**Stefan Volk – How to convince your boss that you deserve a sleep in**

>> Welcome to the podcast series of Raising the Bar Sydney. Raising the Bar, in 2017, saw 20 University of Sydney academics take their research out of the lecture theatre and into bars across Sydney, all on one night. In this podcast, you'll hear Stefan Volk's talk, How To Convince Your Boss That You Deserve A Sleep In. Enjoy the talk.

[ Applause ]

>> Oh, thank you. So, I'm glad so many of you came out here tonight to find out how you can convince your boss that you deserve to sleep in. Which is, admittedly, a rather stupid title. And, it's something we chose, but something we didn't come up with. This was--this title was used in minor variations by media around the world to report and research that we did on circadian rhythms and chronotypes, and I'll explain later in a bit more detail what this is. In a nut shell, to set the stage, chronotypes is essentially the question whether you are more a morning person or whether you are more an evening person. And we all can, somehow, relate to this. Right? We all have a rough idea if more a morning person or more an evening person. And, I guess, that is why this research had triggered so much attention world-wide. So, there was literally a media frenzy. It was in all big newspapers and media here in Australia. It was in U.S. in the Huffington Post, in Wall Street Journal. In the U.K. in the Independent, in the Daily Mail. It was in China big. Apparently, China is a country that is very much geared towards morningness. I had the feeling I was on pretty much every morning show on the radio with this. Yeah? And, the funny thing is when you are on the morning show, or whenever you're on the radio live, they'll talk to you before they put you on the air. And that every single show, the people were actually whinging to me and were like, oh gosh, we have to get up every morning at one o'clock to be here at three and this is really the story of our life here. And I was like, well, I thought you guys were all extreme morning people. Why else would you do a job like this? Right? And they were like, no, no, it's a great opportunity to do this, but we really hate it. And it shows that, obviously, those things are relevant in the work place. So the media likes to simplify things and that's why they came up with this title, How You Convince Your Boss That You Deserve To Sleep In, but it is actually a very serious, scientific topic. And you may have seen that that this year's Nobel Prize for Medicine was given to people who actually discovered the basics of this chronotype, the internal body clock. And that, however, doesn't mean that this is a hot topic or this is new, because people get the Nobel Prize at the end of their careers. So, most researchers do their best work in their 20s or 30s when they're still young, fresh, and beautiful, and then the field watches how this finding a theory evolves. Then, at the end of the career, if it's really important and significant, you may get a call and they tell you that you get a Nobel Prize. You have no idea that you're nominated and that's why most people actually think that it's a joke. Right? They always think it's a joke of their friends faking a Swedish accent, telling them that they received a Nobel Prize. And they always have problems convincing them, actually, that it is, indeed, a Nobel Committee. So, it is something that is relevant for people. It's something that's scientifically relevant. Now, I have a few notes here that I have to check once in a while to make sure that I don't forget things. So, in this case, for example, the research was done in 1984. So, it's 30 years later. And, so the topic has been around for 30 years. That's quite surprising, actually, that in the work place, nobody still really pays attention to this. This is such a fundamental human trait that affects so many aspects of our daily lives that it's quite surprising that in companies, nobody really pays attention to this. Now, whenever I talk about this topic, I start actually talking about a study that was conducted by people at the University of New South Whales here in Sydney. And what they did is they did an experiment with people in a transportation sector. And transportation is an industry that's always very keen to learn about things like this--sleep, being tired--because tiredness in the transportation sector can, obviously, cost lives. So, they get a couple of people, employees--I think bus drivers, or something like this--then invited them into the lab. And it was actually quite a pleasant study because they offered them whatever drink they wanted. So, they asked them what kind of alcohol they like, and they mix them whatever mixer they preferred, and then slowly during the day they made them drunk. So they started with, obviously, zero alcohol, blood alcohol concentration, then 0.025, then 0.05, which is the legal limit for driving in New South Whales and many other countries. Then 0.075 and up to 0.1. And while they were doing this, getting people drunk, they give--gave them tasks to perform. So, for example, there was a hand/eye coordination task. That's the famous police task, if you can still find your nose. Then, attention span. How much, how long you can focus on something. Reaction time. How quickly you can react to something happening in your vicinity. Another is, surprisingly, they found, obviously, that people's performance went down dramatically on these tasks as they got more and more drunk. That's why we don't drink and drive. That's why we don't drink and operate heavy machinery. That's why we are not supposed to drink and even ride a push bike. So, then they sent the people home, let them sober up, invited them again a few days later, repeated the same study. But this time, they just--they didn't give them alcohol, they just kept them awake for 28 hours straight. And, again, they