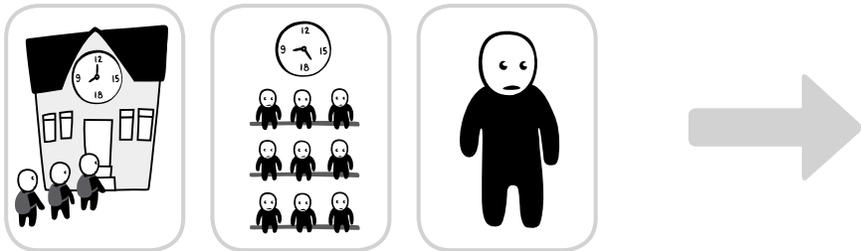


What if you could  
move your life by  
one hour?



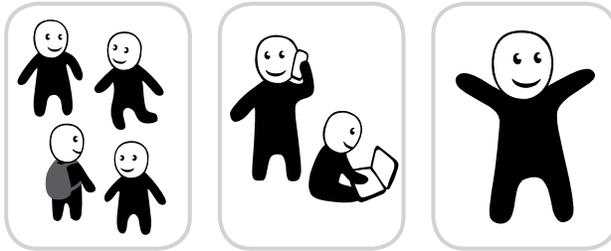
Today's society: 9-5 society

## Our mission starts with a B

The B-Society was founded on the 27th of December 2006 and now has members in 50 countries. We are working for a flexible society, which can support different types of families, different types of work, and different individual circadian rhythms. You can read more about our mission B below.

## B for Biology

Chronobiology is the study of human beings' internal clocks – our circadian rhythms. These daily rhythms are genetically determined and refer to the times of day or night when each human being prefers to be awake or asleep. They also relate to the optimal times during which we can achieve our peak performance. The division of circadian rhythms comprises a variety of chronotypes that include persons with tendencies to be very early chronotypes (A-persons/early risers with earlier peak performance), and spans all the way to include persons who are very late chronotypes (B-persons/late risers with later peak performance). The B-Society is working for a society that can acknowledge and support these different circadian rhythms. In the current structures of society, those chronotypes who rise later and give their best performance later in the day, the *B-persons*, are not supported to achieve their full potential for the collective good of society as a whole, and additionally may suffer a decrease in personal well-being.



*B-society: What if you could move your life by one hour?*

## **B for B-persons**

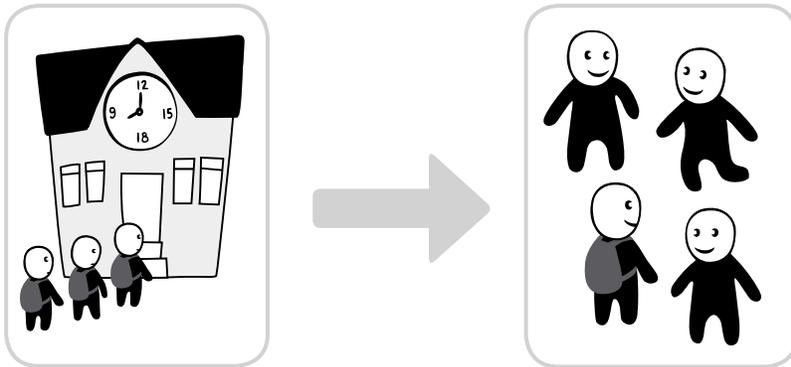
Schools and most workplaces primarily support early risers. For historical reasons, the ruling culture is the morning culture, even though research shows that it numbers fewer individuals. Why does school start at 8 AM, and why is it always necessary to offer an explanation and apology when showing up for work after 9:00 AM? Simply because there is very little social acceptance of B-persons who rise later, offer their peak performance later in the day, and thus prefer to start working a bit later in the morning. The B-Society is working for differentiated hours at school, which can support the different circadian rhythms of the pupils, and we are working for a flexible workplace where a variety of work hours are socially accepted. This implies the need for a cultural shift.

## **B for Buoyancy**

How often have we heard that an innovative idea is impossible to implement? But simple buoyancy can move mountains. Small changes in the everyday life can make a huge difference: imagine if you could move your life by just one hour!

A handwritten signature in black ink, appearing to be 'Camilla Kring'.

