

# Sleep Handbook

Your guide for better sleep, more restful nights and higher work productivity



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# Are you sleeping enough?

... no, really!



**Did you know we humans spend about 1 third of our lives sleeping?**

Sleep, alongside food, water and air, is a biological necessity for our existence. Sleeping can profoundly affect all areas of our lives, from our physical health to our mental health, work productivity, learning, relationships and overall quality of life.

Good sleep is essential for our lives. When we are well rested, we feel more energized, our minds more focused, we perform and learn better, we tend to have more positive emotions and social interactions, our bodies tend to be stronger and free from diseases. Besides, we are drawn to make healthier options throughout the day about our eating and exercise habits.



Research shows that every species sleep. This deep rest is essential to keep us awake and alive to experience everything in life. Sleep is a natural part of existence. There are no organs in our bodies or processes in our brains that doesn't perform better with good sleep or suffer the consequences of sleep deprivation.

The natural inclination we feel to fall asleep can be influenced by a number of factors. Primarily because, biologically, each human being has an internal clock deep seated in our brains. This clock works in rhythms within about a 24-hour period and signals our bodies to feel either tired or awake at regular times of the day.

The interesting thing is that this internal clock doesn't necessarily works exactly with the rise and fall of the sun and moon - although it is influenced. That is the reason why some people just cannot sleep early in the evening and some wake up with dawn. Some people are "night owls", others "early larks" and others everything in between.



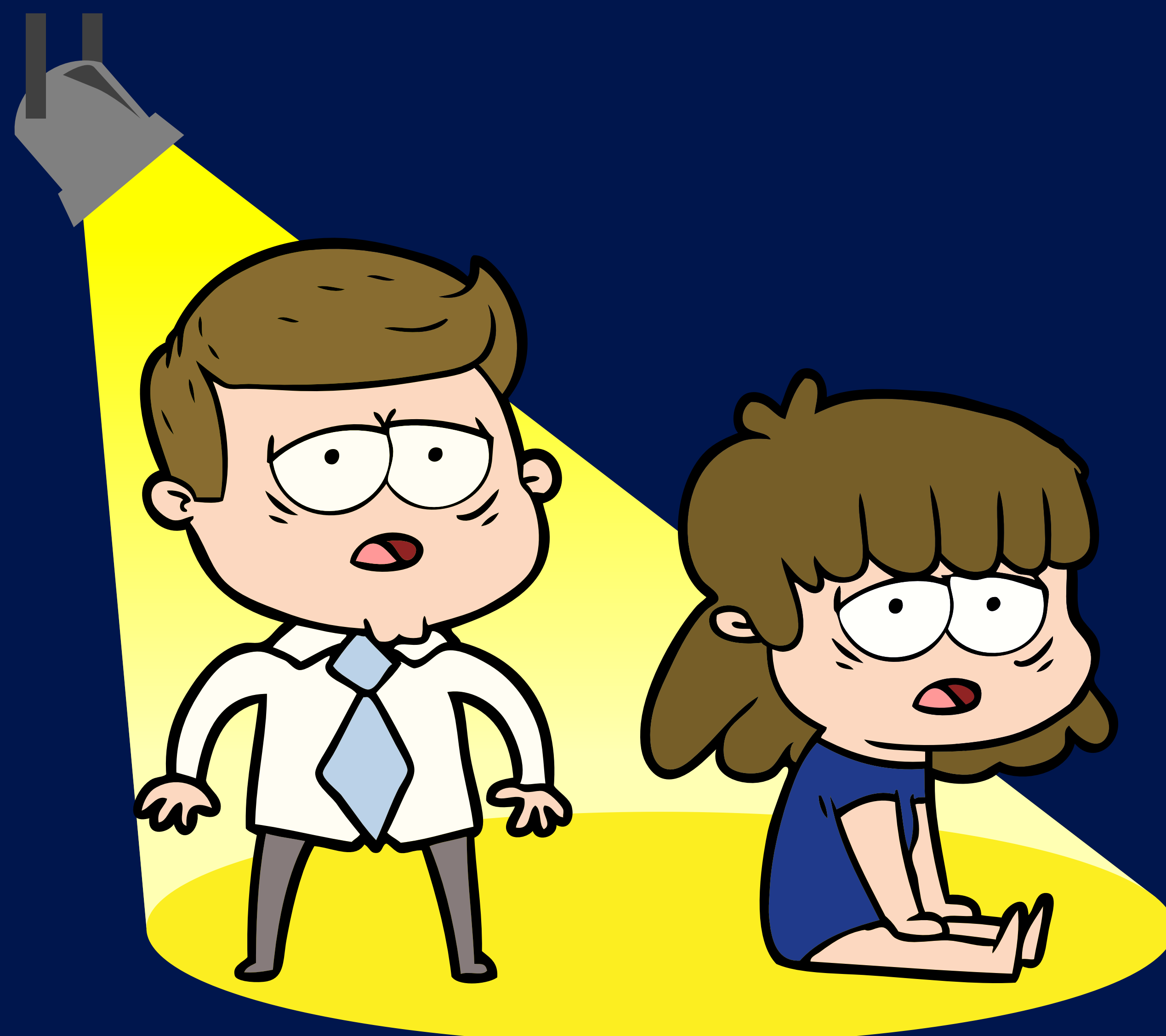
But we are still naturally made to wake up close to sun rise and sleep with the moon. Both sunlight and artificial light make us alert and awake, while darkness and the cool of the night promotes sleepiness and rest.

It is the misuse of artificial light, the increase in work demands from society and many other underling reasons that our natural sleep and wake cycles has been disrupted.

## Sleep Deprivation

We are deprived of sleep when we fail to achieve enough quantity and/or quality of sleep.

As we turn on the lights in the evening, work for longer hours, ignore our internal signals of tiredness and fatigue, cannot deal with our stress, decide to rest just a few minutes before bedtime or are exposed to noise, our sleep is obviously affected.



As we are unable to properly rest, a variety of problems starts happening:

- Being overly tired and sleepy
- Low attention and concentration span
- Reduced overall motivation
- Lower performance
- Difficulty remembering and learning
- Struggle dealing with our own emotions and others'
- Risk of cardiovascular diseases, diabetes and obesity
- Depression
- Increased risk for accidents
- Lower quality of life
- Shorter life span

... uuff, that is a lot!



