rate variability is simply the distance between your heartbeats or rather the time between your heartbeats, which we know if those timings between your heartbeats are somewhat variable, that is correlated with positive physical and mental health outcomes. One of the ways that you can increase heart rate variability is to get regular cardiovascular exercise, as well as doing resistance exercise, and no surprise, getting sufficient amounts of quality sleep each night is also going to be very beneficial for heart rate variability. Now, exercise and sleep, of course, are wonderful, but it turns out that there's also a very rapid way to increase heart rate variability by activating the vagal innervation of the heart and the way that the heart and some other circuits within the so-called brainstem interact, and that's through something called respiratory sinus arrhythmia. Respiratory sinus arrhythmia can be summarized very simply by saying when you inhale, you speed your heart rate up, and when you exhale, you slow your heart rate down, and it's that exhale slowing your heart rate down that's mediated by the vagus nerve. Now, there's a more thorough description of that, which I'll just give you now, and it's not that lengthy. So here's how it goes. When you inhale, your diaphragm actually moves down, and as a consequence, your heart actually gets a little bigger, has a little more space. As a consequence, the fluid in your heart moves a little more slowly per unit volume, and there's a neural signal to speed the heart up. Conversely, when you exhale, the diaphragm moves up, that means there's a little less space for the heart in the general area where it's sitting, so the heart gets a little bit smaller, a little more compact, that means that the fluid in your heart is moving more quickly through that smaller space, and there's a neural signal mediated by the vagus to slow the heart down. So that's why inhale, speed your heart up, and exhales, slow your heart down. That is the basis of so-called RSA, or respiratory sinus arrhythmia. Now, what does any of that have to do with the granularity of language that we place on our emotions? It turns out there's several studies showing that when people place more descriptive granularity on their emotions, that is correlated with. It's not causal, but it's correlated with improvements in respiratory sinus arrhythmia, which we know correlate with improvements in heart rate variability. Indeed, it's one of the major bases for heart rate variability, which we know is correlated with not just positive physical health outcomes, but positive mental health outcomes, including lower levels of anxiety, improved sleep, and overall levels of mood. This is a topic that I'm very familiar with, because last year, my laboratory at Stanford University School of Medicine in collaboration

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with a colleague of mine, Dr. David Spiegel, our associate chair of psychiatry also at Stanford University School of Medicine, published a clinical trial in *Cell Reports Medicine*, showing that there's a particular pattern of breathing that people can do for just five minutes per day that is effective in significantly improving various metrics related to mood and reducing anxiety and also improving sleep. Although I should say the protocol I'm about to describe didn't uniformly improve all of those metrics. It had a bigger effect on some versus others. I'll provide a link to that study in the show note captions. But if you're wondering what this protocol is that people did for five minutes a day that allowed them to, by the way, pervasively improve their mood. So it wasn't just their mood while they were doing this five-minute a day protocol.

It was improvements in mood around the clock, essentially, as well as improvements in other physiological metrics and other aspects of those six core pillars. It was that physiological sigh that we talked about earlier. Although in this case, we didn't have people do just one physiological sigh. We had people set aside five minutes per day. So set a timer for five minutes. They could sit or lie down. They could do it any time of day. And we just had them repeat that physiological sigh for a duration of five minutes total, so that they would do two inhales through the nose, and then a full exhale to lungs empty through the mouth. Then they would do it again, and then they would do it again, and again until those five minutes were completed. Again, the outcome of that clinical trial was that that particular pattern of breathing, which we called cyclic physiological sighing for five minutes per day, again, done any time of day, had the most positive outcomes in terms of improving mood and mental health and autonomic function, those things related to sleep and heart rate variability. So that's a very simple, very minimal time investment, zero cost tool that anyone can use that again improves various metrics of physical health, but also improves metrics of mental health. And it ties right back in with what was observed in the work by Dr. Lisa Feldman Barrett, exploring how putting more word label, emotional granularity on one's emotional states, positively impact our physiological state. And the fact that thinking about our emotions more frequently throughout the day and deliberately putting more label granularity on those emotions frequently throughout the day is correlated with this improvement in respiratory sinus arrhythmia and heart rate variability. The fact that these things all relate to one another should not surprise us because indeed, there's a previous paper, this is a quite extensive review. Actually, it's a very nice review. It's one that I encourage anyone who's interested in these topics to explore, especially psychologists who might have an interest in physiology or psychiatrists or simply people who are interested in mind body stuff. This is a review published in 2017 in the journal *Biological Psychology* entitled *Cardiac Vagal Control as a marker of emotion regulation in healthy adults*, a review. And again, it's a really wonderful literature review of the peer reviewed primary research, which really establishes that this thing, vagal tone, our ability to kind of put the brakes on our autonomic nervous system and slow our heart rate down deliberately through our breathing. And perhaps even just by stopping and reflecting on what our emotional states are is really beneficial for our overall mood and mental health. And I want to highlight bold and underline that word overall, because it's not just the case that people experience elevated mood and mental health in the moments where they stop and go, how am I feeling? Oh, you know, am I feeling, you know, bored or agitated? Do I feel particularly

