



## **TAYB 008 – Trading Mind, Trading Body : The Physiology of Trading Performance**

Steve: [00:00] Hello, I'm Steve Ward and welcome to Trade at your Best. In these podcasts I'll be drawing on research and practice from the fields of psychology, physiology, neuroscience, and peak performance combined with my own experience of working with thousands of traders at institutions across the globe to provide you with knowledge, insights and practical strategies that I hope will help you to trade at your best and achieve your trading potential.

[00:34] The mind, brain and body are all connected. There's no mind body split that an outdated notion. They work together in your risk-taking and your decision making and in this episode, we're going to take a look at the role of our physiology and specifically our energy levels and the role they play in our decision making, and look at some strategies for how to manage them. I want to start off by sharing a research study that was done a few years back now.

[01:07] It was a big study it had twelve hundred sample cases so it's a good sample size and it was done looking at parole board decision making in prisons. The research essentially was looking for what are the factors that affect a parole board decision making? So, it could be, is it a sentence length? Is it the nature of the crime? Is it factors around the prisoner? And what happened was they obviously did all the samples, they got all the data, they crunched it all, and then they looked at what was coming through. What's really interesting in this study is the factor which created the highest variance in whether the prisoners were paroled or not was a bit unexpected. It was none of the obvious ones like sentence length or crime. It was in fact time of day, so it's actually a bit of a lottery because it's a random allocation.

[01:56] So what they found was and I'll share a few of the numbers, was that a prisoner coming in early morning had a 70% chance of being paroled. If you came in late in the morning, let's call it the mid-morning slot it went down to 20% so that's a big drop off. If you came after this or the mid-morning break, then you were back up to 65% chance of being paroled and if you got the other slot before lunch, this is bad news, then it's down to 10%. Come after lunch, however, and your chances go back up to 60% and again the next kind of really bad new slot is the end of the day where it goes down to 10% so it's a significant variation on your chances of being on parole based purely on the time of day in which you had your parole board meeting.

[02:50] But let's look at what's going on underneath that, so the researchers and people subsequently who've looked at that have got some ideas and theories that what's really going on here is an energy factor, an energy challenge, from only around two key things. One, which is rest, so being rested, the mind and the brain being rested enough to make good decisions and the second one being glucose so a fuelling challenge. So, to understand it in a bit more detail, let's have a look at what's going on neurologically when you make these decisions. On the parole board you've got two choices, you are choosing to keep somebody in or you're choosing to let somebody out so they're the two options, and what they found in this study was that the decision to let people out with taking roughly twice as long as the decision to keep people in.

[03:41] If we think about it from a fuel perspective, then if we're thinking twice as long, purely from a fuel perspective, we'd be utilizing more fuel. You know if you're driving twice as far, you'd use more fuel, excuse me if you're driving at the same speed. So there's a fuelling challenge in them and so the harder decision is such out of the two is the one that takes the longest, but if we think about what's going on in the brain, the brain is on average 2% of your body weight. It's about 25% of your energy consumption and it's most energy hungry when you're using cognitive capability. So planning, strategizing, decision making, self-control, willpower, empathy, all of that high order very human, specific functionality is fuel hungry. So, when the parole board are making these decisions there's a lot of fuel being burnt and also if you're making a harder, longer decision you're burning more fuel.

[04:41] Now what happens is why is there a big variation because if you start the day, you essentially know how to make a decision, so you've got the capability to make a good decision. The next factor is have you got the capacity to allow you to make those decisions and in this case, we look at physical capacity, energy. So, you start the day let's assume you've had some sleep and you're rested and so you've got the capability of making a good decision. We'll assume there's a good process in place and you've also got capacity to allow you to maximize those capabilities. If in that early part of the day you make some decisions as the parole board to let people out then also you're drawing down on that fuel supply and if you make a few of those decisions maybe in a row or over a period of time, each time that fuel supply comes down, then your reserves, your capacities getting lower and lower and lower.