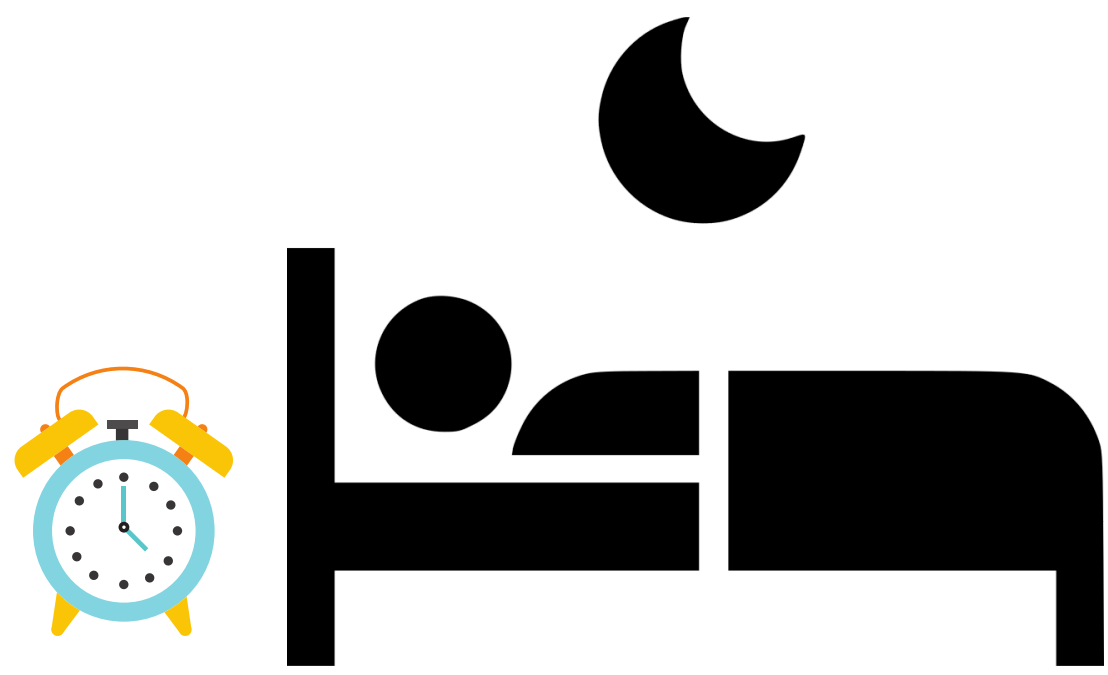
**The bad news is:** Sleep deprivation is a world - wide problem, affecting every country, race, gender, age and social economical status.

In Finland, research shows that 70% of Finnish people actually sleep "Fairly well", however, there is still a large amount of people sleeping poorly and foreigners/immigrants are not included in these studies.

**The good news is:** We can absolutely start improving our sleep quality, TONIGHT!

# "Ok so, how much sleep do I need?"

## Sleep duration recommendations



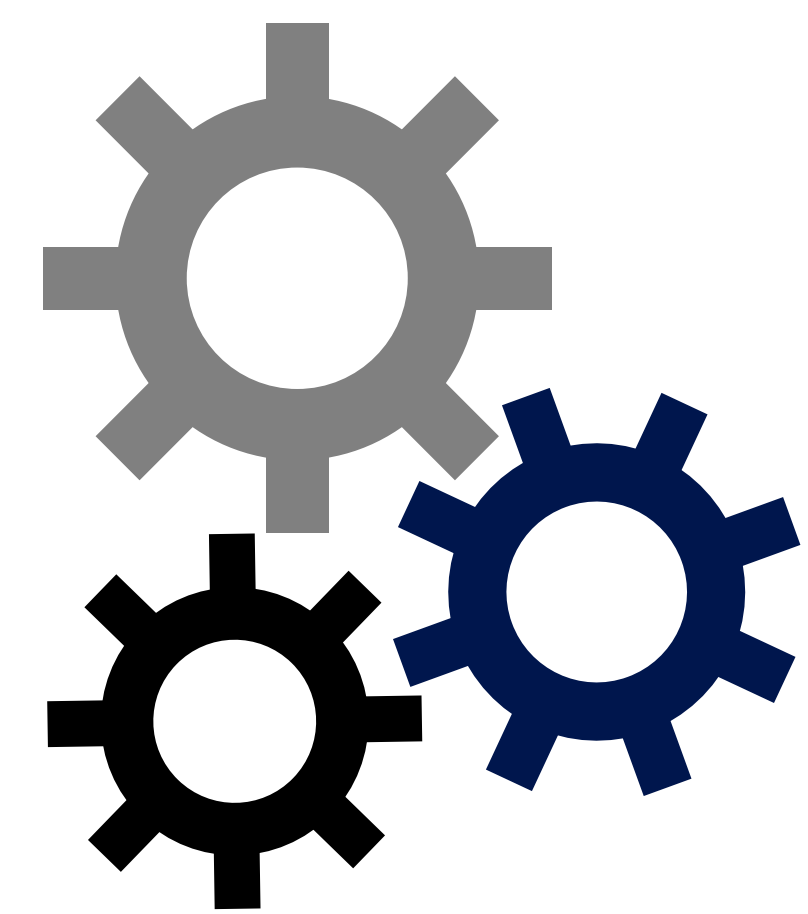
Unfortunately, there isn't a "magical number" for optimal sleep hours that works for every single person. Research tells that everyone's sleep quantity may differ; also age, sleep quality, timing, structure, daily variability and continuity play a big role for how much sleep each person needs. So, it is up to you to experiment how much sleep you need at this moment in time.

However, several studies show a higher risk for all cause diseases with short and long sleep times. Short sleep being 6 hours or less and long, 9 hour or more.

**Different researches recommend different sleep duration, but there is a general consensus that 7 to 9 hours of sleep is beneficial for the majority of population**

Also, there has been a higher demand for sleep time and quality over the past century. More than ever there is an increase for more time spent in education and in the amount of cognitively demanding jobs, making the importance of learning, memory and intelligence, higher. So, it is good to know for making sure our sleep time is in this higher end.