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excited? Sure, that can have some impact on physiological metrics and mood and mental health. But in all of these studies, the outcome seems to be that people's overall levels of mood and mental health are enhanced, not just while they're thinking about their emotions or doing this five minute a day cyclic sign, but around the clock, which is really terrific because I think that's what most all of us want, which is improve mood and mental health, not just in the moments when we do a practice or in the few minutes afterwards, but 24 hours a day, I suppose we might segment out sleep during which, you know, hopefully we're having great dreams as opposed to other kinds of dreams. But the point is, everyone I have to imagine would like to feel better and have elevated mood and mental health during the times when they're awake. And indeed, these sorts of protocols have been shown to do that, or so say, the scientific data. Now we are going to discuss the tools for enhancing mood and mental health, gleaned from the four episode guest series with Dr. Paul Conti, who is a medical doctor specializing in psychiatry. He also has particular expertise in trauma. However, the four episode guest series that we did with Dr. Conti was really about exploring the self, as well as tools and protocols for not just gaining a better understanding of oneself, but also for gaining a better understanding and tools for relating to others, aka relationships. Thread through the series was a model of the mind and how it works to create everything from feelings, thoughts to behaviors that Dr. Paul Conti described as an iceberg model. I perhaps should refer you to the fact that he actually drew out this model and we provided it as a zero cost PDF in the show note captions for every single one of those episodes in that four episode series. We also provide a link to this model in the show note captions for this tool's episode. The model is called the iceberg model. And as the name suggests, it resembles an iceberg in which the vast majority of our minds processing occurs below our conscious awareness in our unconscious mind. So that's the portion of the iceberg that resides below the surface, whereas the portion of our mental processing that we are aware of resides above the water surface, the so-called conscious mind. So a key aspect of the iceberg model is that the unconscious mind is responsible for the vast majority of our feelings, thoughts and behaviors, but that we are not aware of how this unconscious mind is doing that. And by extension, the tools and protocols that Dr. Conti described largely deal with going into the unconscious and figuring out how the unconscious processing is influencing our conscious processing, both in healthy and in unhealthy ways. And when we say in healthy and unhealthy ways, we're largely referring to the presence of defenses. So some of you have perhaps heard of defenses before some defenses can indeed be healthy and others are unhealthy. There are defenses such as projection, sublimation, denial, and during the course of that four episode series, Dr. Conti explains how projections are not always bad for us. Indeed, they can protect us from panic, from severe trauma, but they also can create difficulties in processing our own understanding of self and of our life experiences in ways that can actually be damaging to us. So a key takeaway from that four episode series is to understand and acknowledge that your unconscious mind is driving much of what you feel, think and do. However, by doing structured exploration of the self, and we'll talk about how to do that, one can gain better understanding of how that unconscious processing is influencing what you think, feel, believe and do. So once you accept the important role of the unconscious mind and you make the decision that you want to better understand how your unconscious mind and

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conscious

mind are in this constant dialogue and how you can have that dialogue better serve you, there are a series of actionable tools that you can do that will allow you to better understand yourself and how you relate to others. And the first of these tools is to really understand your self concept. Now, of course, most all of us know our own name. Rarely do we ever forget that name. We have some concept of where we're from, who our parents are, what our present and future goals might be, where we've succeeded, where we failed in life and on and on. But the self concept goes far beyond that sort of CV list or our biography of self. Indeed, the self concept has a lot to do with our self confidence, our feelings of ability, both to overcome challenges, but also our ability to serve the world that we're in and our ability to change ourselves over time. Now, of course, the degree to which somebody might have confidence or less confidence or the degree to which somebody