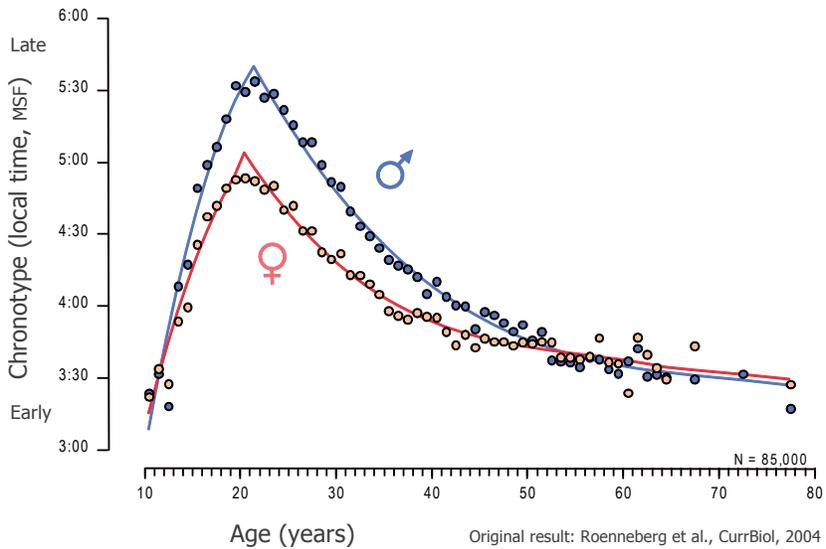
Camilla Kring, PhD  
Founder & Chairperson



## NEW HOURS AT SCHOOL

80 percent of all young people between the age of 10 and 20 are late chronotypes (B-persons), whose peak performance typically occurs in the afternoon or evening hours. Despite this fact, the dictates of historical and cultural habits determine that everyone is required to start school each morning at 8 o'clock. This is all to the detriment of optimal productivity, as well as overall quality of life, both individually and collectively. How long can this go on? Do we really want this to continue?

Our circadian rhythm changes during our lifetime. The graph below illustrates the fact that more men than women are late chronotypes. The inflexible habit of setting very early school hours may therefore be one of the reasons why many young men do not get an education in Denmark and other places in the World.



## Just think if you could move your hours at school by one hour!

A study from the University of Kentucky in Lexington shows that by moving the school hours by only one hour the quota of pupils getting at least 8 hours of sleep every night increased from 37.5 to 50 percent. Moreover, the pupils experienced higher levels of motivation, improved ability to concentrate, and achieved better grades.

A German study carried out by Christoph Randler from the University of Heidelberg has compared students' circadian rhythm with their grades in school. The results are both informative and disconcerting. Late chronotypes achieve lower examination results because exams are often placed before noon. Too many young people therefore obtain results that are lower than their potential level of achievement simply because adolescents are predomi-

nantly late chronotypes. Studies have shown that a majority of students get better grades when participating in exams that take place in the afternoon than when participating in exams given before noon.

A Norwegian study carried out by Bjørn Bjorvatn shows that by beginning class at 9:30 AM on Mondays the students got an hour more sleep on Sunday night, which resulted in better performance and reaction time. Also, a Turkish study carried out by Senol Besoluk shows that the timing of both teaching and examinations has a great impact on students' performance.

There is an unexploited potential in letting teenagers get enough sleep in accordance with the biological needs of their natural circadian rhythm.

### **Flexible hours**

In Denmark, Vorbasse School has introduced flexible hours for the 7th, 8th and 9th graders. The pupils can choose whether to work in teams between 8 AM and 10 AM, or between 2 PM and 4 PM. In this way, the pupils can be taught during the hours that best match their circadian rhythm. After the introduction of these flexible and differentiated learning hours, Vorbasse School has obtained measurable results. The average grade has gone up from 6.1 to 6.7, and the pupils are more alert and motivated when they receive training.

At Egaa Ungdomshoejskole the superintendent Ulla Fisker has moved meeting time from 8:30 AM to 10 AM. This has resulted in students being more awake and alert, i.e. they are more "learning ready" students.

At Frederiksberg Ny Skole flexible hours are introduced from the very first year at school. The pupils have the possibility of being taught at the hours that best match their different circadian rhythms. Children who are early risers can get intensive education in the morning between 8 and 9, whereas children who are late risers can be offered more intensive teaching between 1 and 2 in the afternoon. From the 7th grade it makes sense to differentiate even more, so that early risers can get intensive education between 8 and 10 in the morning, and late risers are taught more intensively between 2 and 4 in the afternoon.

Flexible hours should also be offered at high schools, universities and other educational institutions.