# Sleep and work Productivity

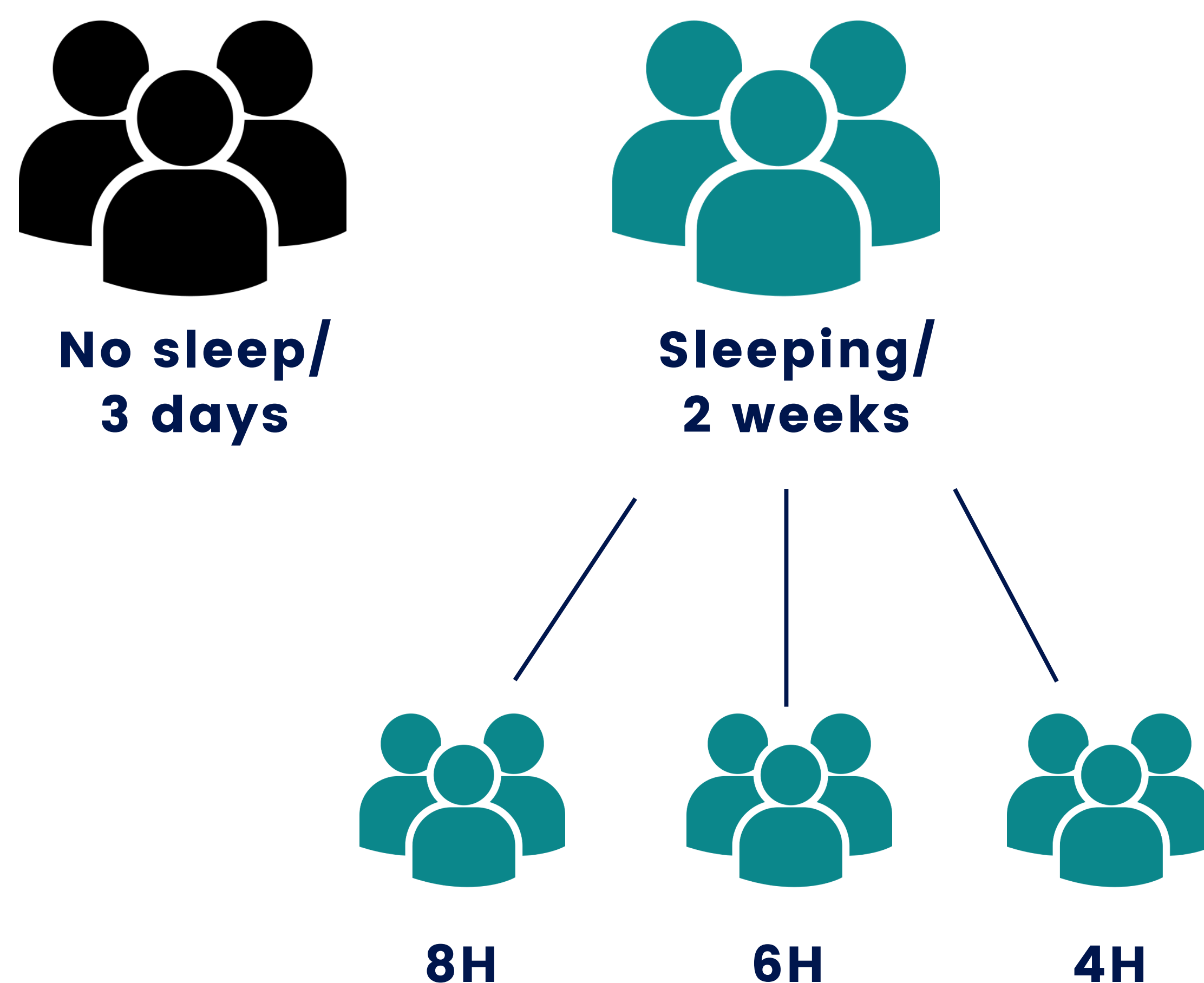


Besides all the positive benefits of sleep already mentioned, sleep can help with work performance and productivity in a number of ways. Such as

- Protecting the body from physical and psychological stress
- Improving decision making, cognition and creative thinking
- Higher levels of reading, writing and speaking intelligence
- Better mathematical development
- Higher and more accurate emotional intelligence/empathy
- Shorter reaction time for simple and repetitive tasks
- Better physical performance and development of coordination tasks
- Lower signs of irritability or fatigue and increase in positive emotions to neutral circumstances



In one study testing the relationship between sleep and work performance, there were 2 groups of people, one which was allowed to sleep for 2 weeks and another which was completely sleep deprived for 3 entire nights. The sleeping group were divided in 3 subgroups where each night they would sleep for 8, 6 and 4 hours.



After 2 weeks, the 6h and 4h groups had an accumulation of problems related to work performance equivalent to those who were sleep deprived for 1 to 2 nights. This shows how the long-term restriction of daily sleep for only a few hours (2 hours) can have serious, and equally important, negative impacts.

An interesting fact is that these groups were very unaware of their performance problems during the tests, a big sign that we might not realize we are performing poorly until we increase the quality and quantity of our sleep.

The 8h group had normal growing levels of learning and work performance.

# Testing sleep quality at Freska

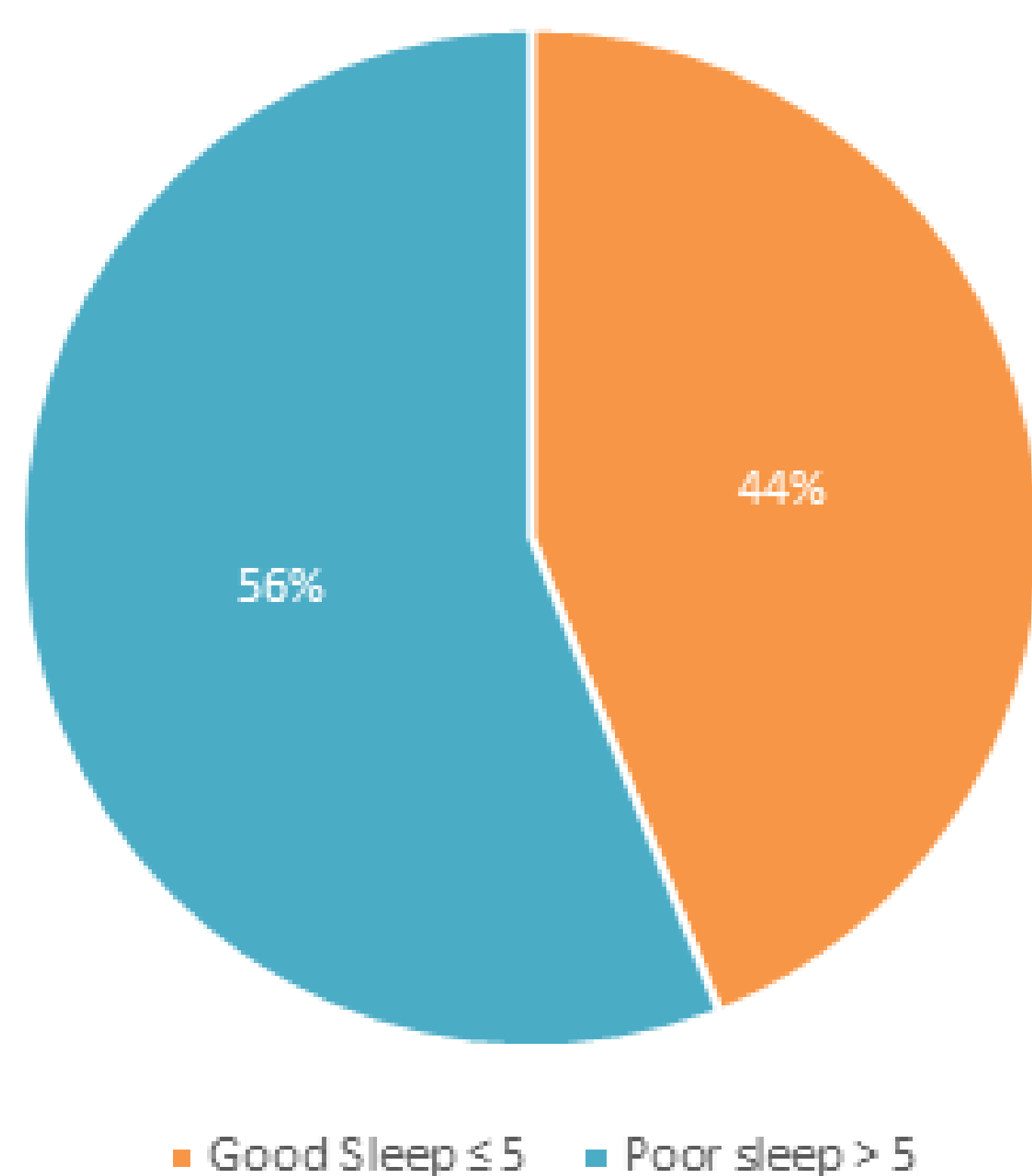
As many of you know, there has been a survey given to all Freska's workers (from cleaners to office workers, managers, CEOs, etc.) to test our sleep quality.