[05:37] There comes a point when the brain recognizes capacity is getting lower and it switches into what's called cognitive ease, which is a process basically of efficiency. So now for future decisions coming from this point what the brain is analysing is efficiency of decision-making not so much about quality or the correctness for want of a better phrase of the outcome. So now when you're given the choice of you've got to make a decision but you're low in brain fuel, we're into cognitive ease and the choices is here's a quick, simple decision or here's a longer harder decision, the brain favours and biases towards the quicker, simpler, easier decision which in the parole board situation is keeping prisoners in.

[06:21] And it's an interesting one because again, the variance was quite significant. The bias was working outside of conscious awareness so the parole board weren't aware, they weren't saying, I'm feeling tired so I'm going to make a quicker, simpler, easier decision. It's all outside conscious awareness until they saw the data and this is true for all of us. So, your capability to perform, your capabilities to make good trading decisions is one construct. The second one is capacity, have you got the physical capacity available to allow you to perform, to trade at your best?

[07:02] Again maybe just take a moment, think about what your energy levels are like during the trading day. When are they higher, when are they lower? I think importantly think about how you currently manage your energy levels. There's been some good research on fatigue and its impact on decision making and I summarize a few key themes that have come through. There's a great quote that I think it's relevant in all performance, but it does sit nicely in the trading world. It came from Vince Lombardi, the US NFL coach and he has this quote which was, 'fatigue makes cowards of us all,' which is a really interesting quote. I mean in trading terms risk averse; we can replace for the word cowards as such.

[07:48] So what does the research show? It shows that as we become fatigued, there's a few changes in our decision-making process. So, first of all, people tend to adopt low effort strategy so we're going for the quicker, simpler, easier choice. As we move into that cognitive ease it's reducing our higher level thinking and this is important if we think about in the trading and investing world around behavioural biases and our cognitive biases and emotional biases, these are all essentially when our faster thinking as Daniel Kahneman calls it, is taking over from our slower thinking. So when we are fatigued, when the brain is tired, it doesn't have the capacity to engage the deliberate mind system to, as Kahneman would call it, and so we naturally slip into and favour system one, the quick, simple, easy, intuitive decision making system. So, we're much more prone to bias when we're fatigued.

[08:44] You will see people making quicker, less well thought out decisions. Again, if we go to less well thought out, not in terms of quality, but just in terms of time spent that was evident in that prison study. You also, and this is an interesting one for us in the trading world and in the market, is it impairs risk perception. So as people become fatigued, it changes your perception of risk and there was a study done, I believe it was at Duke, it came out a few years back where they looked at people's behaviour in casinos. So they looked at how people's risk behaviour in casinos, gambling behaviour, shifted in terms of their sleep, which is what they use to create the fatigue. So in the study they had to do some gambling based tasks and then they did them also with a good night's sleep and without a night of sleep to get a comparison, and what they found was that when people were sleep deprived, their risk perception shifted and the main theme was they became less sensitive to negative outcomes, to losing, and they put greater emphasis on positive outcomes on to winning.

[09:49] So it almost starts to negate, and you don't pay as much attention to the losses. You so hooked into the winning that you forget about that losing behaviour. The overall summary of that study was that even if someone makes very sound financial decisions after a normal night of sleep, there's no guarantee the same person will not expose them to untoward risk if they're sleep deprived so there's a fluctuation in your decision-making capabilities. It's not a stable trait is affected by levels of fatigue.

[10:24] So for me, in my work and I kind of I like to look at trading performance from three angles, one is the psychological aspects, one is the neurological aspects, and one is the physiological aspects, so what's kind of going in the body and obviously they all interconnect. But if we look at it purely from the physiology, then it's very clear that the energy in the body has an impact on the brain being able to function well. The brain is embodied as we've talked about. I really see an energised body, a trader with high energy in the body as having an edge I see it as a competitive advantage, particularly in a world where I think more and more people in general and certainly in the markets are experiencing tiredness and fatigue.