performed these experiments during the day, as people got more and more sleep deprived. And this way, they were able to compare how much blood alcohol concentration equates to what kind of level of sleep deprivation. And they found that if you are 18 hours awake straight, you are, or most people, they are performing much worse than people who had a blood/alcohol level concentration of 0.05, which is the legal limit for driving. So, 18 hours awake is equivalent to six hours of sleep a night, and I'm sure here are many people here in the room who sleep six hours or less. So, at the end of the day, you are actually legally not in the condition to drive a car. Now, after 19 hours, already people reached a blood alcohol concentration of 0.1, which means you are quite a bit drunk actually. And I really liked this study because it shows us how significant the effects of sleep deprivation can be. We always talk about alcohol, and we are very aware of this, but we don't really think about the effects that sleep can have on us. We have these signs outside, Don't Trust Your Tired Self On The Streets, but it's not really--we're not really consciously aware of this. Now, what this study implies, though, is that we should be performing really well in the morning after we got up, after we slept, and then as the day drags on, our performance should go down. But that's obviously not the case; that can't be the whole story. Right? Because, some people jump out of bed at four o'clock in the morning and they're totally fresh. And by the way, I hate them. And some people can easily sleep until two pm and are totally useless before 11 am in the morning. So, there must be another factor that affects our daily performance in addition to this accumulation of sleep debt. And this additional mechanism is internal body clock that the researchers found and for which they got the Nobel Prize. And it's a rather complicated physiological mechanism. What it does, it regulates a lot of our bodily functions. So, for example, our body temperature that fluctuates during the day, melatonin secretion that fluctuates during the day. So, this body clock regulates many of our bodily functions and these fluctuations are called circadian rhythm. That is our circadian rhythm that goes up and down during the day. And typically, at our circadian peak during the day we are at our best, we are full of energy, mentally and physically. And when the circadian rhythm is at its low, then we are typically sleepy and tired. So, it determines when we are full of energy and when we are tired during the day. And, all these--the circadian rhythms are all very similar, but they are time shifted. For some, the circadian rhythm kicks off earlier during the day and settles down earlier in the afternoon. For some people, this all is shifted towards the evening. And while all these rhythms go up and down, they all have a peak. And wherever this peak is defines what your chronotype is. So, people typically talk about morningness and eveningness, but this is a simplification. People's peaks occur at every--at all times of day. It can be at 10, 10:30, 11, 11:30. It's more like a continuous thing. However, there are extreme cases, obviously, that they say that an extreme morning person and an extreme evening person could share a bed and would never see each other because they have so extremely different rhythms. Now, where does your chronotype--we all have a chronotype, obviously, and it defines when you are at your best during the day. Where does it come from? It is, to a large extent, genetically determined. You inherit it from your--it was handed down to you from your parents and grandparents. There are significant age differences. So, children tend to be, unfortunately, as we all know, morning people. Teenagers, however, then go the whole other way and they become extreme evening people. We always call them lazy because they don't get up until two o'clock on weekends, but it is really their nature. And then, from the age of 20 onwards, the chronotype really comes out. Then, we have all kinds of different chronotypes. People are across the whole range of possible chronotypes up until the age of 50 when we are becoming very similar again. At 50 onwards, we tend to become morning people again. Either because we have to go to the toilet in the morning or everything hurts, but it's also our nature, from the age of 50 onwards, we're becoming more and more morning people. These differences most likely exist for evolutionary reasons. It involves evolutionary beneficial for survival of groups of humans. So, think of prehistoric times. Groups of gatherers and hunters living together in a little village. Some people got up really early in the morning. Some people got up later, but also stayed up later. That meant there was always somebody who was awake at watch who was able to protect the group from all kinds of threats, predators, natural disasters, whatever. So, it was beneficial for the group. And, that's probably also why we don't see much variety among children, because children are not able to protect a group, so there is no point to them having different chronotypes. The same for old people. Old people are also not in the best condition to defend the group, so it's really people who are at their peak who are having these different chronotypes so that they actually can share the watch. And I'll apply this evolutionary principle later to the workplace and show that this is--this can be equally beneficial in the workplace. There are lots of interesting studies about this. There is one study that showed that if you are a morning person, you're more likely to die in the morning and if you're an evening person, you're more likely to die in the evening. It's a serious academic study. I don't know what to make out of this result, but it just shows that it is something that is very important and affects us in many ways.