In total we got 79 correctly filled out surveys. Even though it is just a part of all workers at Freska, we can still already have an idea about the quality of our sleep and if we are going to the right direction.

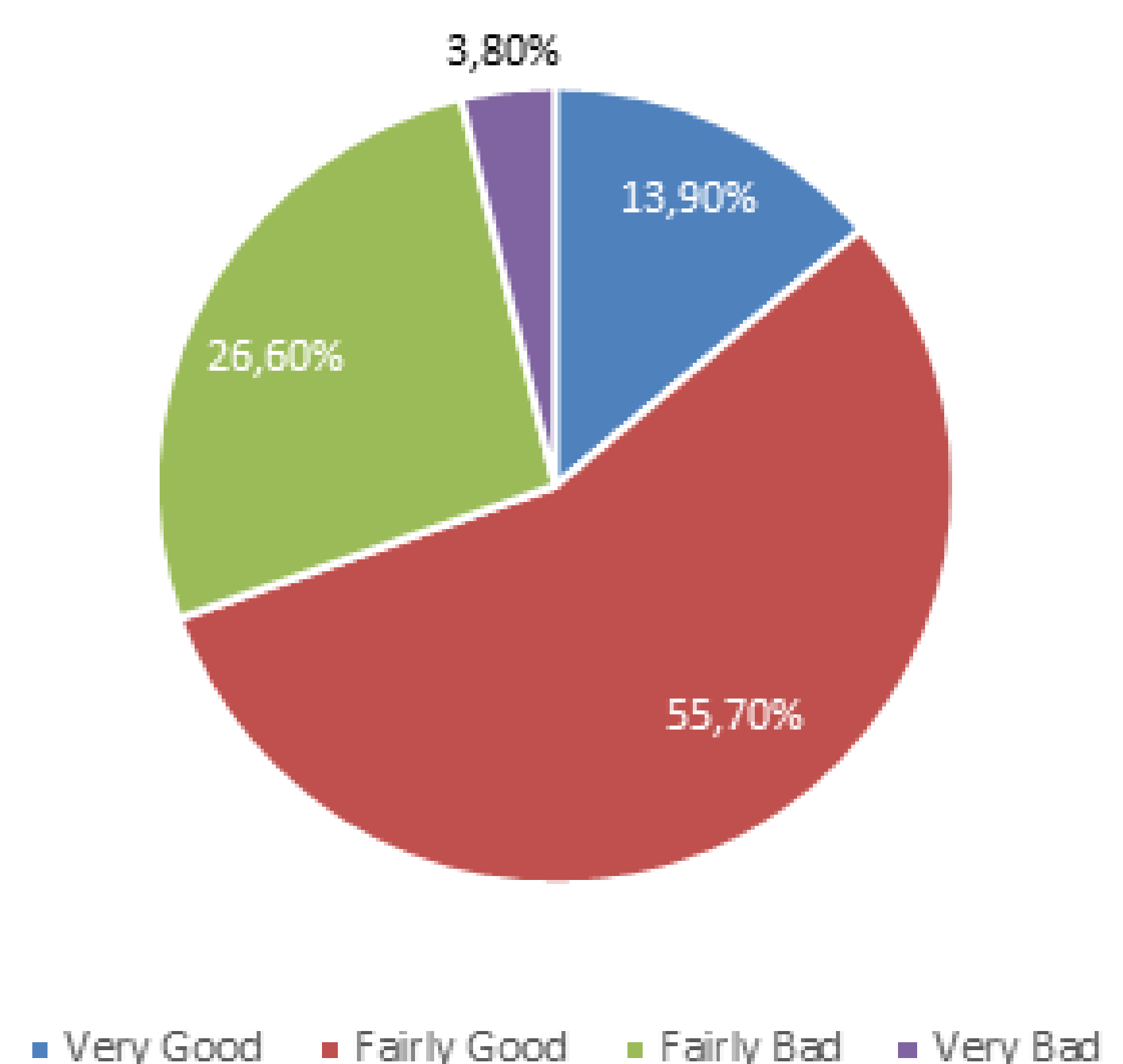
The scoring of the survey is from 0 to 21, the lower the number the better sleep quality, the higher the number, the worse. People scoring equal or less than 5 have "good sleep" and anyone getting above 5 is considered having poor sleep.