feels that they can exert influence on their environment and their goals is of course going to vary based on their personal history. But as Dr. Conti explained, even independent of all that, if one puts in some work to better understand their self concept to really get a clear picture of oneself, from that one can develop more agency with which to pursue one's aspirations and to reach their goals. And the key concept here is one that's particularly powerful for both exploring and building up one's concept of self. And that's to consciously and deliberately build a life narrative. Now, a simple way to do this that can be very effective is to create a series of folders or documents. It could even be a stack of papers. I prefer to do this in electronic form. And I confess that even before learning about this tool from Dr. Conti, I had initiated doing this tool starting back in 2015. And it's fairly straightforward. But as I mentioned before, it can be very powerful. And it simply consists of building out separate folders or pieces of paper. And this could be done electronically or on real world paper with paper and pen or paper and pencil. And essentially what you do is you're going to divide your life history into some regular increments. So for me, the way that I did this is I created a folder on my laptop that I actually call lifetime. So that's the title of the main folder. And then within that folder, I have a series of folders, each of which spans a particular phase of my life. So zero to five years of age, six to 10 years of age, 11 to 15 years of age, and so on and so forth. Now I'm 48 years old. So I have folders that extend to age 50 currently, although I will add folders going forward very soon. And the idea here is that for each of those folders, you're going to place a single word document into that folder. And then on that word document, you're not going to journal, you're not going to do any sort of extensive writing, rather, you're simply going to put down bullet points with titles. It could be one or two sentences, but typically it's just a few words describing some of the key milestone events that you remember from that particular phase of your life. So just for sake of example, I'll read off some of the things that are included in the folders for my particular lifetime narrative. But of course, this relates to my lifetime narrative, you should of course, put the milestones and key bullet points that relate to your lifetime narrative. But again, just to give you a sense of the sorts of things that made it into this folder, in my six years old to 11 year old folder. On that document, I put where I was living at that time, the city I was living, the school that I went to, I put a couple of teachers names, teachers that had a particular influence on me, a particular summer camp experience. That was not a traumatic experience, by the way, it was a happy experience.

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But for me, it turned out to be a very transformative one. And then there are a couple other things in there that are just recollections of childhood friends names. Okay, so seemingly mundane information, perhaps, but it looks more or less like a biography and yet other folders. So for instance, the folder that spans from 25 to 30 years of age is the time that I was in graduate school. So it includes a note about graduate school, a note about particular hobbies that I was interested in. In addition to my scientific research at the time, a couple of key relationships, a couple of key relationship challenges, as well as some things that at that time I was processing about prior years, in particular my teen years in high school. Now, the key thing here is that whatever goes into these folders is what's important to you. It could be positive events, it could be negative events, it could be events that for whatever reason you remember and keep surfacing in your mind, that you think might be interesting or important at some later time, or that you're concerned you might forget. In fact, that might be a really good metric for whether or not you include something in these folders or not. If there's something that you want to make sure that you never forget, but that you think you might forget, I would encourage you to put it onto that Word document and put it into that particular folder. Again, this isn't about creating a coherent life story. This is about creating a series of segments of small collections of key life events, positive, negative, neutral, inspiring, basically anything that was salient for you at that particular time. And of course, if you want to put reflections about those particular events into that Word document, you're more than welcome to do that. But the basis of this self-concept developing exercise is just that, it's to develop a historical sense of yourself. Of course, bringing you up to present day where you will continue to add things to whatever Word document goes into that particular folder for the age you happen to be now. Now, for some of you, this kind of autobiographical bullet pointing might seem like it's just that, some attempt to build or write an autobiography. But it's very important to remember that these folders are for you. These folders are not about writing a book about your life history, although if you decide to do that with these folders at some point down the line, that sounds great. But that's not the goal here. The goal is for you to build a structured narrative representation of events that were key in your life. And as described in the series with Dr. Conti, this goes way beyond just understanding your past. This is really about understanding past, it's about understanding yourself at present, and indeed it threads into your goals and aspirations for the future. An important thing to understand about this tool or protocol is that it also has an incredible ability to anchor you in your perception of the passage of time. Some of us track the passage of time better than others both within the day and across days and years and so forth. But this exercise in particular is very good at allowing you to see, you know, how much time you devoted at a given stage of your life to a given endeavor, whether or not you're stuck in patterns whereby you're still engaging in certain types of things professionally or relationship wise, or in any other number of different ways that have you in a pattern that may or may not be serving you well. I want to emphasize again that this exercise is not about goal setting. It's about your ability to build a structured narrative pattern from which you can look at it and then make a determination as to whether or not, you know, you feel that you're currently on the right path for you. But it's not about projecting forward as to what your goals are. We'll soon talk about that. We'll talk about goals and aspirations in a moment. This is really about