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>> It is an evolutionary principle and with many revolutionary principles, they used to be useful in prehistoric times. But, if you take them into modern times, they become a liability. And that is, to some extent, also the case for chronotypes and chronotype diversity. Because, in our modern society, there is a strong bias towards morningness and against eveningness. So, we have many different societies there is this saying, the early worm gets--or the early bird gets the worm. It exists in many different cultures and it's this general idea that if you get up early, you are more productive, you are more efficient, you're more diligent. That, again, probably comes from times before we had electricity when people were only able to work during daylight. So, people lift and lie with a sun, sunrise and sunset, so if you slept in beyond sunrise, you wasted a few hours of day that you were able to use to work on the field or hunt. And then in the evening, when the sun set, there was not much you were able to do, so living in line with the light/dark cycle was very beneficial back then. But in these days, obviously, that's not the case anymore. But still, we have a strong bias towards morningness. School exams are typically in the morning or in the first half of the day. University exams, such a big thing, the first half of the day. Job interviews are more likely to be in the first half of the day. Many, many important meetings are in the morning. And that means that morning people always have an advantage, because they are tested at times when they are at their best, while evening people are tested at times when they are actually not at their best. Which means that, in general, the performance of evening people is underestimated because they are tested at a time that's not beneficial for them. Now, as a result of this, evening people suffer from what's called a social jet lag. So, jet lag is--the jet lag from travelling is nothing else but your--it's your circadian rhythm lagging behind, trying to adjust to the new environment. So the circadian rhythm is entrained with the light/dark cycle and a couple of other environmental cues. So, when you go overseas, your circadian rhythm needs some days to adjust to the new environment and that is a jet lag. So, evening people feel like--evening people often feels like permanently living in a different time zone. Right? So, they have to get up early, that's why it's called social jet lag, for social reasons, for work or because they have children, but they can't easily fall asleep early in the evening. Evening people can't just go to bed at ten o'clock and fall asleep. And then, I know many people here in the room tried this. Knowing there's an important meeting early in the morning, or there's a flight you've got to catch, and you want to go to bed early to be rested and all you do is just lie in bed. You can't fall asleep. You try not to think of things, but the thoughts are creeping in again. And it's just your nature. There's really nothing you can do about it, unfortunately, so you can just as well stay up for two hours and do something that you enjoy, than staying in bed and being totally frustrated and still don't get much more sleep. So, but as a result of this, evening people are essentially permanently sleep deprived. They get less sleep then that they need. And that means evening people are more likely to have depressions. Evening people are more likely to have addictions: alcohol, cigarettes, drugs, over-eating. So, there are a lot of negative traits associated with eveningness to a large extent because we are--these people are sleep deprived permanently. But, there are also positive traits. So, for example, evening people tend to be more creative than morning people, on average. Now, that's all stuff that's relatively long known. That's not really new. In medicine and biology that's all stuff they all know this for a long time. But, as I said, there's very little research that actually used it in the workplace. Tried to what--to understand what it means in the workplace. And there are few studies and I want to talk about four. So, there's quite a bit of research on shift work. So, nurses working nightshifts. How negatively this affects their health, their mental health, their physical health. If you only work night shifts, that's still better than if you have rotating shifts. When you work both night and day shifts during the week, that's the worst because you are completely screwing up your internal rhythm and your body is completely--is permanently struggling at finding a balance. So there's a lot of research showing that shift work is bad for people. But, also research showing that evening people are more likely to select themselves into jobs that are later during the day. Then there's a lot of research that shows that sleep deprivation, in particular, affects the brain region that is involved in self-regulation. And self-regulation is that ability to be a nice guy. Right? Not to say what you think to people; try to behave. And when people are getting sleep deprived, their self-regulation goes down. And there's research that shows that supervisors are more likely to engage in what is called abusive supervision when they are sleep deprived. And abusive supervision is what it sounds like. It's when your boss is a jerk, right, so he may actually always think you are doing a bad job, but he, typically, is able to kind of suppress that desire to tell you. But when he's sleep deprived, he's more likely to tell you and he's more likely to be grumpy and to snap at you. That's not only the case, obviously, for supervisors, it's also for team workers or people working with colleagues. We are less likely to behave socially appropriate in work settings when we are sleep deprived. There is research that has shown that, on the national level in the U.S., that the day after they move to daylight saving, workplace injuries increase dramatically the next day because people lost one hour of sleep. So, the hand/eye coordination suffered, attention span, reaction time, so people were more likely to get injured at work. And the best study, actually, is one that looked at what happens when your boss is a morning person and you are an evening person. And they found that when your boss is a morning person and you are an evening person, you get worse evaluation than your colleague who's also a morning person but may actually perform worse than you. And the reason is that your boss goes to work, probably shows up there at 7:30, you walk in at 8:30, he just thinks, okay, we've been working here already for an hour and that person just comes in now and so he's going to work an hour less. He doesn't see