## Results

Sleep quality Scores

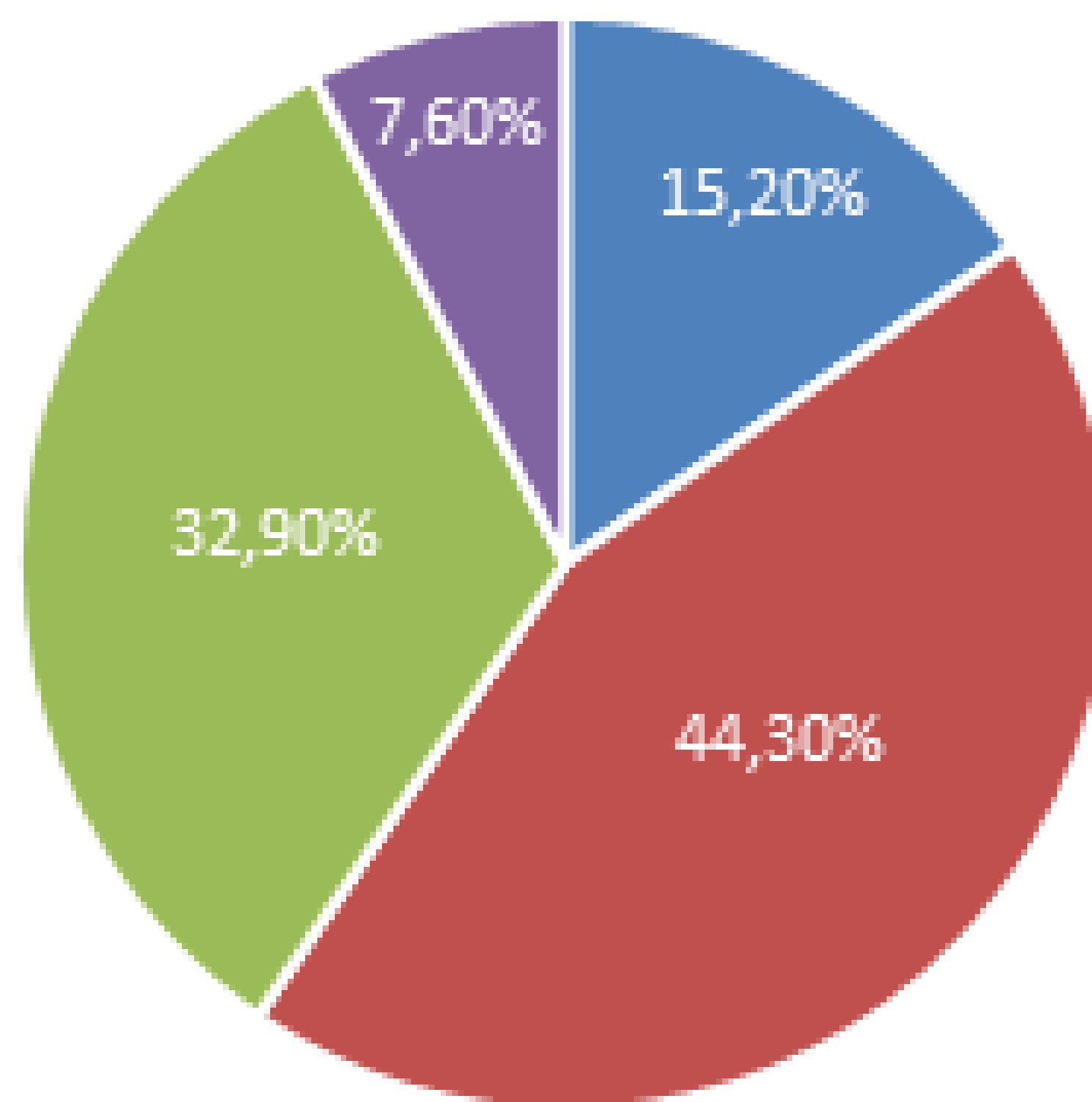


How would you rate your sleep quality?



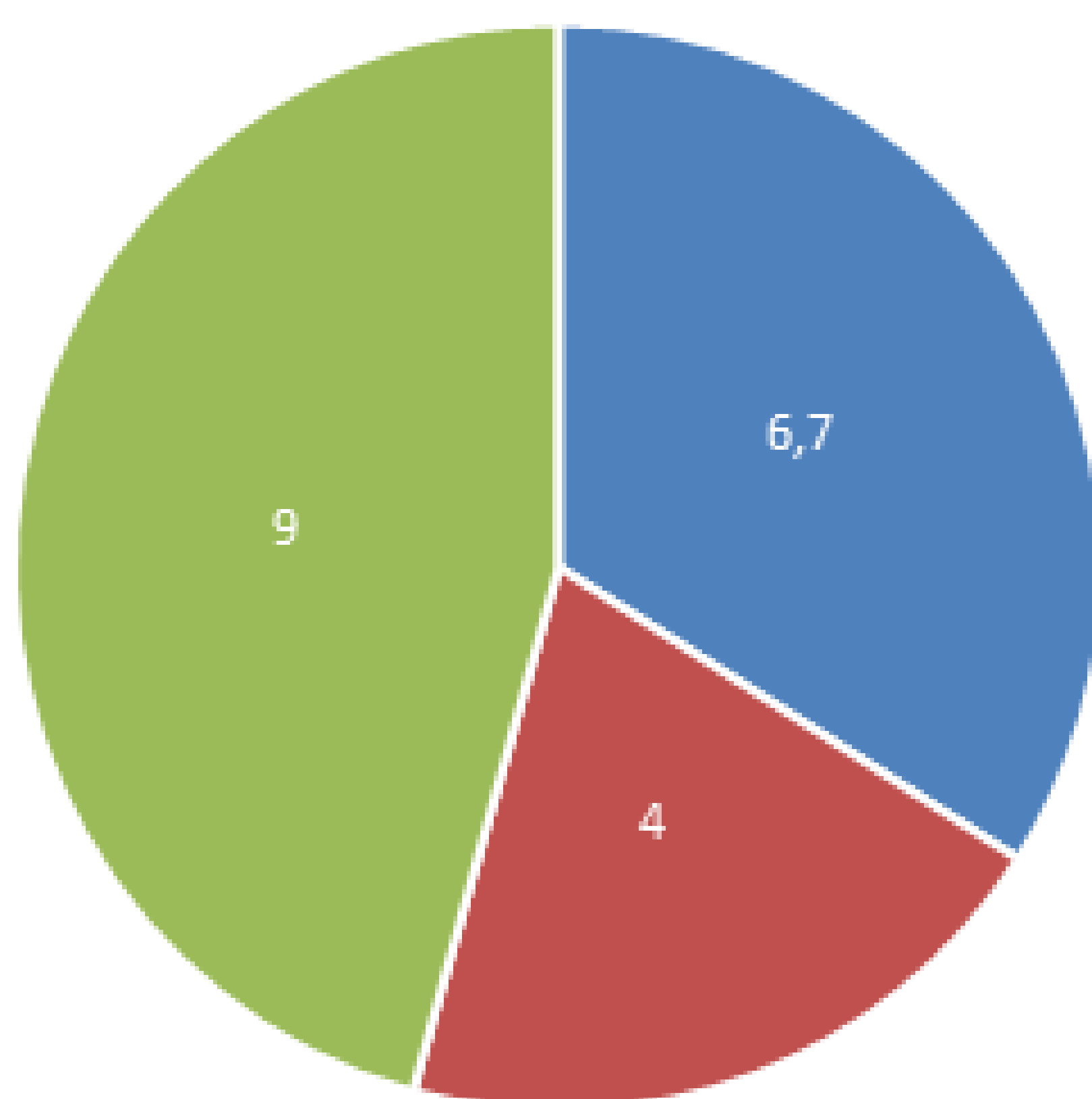
A total 69,6% of people rated their sleep quality to be "Fairly Good" and "Very Good", even though according to the scores, actually 44% are getting good sleep while, unfortunately, 56% currently have poor sleep. The best scoring number was 1 and the worst, 15.

During the past month, how much of a problem has it been for you to keep up enough enthusiasm to get things done?



■ No problem at all ■ Only a very slight problem ■ Somewhat of a problem ■ A very big problem

### Hours of Sleep Per Night



■ Average ■ Minimum ■ Maximum

In average we are sleeping for 6,7 hours per night, with the maximum recorded time of 9 hours and the lowest, an alarming 4 hours. Again, the recommended time is from 7 to 9 hours.