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better understanding what led you up to the place that you are now. And it really helps you pinpoint the key work that you need to do in terms of exploring your unconscious and conscious mind using some tools that we're going to get into subsequently. So there's really no strict rules about how to do this exactly, except that I do encourage you to make those increments across your lifespan manageable. I wouldn't suggest doing it one for every year. I wouldn't suggest a folder one for every 10 years. I think a three to five year increment seemed like a more reasonable and tractable way to go about this. So that's one of the sorts of tools that Dr. Conti referred to as to how to build up one's self concept, which directly relates to things such as our confidence, our ability to track our own behavior, understand some of our motivations, both conscious and unconscious. But of course, that practice is mainly a conscious exercise. It's really not tapping directly into the unconscious in any kind of direct way as far as we know. Now we can contrast that with the tools and protocols that are designed to tap into the unconscious mind. And of course, there are a number of different ways to do this that were discussed in that four episode series with Dr. Conti. But one of the most powerful ways to do this is by thinking about, and indeed, sometimes writing about or even analyzing one's dreams. Now dream analysis is something for which you can find a lot of books out there. There are a lot of theories. There's also a lot of argument that perhaps dream analysis, which has roots in Freudian psychology, as well as other traditions is perhaps not accurate. I don't think we want to consider whether or not dream analysis is accurate. Rather, I think we should just acknowledge that when we are dreaming, in particular, the dreams that we have toward the later part of our night, which are the dreams associated with rapid eye movement sleep that tend to be very emotionally late in dreams as compared to the dreams that we have earlier in the night. Well, when we consider the content of those dreams, even if we're not trying to interpret them, it's very clear that those dreams reflect the unconscious mind controlling more of our internal dialogue or what we are experiencing at that time. Whereas when we are awake, our conscious mind tends to take over more of the narrative, the internal narrative and the control of our feelings, thoughts and behaviors. But as I mentioned before, the unconscious mind is always exerting an influence regardless of whether or not we are asleep or awake. With that said, one way to explore the unconscious mind and begin to get a better understanding about how it might be influencing our waking states and behaviors is to actually record and think about one's dreams. Now, of course, some people remember their dreams on a regular basis. Other people don't. Some people actually believe that they don't dream. Studies out of sleep laboratories at Stanford University of Pennsylvania, Harvard and elsewhere all generally agree that everybody dreams, but not everybody remembers their dreams. So if you're interested in tapping into an understanding of what your dreams are telling you, which is basically a way of saying what your unconscious mind or dialogue consists of, I highly recommend putting a journal. So this would be any kind of paper and pen or paper and pencil type journal. And the idea is this, if you wake up and you can remember your dream, write down a few key bullet points from that dream. If you feel you can write out the dream in a very linear narrative, this happened, and that happened, and this happened, and that happened great. But most people find that their memory of their dream is rather fragmentary. Other people can't remember their dream, or at least they wake up, they feel like they were having a dream, but they can't remember all of it or key components of it. And for that, I suggest

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that you try keeping your body completely still and closing your eyes once again. We don't quite understand why this is, but when you look at the literature on dream recollection, it seems that by keeping one's body completely still with eyes closed, we have better access to whatever the contents of the dream that just occurred were. Okay, so if you wake up and you can't remember your dreams, try lying still for a few minutes and keeping your eyes closed and seeing whether not that helps surface the content of that dream. Other people find that they get up, they get out of bed, and then sometime in the middle of the morning, maybe even later in the day, the contents of a dream will just come to them. Well, if that happens, great, I also highly recommend that you have a way to write down the contents of the of that dream. Now, what you're looking for when you do this sort of tool or protocol, I encourage you to be wary of any immediate interpretation of, for instance, okay, animals in a dream mean children, although they could, you know, there's not a lot of science that really supports that as a firm statement. And of course, there are books out there and podcasts and a ton of information trying to help you interpret your dreams. And while some of that can be fun, and not all of it is entirely useless, the goal here is not to interpret your dreams. The goal here is to start recording some of the key takeaways, maybe even the entire narrative of the dreams that you have just prior to waking as a way to try and understand some of the themes that are occurring and recurring in the dialogue that exists within your unconscious mind. So a key aspect to this tool is that you're not going to take any one dream as an enormously informative dream. It might be, but more important in this particular tool is to write down the themes of a particular dream and then see whether or not those particular themes resurface again and again across different nights or across different dreams. The idea here is that things that are repeating hematically will show up as different components and different dreams, but that by keeping a dream journal, you can start to identify some of these patterns that are occurring from one dream to the next, as opposed to having the same dream over and over. But the point here is that you can explore the contents and the themes. That's really the most important word here, the themes of your unconscious mind that is occurring. If you start thinking about what's recurring during your dreams, because dreams are a time when your unconscious mind is dominating the narrative within your mind and brain. Now, for those of you that dream a lot and remember your dreams, as well as for those of you that do not, I would also encourage you to explore the contents of your thinking that is thinking about your thinking during so-called liminal states. The liminal state during which this can be particularly useful is right upon waking. This is different than thinking about what you were dreaming about. This is about keeping your eyes closed and body still. We do think that that's important for doing this well because once you start moving your body, you open your eyes and you start bringing in sensory experience for that day, your mind dramatically shifts towards conscious processing. But in that liminal state between sleeping and awake, when you wake up and you're a little sleepy, maybe you don't want to get out of bed, and this happens to me all too often, try closing your eyes and remaining perfectly still for maybe one to three minutes, maybe five minutes, and just pay attention to where your mind goes. Now, you might fall back asleep. Be mindful of that, depending on what you need to do that morning. But a lot of people