[11:14] I've actually done a lot of research and testing with clients over the years using biofeedback devices so we kind of hook people up. We can get some heart rate variability data, which is kind of a measure of our physiology. It can give us information about people's stress levels, how much stress, the quality and quantities of stress. We can look at sleep quality and sleep quantity. We get data on how much recovery people are getting during the daytime, the quality of that and the quantity. We can look at quality and quantity of physical activities to get a really good normally for three days, like a snapshot of what's going on in the body physiologically around stress and energy and that's been really helpful, I think.

[11:56] It's given me some interesting insights into what's going on in the trading body during the trading day and we can match that up with events during the day, which is interesting, but I think for the clients it's giving them the ability to look at what's going on in my body, in very kind of data, friendly graphs, charts, numerical, very objective terms so when we start to talk about energy and some of the factors that affect it, we've got some science and data behind it. And what I'm trying to do for clients and for you in the podcast today is really try and make the connections between the fact that your physiological state is impacting your psychological state, and it's impacting your neurological state.

[12:36] They're all together and for me in simplistic terms with clients, I often talk about the physiology as being if there's a pyramid where P&L would be the top of the pyramid and the next layer down might be performance, so kind of behaviours and then the next layer down might be psychological so let's say thinking and feeling and then the base of the pyramid for me would be the physiological. What's going on in the nervous system around distress response and around the energy availability and I think that platform is so important because if the physiology is strong at the bottom then it's much easier to think and feel in ways that

are useful for you. It's much easier to behave and to follow the trading process as you need to and that obviously has an impact on the returns you get the P&L.

[13:29] What I want to do to finish off on the podcast today is to just look at where does this energy come from? What kind of things can you do to make sure you are energized and I'm not talking here at the level of being like an athlete, but I'm talking about having a healthy well body that's got energy available so that you can maximize your cognitive capabilities and make the best decisions possible. Now the key building blocks of physical energy are no mystery, sleep recovery, nutrition, physical activity.

[14:05] Let's have a quick look at each one. I'll try and give you a few tips for each one as we go through as well some things to be thinking about. Be thinking as we go through about what you're doing already and maybe looking for opportunities to maybe do some things differently, some things to start doing that you're not doing already. Maybe some things to stop doing that might not be that helpful and I'd encourage you to maybe think about other one or two things I could do better than I'm doing currently that might bring more energy into my trading day.

[14:36] Let's start with sleep. So the key thing I want to say about sleep is it's two dimensional. It's about quantity and it's about quality. Most sleep studies that have been done have highlighted that 95% of all people need seven to eight hours of sleep to function well and I'm just going to stress the function well. You can function with less than seven or with more than eight, but we want about functioning well, you know, which is about trading at your best, being the best reader, you can be. If you go six to nine hours, then you've got over 99% of all people so for most of you listening to this episode, you're going to be in that six to nine-hour range, that's the quantity. People forget about, and I was doing some testing with a big investment firm recently, we had large numbers of people going through a program and we were talking about sleep. They had their reports in front of them we were looking at the sleep data and the biggest insight for them, which is interesting for me, was they hadn't really realized how important the quality aspect of sleep was, because you can sleep for eight hours and it can be poor quality and we can see this in the data and your body doesn't recharge and refresh. You don't feel fresh in the morning, but you could get six hours of really good quality sleep and feel much better.

[15:51] Again, it's easy for the brain to assume if I've set for eight hours, that's better than six, but that may not always be the case and we've certainly got lots of data to show that isn't the case for sure. So we've got to think about the quality as well as the quantity. What kind of things influence quality? Well, there's a few things. I'm going to whisk through these pretty quickly, but you can use it as a bit of a mental checklist. First thing is environment and you're looking for dark, cool and quiet, they're the three kind of key things to think about environmentally. Ideally technology free in the bedroom. You should be looking to have a bit of what I call the pre-bed cool down so there's winding down before we go to sleep to make

it easier to get into sleep more quickly. So just be aware of things like alcohol, caffeine, big meals, intensive exercise and technology.