Although the results are not promising, there are many sleeping strategies that everyone can experiment with in order to improve our sleep quality and impact our work performance.

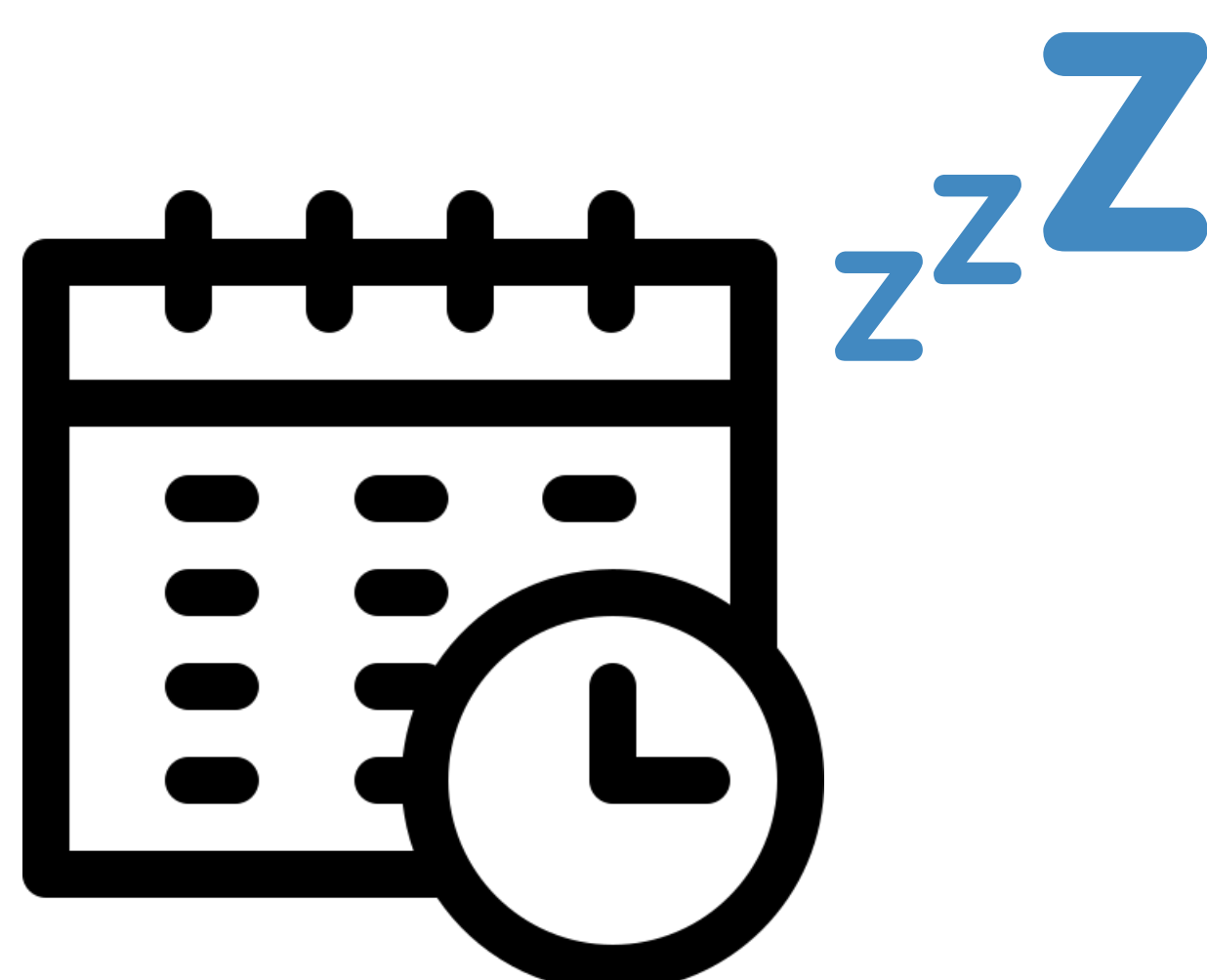
# Strategies for better sleep

For any research-based strategy you are about to read, take in consideration that our perception of our performance can be biased and blur us from what is actually happening. So, as best as you can, look at your work productivity, energy levels, health and sleep quality as objectively as possible.

## Regular Schedule

Besides sleeping from 7 to 9 hours and experimenting if, currently, you are better at this lower or upper range, one of the best things we can do is set a sleeping schedule that we can follow in a day to day basis as best as possible.

Research shows that irregular sleep/wake patterns are associated with poorer academic performance and productivity. People who have irregular sleep cycles tend to need more sleep per night, experience more daytime sleepiness and obtain more daytime naps to compensate for the lack of night-time sleep quality.



# Sleep Timing

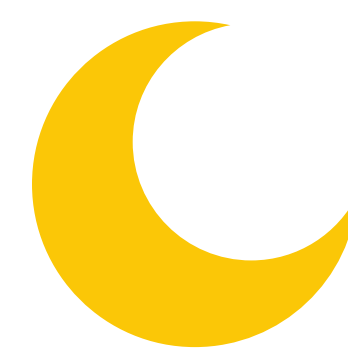
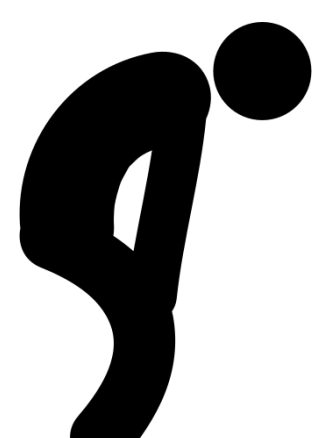
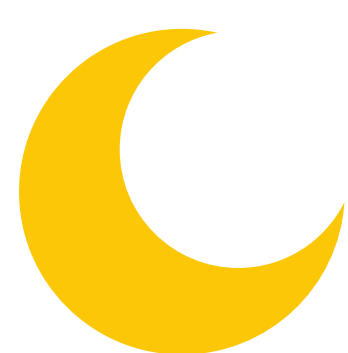
Because we humans have internal biological clocks that are influenced by external light and darkness, we are naturally wired to wake up in the morning and sleep in the night, however, what time during the night is best for one to sleep?

When it comes to bedtime, there's a window of several hours – roughly between 8 PM and 12 AM – during which our brains and bodies have the opportunity to get all the light and deep sleep we need to function optimally. Now, within this window of time, genetics plays a role on how early or how late one goes to bed (Are you a lark or an owl?).

A good rule of thumb is, if the feeling of sleepiness is not yet built up at the early night, forcing yourself to sleep then may be counterproductive and not beneficial; self-experimentation with different routines is key here.