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will find that their mind goes into this place that's neither sleep nor awake. This is a state that very much resembles the state people achieve in things like yoga nidra, yoga sleep, or non-sleep deep rest, although it tends to be more dominated by the unconscious mind, a little bit more sleep-like.

Now, some people find this practice to be difficult because they're the sort of people that wake up and they're just immediately ready to go. Most people, however, myself included, find that when they wake up, the mind isn't completely alert yet. And you can use that period, again, just maybe two or three minutes, maybe five minutes, to start to pay attention to the contents of your thinking. See whether or not your thinking migrates from something related to work or to relationship or to self or to something you want to do or something that you're anxious about and so on and so on. And here too, you'll want to write this down. So this is very much like the dream journaling we just talked about, but it's slightly easier for most people to access, especially people who have a hard time remembering their dreams. And again, it's an opportunity to access some of the contents of your unconscious mind, to learn to look at and see what's going on in your unconscious mind in a way that's very difficult, if not impossible to do, unless you're working with somebody who's very good at accessing the unconscious, such as a skilled psychiatrist or psychoanalyst, and in that way, allowing you to do introspective work, which is not structured in terms of thinking, trying to think about like, what do I want? What's going on? Why did they do that? Why did I react that way? Nothing like that. You're simply observing your mind and seeing what's geysering up from the unconscious. That is, you're getting a portal into that portion of the iceberg that resides below the surface of the water. The next set of tools for exploring the self, self concept, etc. From that four episode series with Dr. Conti is journaling. I'm going to do an entire episode of the Huberman Lab podcast about journaling. And there are a lot of different kinds of journaling. And fortunately, there are a lot of great peer reviewed studies about the power of journaling for processing all sorts of things like emotional states, trauma, etc. There are basically two categories of journaling that are very useful to carry out on a consistent basis. And when I say consistent basis, that could mean every day, or it could mean three times a week, it could even be once a week. There are really no hard and fast rules about this. But when we think about journaling, there are really two main styles of journaling. One is going to be free associate of journaling. Sometimes people talk about this as a data dump, right? Typically, people will talk about the data dump as the morning notes, which is when you wake up in the morning, you know, you've got a lot on your mind, you can't organize your mind, people who have a hard time structuring their thinking and behavior often find this very useful, which is to, you know, take out a journal or a piece of paper. Again, this is just for you. It's important that you realize and really make sure that you're the only person that's going to see these notes because a lot of people get into self monitoring when they're doing their journaling, they're thinking about, well, how's this going to look? Is my handwriting okay? How's my punctuation? What are people going to think? Is this going to be a good book or not a good, but listen, none of this journaling that we're referring to is about your book or your autobiography. This is really just for you. This is an exploration of yourself that's designed to help you enhance your concept that is your understanding of self and indeed translates to better confidence, better understanding of your goals and aspirations, better understanding of your unhealthy patterns and defenses and on and on. And so again, the two styles of journaling are free association. So