[16:37] All of those can impair that kind of cooling down process and then two things which have a big impact on sleep quality actually, one is physical activity. So the more you move, the better you can sleep in terms of quality and also the consistency of the time you go to bed and the time that you wake up also promotes good sleep quality so a few things there to be thinking about. Not in great detail I'll probably cover that in a different episode, but definitely use it as a bit of a checklist and that's really what people would call kind of sleep hygiene so if you're doing all of that, well that's great. If there's gaps in that then that's also great because there's some opportunities to do some things differently.

[17:14] Let's quickly talk about recovery by this, what I mean is when the nervous system is switching kind of into off mode, it's recharging and restoring, but outside of sleep, so most of your recovery is going to come during the sleep period. Interestingly, research shows that we need about 30% per day of recovery in the nervous system that's for normal people under normal conditions, and most of that will probably come if you sleeping well and blown, most of it will come while you're sleeping. But most of us probably also need a bit of time during the day to switch off, unwind a little bit and I've got loads of data from trading clients and fund managers who are doing eleven/twelve hours days. We look at recovery during the day time and it's zero minutes, which is pretty interesting, so essentially on all the time.

[17:59] And I've got lots of data from trading clients and from fund managers where we look at that overall recovery over the twenty four hour period and we've got 11% 15%, 13% 8% and on the occasional day we can manage that way. We'll get through it, but you can't do that consistently. So that stress recovery balance is really key, and then the sleep and then the recovery those two together to get that 30% is a really good kind of thing to be aware of. So recovery outside of sleep is really important. How do we get it? We just want some time during the day where we can refresh, where we can recharge, let the nervous system kind of put the brakes on a little bit. Just slowing things down.

[18:38] The human body works well in bursts so trying to do twelve hours at the desk all day long. It might feel good, but it's not great for the body. So if you can build some breaks in, that's going to be really powerful. Get away from the desk a little bit, you know, have a walk around, move, hydrate, um, you know, have to make two week stretch a little bit, maybe do some breathing work if that's useful for you. So recovery during the day is really important to build in. Obviously, the recovery in the evenings and the weekends is a next time-frame to look at in the shorter term and then I would say you're looking at what we might call the strategic recovery, which is holidays, vacations, more periodic, also really important. So there's a day to day, what do I do kind of over the course of the week and what do I do over the course of the year.

[19:23] But I hear from clients, "Steve, it feels like I'm on all the time," and we look at the data, we can see loads of red on the charts. And I go, "Yeah, your nervous system is on all the time. We need to get more recovery." So have a little kind of self-assessment for yourself. Does it feel like you're getting that recovery balance right because you can have a lot of stress, but if you get good quality of recovery it will balance out and again is that 30% is just a useful number to be aware of.

[19:55] Physical activity, multiple ways, well obviously moving, exercising. For me is about activity much more than exercise. It's just moving more I think is the first step for all people. I've noticed with a lot of clients they've gone to the stand-up desks have become popular. The ones that can adjust up and down that can be useful for sure. I think I read recently that you burn 12% more calories standing up, so that's interesting but you also feel better. The energy can shift and change. It's great for the posture. It's probably really the reality sometimes standing, sometimes sitting, being in either position for too long could become stressful. How much exercise do we need or activity? Most guidelines still coming around that thirty to forty-five minutes per day, moderate activity but again I think just moving and again, remembering the more we move, the better we sleep I think that's a really powerful motivator.