You can quick start your exploration through a questionnaire that helps you find (approximately) what time would be best for you to sleep based on your biological clock:

**"The Power of When" quiz, at**  
[thepowerofwhenquiz.com](http://thepowerofwhenquiz.com)



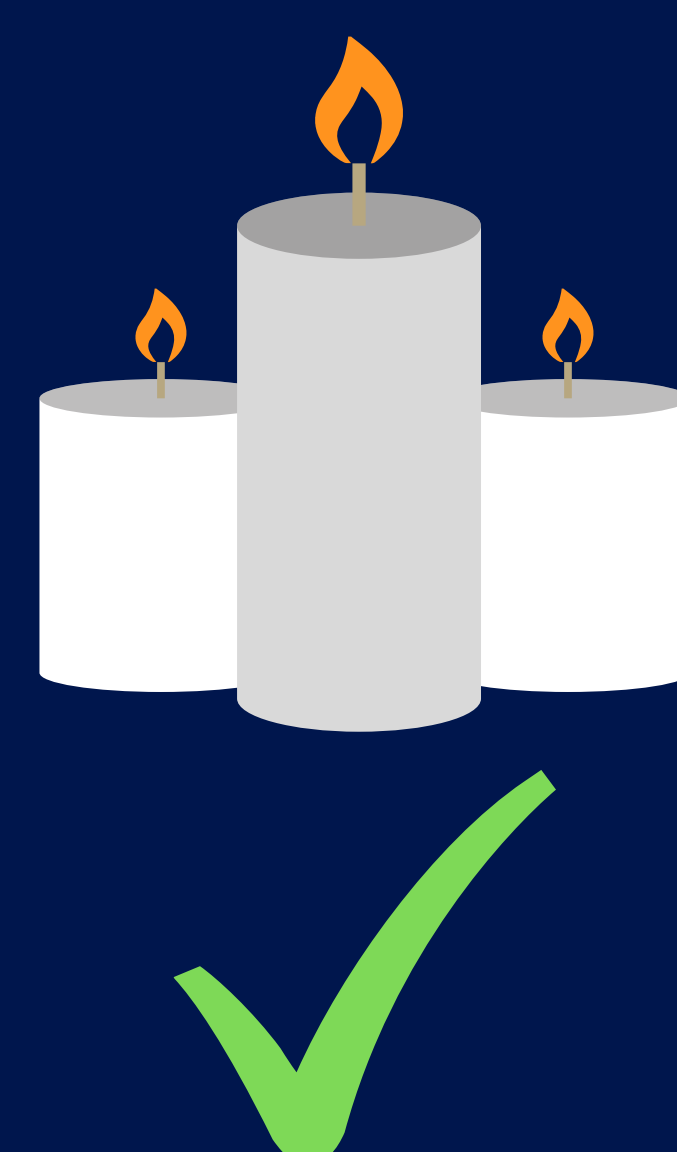
# Artificial Light

Blue light, which is emitted from most tech devices (phones, TVs, iPad, monitors, etc.), as well as sunlight help stimulate attention, high moods and reaction time, making it beneficial to us during daytime. However, during the night, blue light is considered part of the reason why so many people don't have good quality sleep, since it affects our biological clocks, brain wave patterns, hormone production and can contribute to poorer and irregular sleep.

It is advised to avoid blue light exposure between 2 to 3 hours before bedtime, or as long as possible. If one must be exposed to such light, it is then recommended the use of blue light blocking glasses or screen light filtering software.

**Try the software "F.lux" and/or "Iris" on your computers and iPad**

At night, dim red lights or candles can be used, because they do not negatively impact our sleep as other lights, some studies show they can even be beneficial for better sleep quality.



# Bedtime Routine

Create a little relaxing routine before bedtime to give the body and mind its required time, space and need to unwind before sleep. When we create just a few habits, such as brushing our teeth, turning on the candles, reading, stretching, journaling, bathing and putting our pajamas before bedtime, we slowly are letting our bodies and minds know we are about to sleep. After some time, as soon as we begin our routine for the night, we already start feeling sleepy.

## Sleep Environment

Where one sleeps can strongly affect their sleep quality.

“Sleep disturbance is frequently considered the most serious consequence of environmental noise”  
- World Health Organization.

Making sure to have low exposure to outside noise and managing inside noise (such as sleeping with a snoring partner) as best as possible, can highly improve one's sleep.

Another aspect is darkness, sleeping in a completely dark room by using blackout curtains, turning off devices' lights and the use of a sleeping mask can also help achieve good sleep.

Lastly, room temperature.

Research shows, there is not a "right" room temperature for high quality sleep, for it depends on people's needs and preferences.

However, rooms above 23° Celsius and below 12° degrees can negatively impact sleep. A slightly cooler room may be more beneficial, since it mimics the lower temperature drop our bodies naturally experiences during sleep.



In a nutshell: keep it silent, keep it dark, keep it cool!

## Naps

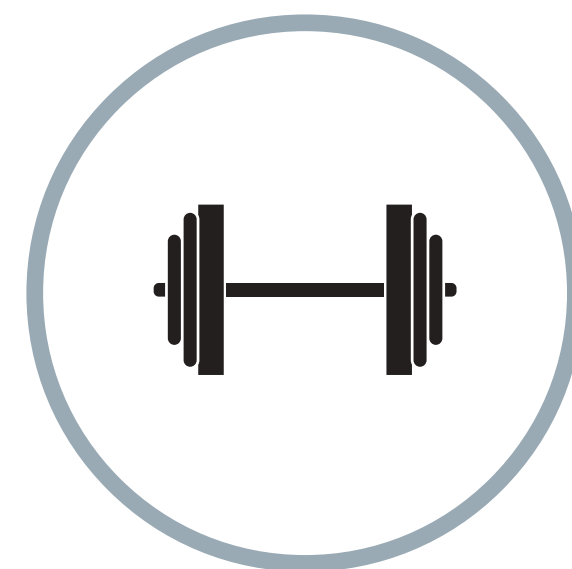
Napping can be very effective for decreasing sleepiness, improving alertness, mood and cognitive performance, especially under sleep deprivation, night shift work and long driving times.

Naps has its benefits, however, long naps or naps taken too late in the day can negatively impact sleep length and quality. Also, for people who already have difficult time falling/staying asleep at night or with sleep disorders, naps can decrease the quality of sleep. Naps are not a substitute to poor sleep at night.



The studies recommend naps of short duration (10–20 minutes). For naps longer than 30 minutes, even more benefits can be experienced, however, feeling of grogginess can be also present moments after such long naps. So, if you need to perform well right after a nap, short naps are best.

## Exercise



Physical exercise increases the quality of sleep and the duration of sleep. Exercise can also strengthen sleep in other ways, as it reduces stress, raises tiredness levels and body temperature – a perfect recipe for sleep a few hours later, since temperature will slowly drop and sleepiness increases.