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we literally just write down anything that comes to mind or that you feel like writing down within a given period of time. For most people, 10 minutes is ample time to do that. For some people, five will be enough. And for some who have the time, maybe 30 minutes. But for me, and I think for most people out there, anywhere from five to 10 minutes of this data dump free association, you know, it could be your anxieties, what you're thinking about, what you're anxious about, really could be about anything that comes to mind. And this free association process can be very useful for clearing out the clutter, so to speak. The other style of journaling that's equally useful, but for different reasons is structured journaling to have a goal for a given entry on a given day. And again, this could be done in the morning, afternoon or night. And the idea would be that you would set an intention. And by intention, I mean a specific topic that you're going to restrict your writing to. And that writing should be about self in particular goals and aspirations, what you've wanted in the past. Yes. But also what you want at present, what you might want in the future for yourself. These could of course be material things. But in general, this is more about aspirations of things that you would like to accomplish or generate. And the key word there is generate. And if you listen to the four episode series with Dr. Conti, he talked about three drives that exist in all of us. These three drives are the aggressive drive, the pleasure drive, and the generative drive. And we don't need to go into a lengthy description about these drives right now. If you're curious about them and what they represent

and how they can be in balance or out of balance and how that serves us or doesn't serve us, please check out that four episode series with Dr. Conti because he goes into that in a fair amount of detail and also in an actionable way. But the key thing here is that we're generative. One of the things that I asked Dr. Conti at the outset and throughout the entire series was, what is mental health? We talk about physical health and we have some idea of what that represents, healthy blood pressure, the ability to do certain forms of physical movement, cognitive abilities. I asked him, how can we define mental health? And his answer was very straightforward and very powerful. He said, what we all need to aspire to is to be in states that is in the verb actions of agency and gratitude for as much of our waking life as possible. Now that sounds great, right? A sense of agency, the ability to exert influence over our internal state and affect the world around us in positive ways, positive relationships, reach our goals, as well as gratitude, being grateful for the opportunities that we've been afforded, even grateful perhaps for some of the challenges that we've been afforded or that were selected for us that we had no control over and carrying that agency and gratitude forward because it gives rise to a sense of peace, contentment and delight. So all of that sounds wonderful, right? Being agency and gratitude as a verb states, experience, peace, contentment and delight. But Dr. Conti acknowledged and we spent a good amount of time discussing the fact that doesn't happen just because we decide we want to. In fact, agency and gratitude, peace, contentment

and delight, guys are up from a whole set of other processes that we have to engage in on a regular basis. And that really gets us back to those three drives. He talked about how people tend to have more or less aggressive drive, not just aggression in terms of violence, although some people do have that, but in terms of their determination and their sort of leaning into friction, even seeking out a friction, people are on a continuum with respect to the aggressive

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drive. He also talked about the pleasure drive and the fact that people are on a continuum of the desire for pleasure to either be a hedonist or somebody who really avoids pleasure and kind of restricts pleasure from oneself. And again, that these things can slide around depending on our life circumstances, our age, etc. But that it's very important that we have a sense of where we are on that continuum of an aggressive drive and a pleasure drive. And that, and here's the most important thing, that our aggressive drive and pleasure drive never outsize our generative drive. And that engaging our generative drive is really the hallmark of mental health that leads to that sense of agency and gratitude, peace, contentment and delight. And he defined the generative drive in the following way. He said, the generative drive is our desire to create, build and contribute to the world in meaningful ways and appreciate the process to get there. It is the core feature of our mental health. So if you want to learn more about the various drives and how they interact and how to access more generative drive, again, that's all contained in the four episode series with Dr. Conti. But taking us back to the tools and takeaways from that four episode series, the process of journaling in free association mode or the process of journaling

in a conscious structured way is really about trying to access the generative drive and to build up that generative drive. And one of the key things about conscious journaling is that it affords us the opportunity in a way that's not going to be seen by anybody else to really think about what our goals and aspirations are. Now you might say, you know, I can't even think about my goals and aspirations. I don't, I don't know what I want. Well, that's fine. Then you should journal about that. However, most people have some sense of what they would like. But most people are simply not comfortable with writing those things out or even thinking about them. And if you reflect on that, how could it ever be that you would achieve those goals and aspirations if you're not even feeling comfortable enough to think about them or write about them? And so the process of thinking about and writing about your goals and aspirations is perhaps one of the key first steps towards being able to actualize those goals and aspirations. And for some people, this might be very easy to do.

You can simply write down say, I want to, you know, be married by this age and I want to, you know, make X amount of money and I want to live here or there. And certainly those sorts of goals and aspirations are perfectly valid for this type of exercise. But so are the sorts of goals and aspirations that relate to feeling states. Like, yeah, I would like to feel part of a community. I would like to feel like an active contributor to a community. And then the essential thing is to really flesh out the detail around those goals and aspirations. You know, what size community? Where do you see yourself fitting into this community? Are you doing this alongside other people or by yourself? In other words, to really get comfortable thinking about what your goals and aspirations are, again, completely from the perspective of self and that you are going to be the only person to see this particular document. Now, I will be the first to admit that the exercise that I just described, not the free association journaling, but the structure journaling of goals and aspirations, I and many people find to be difficult to initiate. Difficult to initiate because there seems to be a bit of internal anxiety and friction around doing it. There seems to be something that keeps many, not all, but many people from feeling as if they are even allowed to think about their goals and aspirations because many people default to, well, then, you know, I'll just be disappointed because it's not going to work out. I don't want to think