[20:49] And then finally nutrition, which has become a minefield as you will probably be aware of over recent years. There's so many niche diets and I guess strong feelings about diet and so on, so for me it's not so much about what is the diet you follow. It's much more about principles, overarching principles that maybe we would all agree on and I think there's a few key things. One I would say is just be aware that our food is a fuel supply, so whatever you're eating and how you're eating it, just think about how does it make me feel and how much energy is it providing for me. I think that's a really key thing and we can all think about meals that we eat and we feel better after and we can all think about meals that we eat and we feel worse after. And there's no harm in doing both of those, but it's just about being aware of during the trading day and when it matters most to you. Are you getting the fuel that you need that's helpful for you at the energy level?

[21:48] Secondly, I think most people would agree that whole food better than processed food, irrespective of high carb, low carb or whatever fluctuations we want to make in terms of diet theming, but I think whole foods always is better. And I think no slow versus fast when it comes to eating. A lot of us are eating fast, we're busy, the nervous system's on. A lot of my trading clients are eating at the desk, they're watching the screens whilst they're eating so there's not that kind of slower, more mindful process to eating so I think where you can eat more slowly, is really powerful. And then hydration, you know the brain's 80% water so for it to function well it needs to be hydrated and one little tip I will share and this has worked for a lot of clients I've worked with. We sweat out quite a lot of fluid overnight and so a really great habit to build is just having a nice big glass of water in the morning and a lot of clients

I've suggested that to who've done it, have found that alone actually has made a big difference to how they feel during the day so again, you can play with that if it's useful.

[22:53] So sleep recovery, physical activity and nutrition, they're the big four chunks of energy. We know it anyway, it's just about really committing to it. Getting the physiology primed, getting the energy in there, managing the stress building that platform that everything else can then build off and I want to finish off with a quote and it comes from, How to Trading Stocks, Jesse Livermore, and this quote I ended up with because I was working with a client and we'd done a bit of work around, well it's mainly for them it was more about the stress, high levels of stress and pressure. We wanted to get into the nervous system, look at what's going on stress wise.

[23:30] As we're doing that, we'll also get the data on the energy so we're doing a lot of work around the physiology and then he handed me this book, it had like a little post it note stuck inside it and I opened it up and it basically pointed to this quote, which I'm just going to read now and then you'll see why. Obviously, it's an interesting one. 'The following rule is a rule I developed from a great trader. Keep stress at bay. Act in all ways to keep the mind clear and your judgment correct. I did all I could to achieve this in my physical life by going to bed early, eating and drinking, lightly, taking exercise, standing upright at the stock ticker, expanding well on the telephone and demanding silence in the office.'

[24:11] I mean, we would give that same advice pretty much. I don't know if we could always get the silence in the office that might be challenging sometimes, but the rest of it is advice which has been consistent from then all the way through to now. We know more now about the science behind this stuff. We know more about the impact on the brain, on our psychology, on our decision making, but I think it comes down to the doing. It's having that commitment to act and remember the brain is embodied It's sitting inside the body. We want the brain to function well, so for the brain to function well that's necessary so that you can trade well and what it means is you need to be thinking about sleeping well, recovering well, eating well, and moving well.

[24:59] The focus of these podcasts is to help you to improve your trading performance, to become a better trader, to move closer to achieving your trading potential. Improving performance requires taking action so I'd like to invite you to take a few moments to reflect on the contents of this podcast episode, to think about what was interesting for you, what resonated and caught your attention, and to consider how you might apply it within your own trading.

[25:34] Thank you for listening to this episode of Trade at your Best. I hope you enjoyed it and found it useful. If you've got any questions or feedback about this episode or suggestions for future ones, then please get in touch through the podcast page, [www.tradeatyourbest.com](http://www.tradeatyourbest.com). This is also where you can find any links or resources mentioned in or related to this episode, and if you'd like to find out more about me and the work I do helping my trading, investing and banking clients to perform at their best, then please visit the Performance Edge Consulting website, [www.performanceedgeconsulting.co.uk](http://www.performanceedgeconsulting.co.uk).