that you also stay three hours longer in the evening. By then, he's already gone home. But also, in his whole mindset, he feels that because he is very productive in the morning, he just assumes that's the case for everybody, so he just feels you're wasting time, you're not working, and you're not being productive at the best time of the day. Now, on the other hand, when your boss is an evening person, not surprisingly, you're not getting worse evaluations when you are an evening person, because an evening person boss can relate to your experience and can understand that some people are more productive later during the day. Now, that same evening boss, however, also doesn't give bad evaluations to the morning person colleague that you have, because even that evening person boss has this deeply entrained stereotype that somebody who shows up early in the morning, he must be productive, he is diligent, he is effective. So there is a tendency in the workplace and in society in general that people--that morning people discriminate against evening people, but evening people are not discriminating against morning people. Now, in our own research, we looked at chronotype diversity. So, this evolutionary principle that was beneficial for survival. And the question was, when is chronotype diversity good or bad? Is is good when people have different chronotypes or is it bad? And we found it really depends on the task that people are performing. So, if they're performing a task that requires high levels of coordination, where they have to work simultaneously together, that everybody relies on the other person and where one mistake of one team member can have significant consequences. In those cases, you want to have people who have similar chronotypes and who work at a time when they are at their best, because this is the second factor. There's nothing worse than having a group of evening people working in the morning. Then everybody is really bad. Right? So, think of a surgical team, for example. Two surgeons, a nurse. It would be every single mistake made by any of them can have dramatic consequences for the patient. Many surgeries can't be scheduled, but many surgeries can. And it makes sense to think about when you schedule the surgery and what people you are actually using in the surgical team when you're doing in operation in the morning or in the evening. Orchestras is another example. Sports teams, fire fighters, military combat teams. These are all kind of teams that need to work together, have to rely on each other, and where it's important that everybody is at their best simultaneously. However, there are also other tasks--and these are so called sustained attention tasks--that go on for a very long time and they are quite monotonous actually and nothing happens. But then one thing happens and it's very important that somebody picks up on it and does something about it. Otherwise, it ends up in a catastrophe. So, think about a flight from Sydney to Dubai, 15 hours. You have two or three pilots. For most of the time, nothing happens. But, if something happens, they got to do something immediately. If you had people with similar chronotypes, they're all peaking during the first five hours of the flight and are pretty much asleep the remaining ten hours, that wouldn't be ideal. So, you would rather have people who have distributed peaks during the flight. Police surveillance, nursing, nuclear power plant operations, these are all examples of tasks where it is beneficial to have people with different chronotypes. Now, I only have half and hour, so I have to slowly come to an end, I think. But, coming back to the important question of the evening: how can you convince your boss that you deserve to sleep in? And I think this requires a bit of work of all of--from all of us to spread the word, to spread the message, to convince key decision makers and key thought leaders that it is beneficial to let people align their natural rhythms with their work rhythms. And that's a bit of a challenge and that's why we do all this. Why we do all this media work and these talks, to spread the message. Because leaders, in particular, the big industry leaders, are still preaching you should sleep less, you should work more, you should work harder if you want to be successful, if you want to be rich. So, Donald Trump, for example, says you shouldn't sleep much longer than is absolutely necessary. And he claims he himself sleeps four hours a night, which essentially means he is pretty much drunk all the time. So, that probably also explains why he is so grumpy all the time. So, that is definitely not the way to go. Cutting down on sleep, a lot of research shows that this is not the way to go. Letting people working flexibly, it is not always possible, obviously. Many jobs it's not. But, if it's possible, it is beneficial. It is much better to let people live in line with their nature than trying to force them to fight their nature on a daily basis. If you are forcing an evening person to show up at work at seven o'clock in the morning, all you have is a grumpy employee that sits there and drinks coffee, procrastinating until nine o'clock because he simply can't focus. But then again, you sent him home at four o'clock when they're actually getting towards their best. So that is waste of potential during the day. Letting them work in line with their rhythms is good for the employee. It's good for their health, their mental health, their physical health. It's good for the company, for their performance. And there are quite a few things that companies could learn from this, not just the fact that you should allow people to work flexible as much as possible, but also how you select people for certain roles. Companies do all kinds of psychological testing. It's very easy to test for chronotype. There are questionnaires that really precisely predict somebody's chronotype. I don't know any company that actually does that. That looks at people's chronotypes when they recruit for certain jobs. If you recruit somebody for the morning show on the radio, if you recruit somebody for a night shift at a gas station, it makes a lot of sense to look at people's chronotypes and see if they are actually naturally kind of in the position to do this long-term. And also, when you compose teams, as I said before, like for certain teams for certain tasks, you want to have people with different chronotypes and for certain tasks you want to have people that are different chronotypes. As I said, a surgical team, wherever you can plan it, you should take this into consideration. So, that's pretty much it from my side. And I hope I stayed within the time limit.

[ Applause ]

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