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about what I want because then I'll just be more disappointed. And that particular frame of mind was actually discussed in the series with Dr. Conti. And he convinced me, and he's the expert, that the opposite is actually true. When we are able to overcome some of our anxiety and really think about in a dedicated way what we would like to create for ourselves in our lives, both present and future, and keeping in mind our events of past because we always carry that life narrative forward, then we are in a far better place to actualize those goals and aspirations. And he explained a variety of reasons why that's the case in his clinical observations and some of the other observations that really support that statement. So I highly encourage you to think about embracing a process of journaling. Again, you don't have to do this every day. The journaling and the dream analysis take a little bit more time, but they are oh so valuable for better understanding one's self-concept and they really thread forward into real everyday actions that can positively enrich your mood and mental health. Now any description of science-based tools for mood and mental health will be incomplete without including some tools related to processing of traumas. Now the processing of traumas is something that especially in the case of major traumas or repeated traumas really should be carried out in concert with an expert-trained clinician, that is a psychologist or psychiatrist who's trained in helping people work through traumas. However, even if you're working with somebody who's expert in processing trauma, there are specific tools that you can use on your own to accelerate that process. And for people who are working through what are sometimes called more minor traumas, these are sometimes called big T, big traumas, and little T, little traumas. However, that nomenclature doesn't take into account the fact that most of us can probably tell what the big traumas are for ourselves and for others, but sometimes it's hard to tell whether or not those small traumas, the little T traumas, actually are big T traumas. So, you know, this is one of the major reasons why working with a licensed professional is really going to be advantageous and in many cases necessary to work through trauma. That said, the self-directed protocols for working through trauma have a lot to do with how we think about, but more importantly at times, how we talk about those traumas. And Dr. Paul Conti talked about this not so much in the four episode series with us, but in a particular podcast episode that he did with Dr. Peter Atia, who some of you are perhaps familiar with for his incredible podcast, *The Drive*, but also for his excellent book *Outlive*, which deals with health span and lifespan or longevity. Now, in that particular conversation with Dr. Conti and Dr. Atia, Dr. Conti emphasized the fact that one of the ways that we hold ourselves back and indeed can exacerbate the negative consequences of trauma are the ways in which we modify our language to describe those traumas. And what he said, which is so important, is that oftentimes we don't allow ourselves to use language that's as big as is necessary to explain that trauma and the impact of that trauma on us and on others. In fact, many people start to, you know, relegate their language to more passable in a given sentence or passable in a given conversation. Now, what we're not talking about here is the idea that, okay, you know, screaming at somebody else about your trauma or using a lot of four letter words is necessarily the best way to process that trauma

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verbally. However, we are talking about allowing oneself either in spoken form or in written form to really allow the magnitude of a given trauma to be expressed with a fair degree of intensity and language that can capture at least some of what that trauma represented for us or for others. Now, as Dr. Conti pointed out, all too often we do the opposite. What ends up happening is people will experience some sort of trauma, either major or minor, maybe single or repeated trauma. And rather than being comfortable talking about it, rather than using language that captures at least some of the magnitude of that trauma for them, people start to talk about that trauma less frequently. They start to distract themselves to think about other things instead of talking about or thinking about that trauma. And what happens is that trauma roots into our unconscious mind and starts to impact us in negative ways. Now, those negative ways include increases in anxiety, disruptions in sleep. In fact, one of the common ways in which trauma manifests and disruptions and sleep by way of rooting into our unconscious is that people wake up at 2.30 or 3 o'clock in the morning, let's just say after several hours of being asleep, and immediately they're thinking about that thing that happened and they're upset about it. The idea is that when we push those traumas down, when we don't talk about them with people that we trust, when we don't have a way to consciously process those traumas using language that at least partially matches the magnitude of the impact of those traumas for us, well, then those traumas impact our unconscious mind in ways that lead our unconscious mind to literally wake us up in the middle of the night and remind us of that thing. It's as if it's being thrown back in our face over and over. Also, sometimes traumas will root their way down into our unconscious and then they will resurface in the mode of compulsive or obsessive thinking about that thing or perhaps other things. Again, the unconscious mind has a interesting and complicated number of different ways that it defends us in ways that it can create denial, distraction that we might get hyper-focused on work as a way to not think about the trauma or hyper-focused on some details in our environment and just really trying to focus on that because it's much easier to process and handle that than these traumas. Again, the processing of trauma is a whole landscape into itself that actually was beautifully described in terms of how it arises within us and how to process traumas in a really structured way in a just fabulous book that was written by Dr. Conti called *The Invisible Epidemic, How Trauma Works and How We Can Heal From It*. In that book, Dr. Conti explains a number of different ways that we can do self-directed work as well as work with licensed professionals to process traumas and help us move through those traumas so that they are not negatively impacting us going forward. I really encourage anyone that's trying to process traumas from the past and or present to check out Dr. Conti's book because it's a spectacular resource. But in terms of the tools related to processing trauma that we're talking about right now, I think this point about really making sure that we allow ourselves to verbally process and emotionally process that trauma in a way that there's room for using language that captures some of the magnitude of that trauma and how it impacted us and others is going to be very important