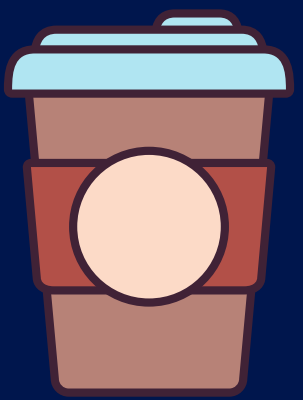
To get the great effects of exercises for your sleep practicing exercises in a regular basis for as little as 10 minutes of aerobic activity seems to be enough as a starting point.

In addition, exercise early in the morning and afternoon may help re-calibrate your sleep wake cycle. It can be particularly helpful to practice exercise outdoors whilst receiving sun lighting.

One downside is evening exercise. Exercising close to bedtime may or may not disturb sleep depending on each individual. So, it is best to stop exercising at least 2 hours before bedtime.

# Nutrition

The research on best nutrition for sleep quality is still not entirely clear and affirmative. What studies show, however, is that diets both very high in carbohydrates, sugars or very high in fats may disturb sleep, as well as heavy meals before bedtime. A more foundational and balanced approach of mixed high quality, non-processed intake of carbohydrates, fats, protein and vegetables are strongly advised and associated with good sleep.



Caffeinated drinks – such as coffee – taken in the evening has the potential of lowering deep sleep by 20% with only 1 cup. This negative impact is also present with people who report no sleep problems whatsoever. By disrupting deep sleep, we wake up unrefreshed, and in order to feel more energized and alert we reach for more caffeine, soon we can be engaged in a frustrating loop of tired but wired.

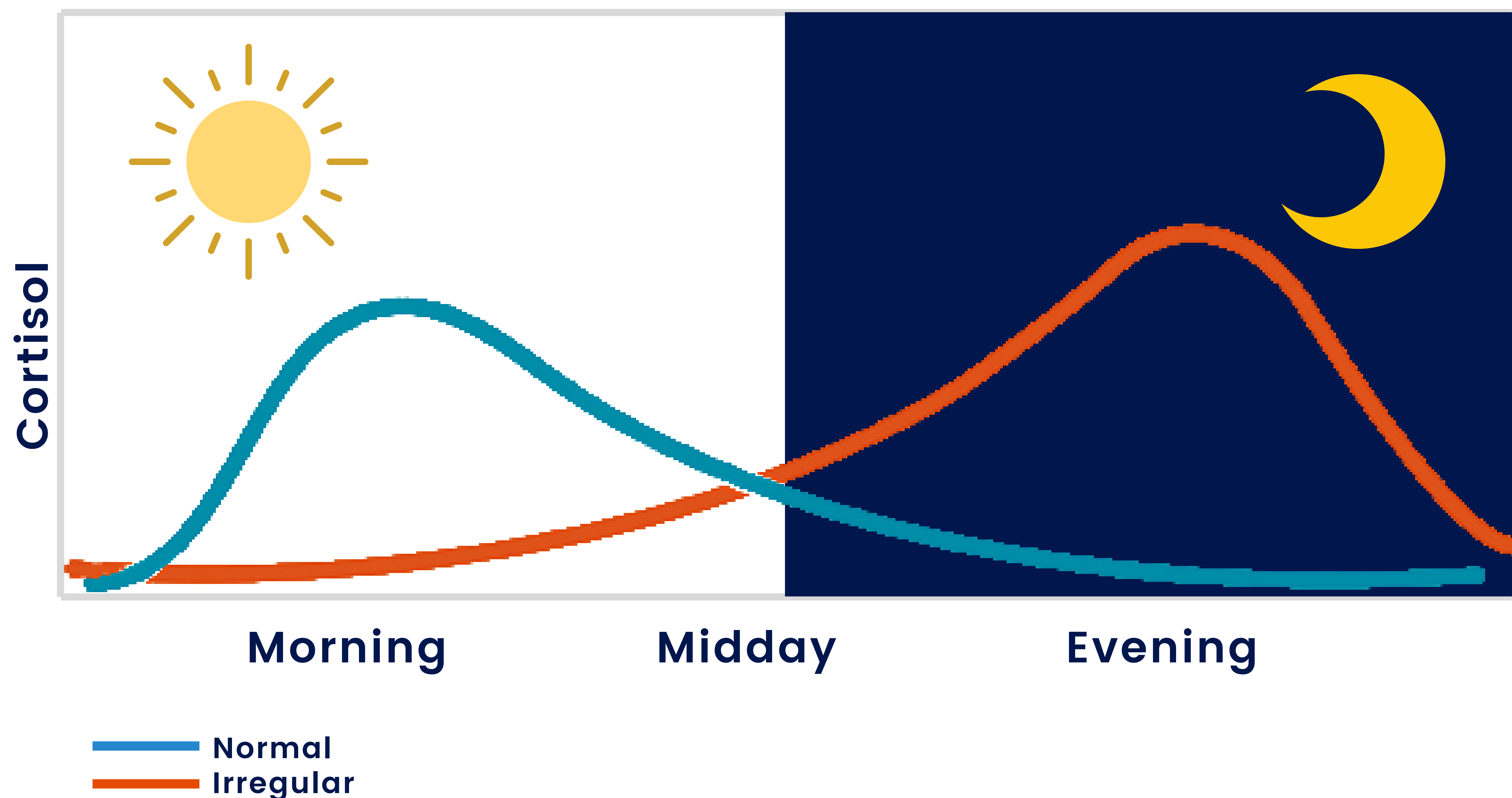
Caffeine is therefore recommended to be used until midday in order to preserve sleep and alertness when waking up



As for alcohol, moderate to high levels of alcohol consumption worse sleep quality over time. Alcohol can seem helpful in sleeping, since it actually helps raise sleepiness in the first half of sleep duration, however, alcohol can disturb with deep sleep on the second half of the night, leading to more awakenings and insomnia.

# Stress

Stress is a natural part of the human experience, during the day, stress related hormones, such as cortisol, is secreted in order to stimulate alertness, focus and action. This is a reason why bright light exposure, exercise and activity during the day can help tremendously in the quality of sleep at night, since after spending so much energy the body naturally craves for rest and recovery.



This chart shows how the levels of cortisol naturally increases during the day and decreases during the night. However, if we continue feeling our stressful thinking throughout the night, our sleep/wake cycles are compromised, increasing awakenings during the night, feeling tired during the day, leading to insomnia and other sleeping problems.

Therefore, it is recommended activities that has the influence in lowering stress levels such as yoga, meditation, exercise, reading or other therapeutic practices, such as Cognitive Behavioral Therapy.

## Take Away

Sleep is an essential piece for our health, vitality, work productivity and social lives. Without it – or with poor quality of it – all we touch is affected negatively by the low energy we have.

This handbook is here to provide you with some clarity over this topic and what you can already start doing in order to improve your sleep.

Be a scientist when experimenting with each strategy, checking for you what works and what doesn't in the long term.

May you sleep like a rock and have sweet dreams!