because otherwise what ends up happening is that we tend to adopt feelings of guilt and shame around those traumas simply by not talking about them, by having them go inward and then they start to negatively impact our unconscious mind and then our unconscious mind tries to throw them up to the surface for our conscious mind to recognize by waking us up from sleep and in some cases by leveraging those unhealthy defenses, things like denial, things like you know the

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overindulgence in alcohol, overindulgence of drugs, ways to distract ourselves as well as projection and sublimation and the other types of defenses that Dr. Conti talked about in the four episode series. Again, those defenses are not necessarily good or bad. It depends on the circumstances. The unconscious mind is not trying to harm us. Your unconscious mind is part of you. It is you. But of course, it is you acting in concert with your conscious mind. And so really the tools and protocols from the four episode series with Dr. Conti are aimed at helping you feel and access more sense of agency and gratitude on a regular basis, more peace, contentment and delight and doing so by touching into those different drives, understanding what they are, the aggressive drive, the pleasure drive and really making sure that your generative drive. Again, I love this description of the generative drive so much so that I'm going to read it again because this is really what it means to be mentally healthy. Again, the generative drive is our desire to create, build and contribute to the world in a meaningful way and appreciate the process to get there. It is the core feature of our mental health. So being able to access that generative drive on a regular basis is really what this thing that we call mental health is all about. And the tools that I just described, of course, can be combined with in any number of different ways with the tools that I described glean largely from the episode with Dr. Lisa Feldman Barrett. And so what you now have is a kit of tools and protocols for improving mood and mental health, some of which are grounded in that core six. The first principles of self-care are always going to be getting your physiology right so that your psychology can be right. As well, of course, you want to emphasize tools and protocols that build up your psychological processes and concept of self. That's what the tools from the Conti series that we just described are all about. And then the tools from the episode with Dr. Lisa Feldman Barrett sort of bridged the two because she talked about both the physiological and the psychological tools that really represent ways to enhance our mood and mental health. And so by threading these three things together, I believe it really arms us with the greatest degree of optimism and capacity to take control of this thing that we call our mood and emotions and to, of course, allow ourselves to feel the negative things we need to feel, but then process them in healthy ways and to exist as much as as reasonably possible in generally optimistic upbeat states that allow us to engage our generative drive. And although we covered a lot of tools during this episode, again, I want to emphasize that the idea isn't to necessarily do all of them all at once. Maybe just pick one or two and start to implement them on a regular basis. And by implementing those, there's no reason to think that you would be significantly eating into the other demands on your time, because ultimately, the whole purpose of having elevated mood and mental health is so that you can have better relationship to yourself and better relationship to others and to the world around you. If you're learning from and or enjoying this podcast, please subscribe to our YouTube channel. That's a terrific zero cost way to support us. In addition, please subscribe to the podcast on both Spotify and Apple. And on both Spotify and Apple, you can leave us up to a five star review. Please check out the sponsors mentioned at the beginning and throughout today's episode. That's the best way to support this podcast. If you have questions for me or comments about the podcast, or guess that you'd like me to consider hosting on the Huberman Lab podcast, please put those in the comments section on YouTube. I do read all the comments. Not so much on today's episode, but on many previous episodes of the Huberman Lab podcast, we discussed supplements. While supplements aren't necessary for everybody, many people derive tremendous benefit from them

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for things like enhancing sleep, hormone support, and focus. To learn more about the supplements discussed on the Huberman Lab podcast, you can go to livemomentus spelled OUS. So that's [livemomentus.com](https://livemomentus.com)

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