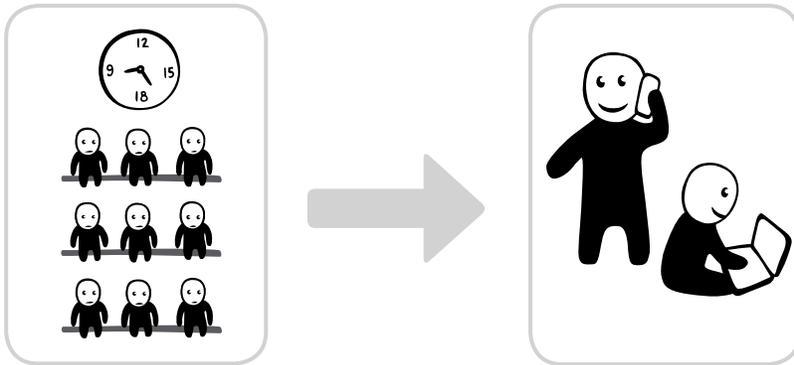
### **How to change the hours at school**

Talk to the principal. The hours in school are often controlled by municipal rules – but it is possible to get dispensation.

Put “circadian rhythms” on the agenda of a parents’ evening. The B-Society is happy to support you with material.

The B-Society has made a questionnaire that can help to map the pupils’ various types of families, working preferences and circadian rhythms. Several surveys of preschool classes’ circadian rhythms have shown that half of a preschool class is early risers and half are late risers. By carrying out the survey you get data, which can support the need for flexible hours in school.

Contact the B-Society in order to receive the questionnaire at:  
info@b-samfundet.dk



## **MAKE ROOM FOR A AND B AND INCREASE PRODUCTIVITY AT THE WORKPLACE**

Why do three out of four Danish persons start work at 8 AM in the morning and go home at 4 PM? This only results in rush hour traffic jams on the roads, stressed mornings, and a lowered productivity.

A survey carried out by Ugebrevet A4 shows that 40 percent of the respondents thought that their working hours are a hindrance for them to live up to their full potential. Just think of the potential benefits if the working hours were optimal for the employees. This would not only increase productivity, but enhance the quality of life in the companies and in the communities.

## **Growth is in the optimal working hours**

In 1919, after many years of struggle, the unions and the employers' organisations created the following division of time: eight hours work, eight hours spare time, and eight hours sleep.

The 8-8-8 model and the collective work arrangements, where everyone had similar working hours, a fixed working place and a fixed circadian rhythm, was a fairly good fit when optimising for repetitive industrial work. The model was designed for the industrial society, where the worker was selling body movements at the conveyor belt. In this society 80 percent of the company's value was material values. The value was gained from machines and buildings.

Today, 80 percent of a company's value is immaterial values (Standard & Poors). This means that the value of today's companies has to be found in knowledge, networks, brands, customer relations, processes, etc. The majority of this work can be done independently of both time and space. This means that the actual value created by the workers of today is highly dependent on the conditions of their personal lives – i.e. the value created derives more from the quality of how they live than it does on fixed work hours and places. To be in the office at 8 AM, functioning sub-optimally both mentally and physically, simply because you are not supported or allowed to produce your actual peak performance by performing in harmony with your circadian rhythm, is a waste of human and organisational resources. By supporting flexible work at other hours of the day, the productivity in the companies can be increased as the employees are allowed to work according to their own rhythm. The greatest potential growth is now in the implementation of flexible and optimal working hours, those that will support the different circadian rhythms.

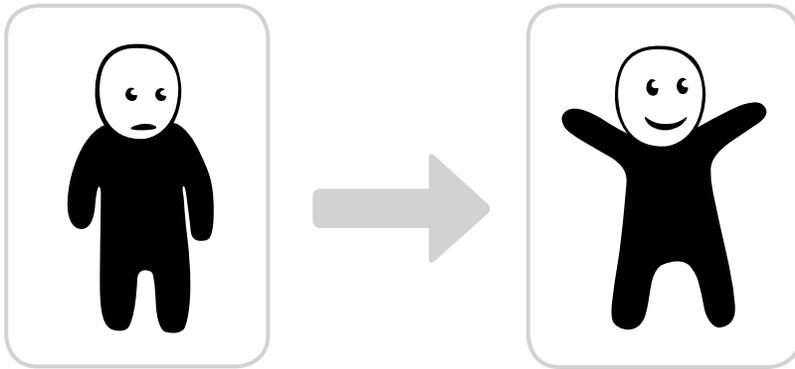
## **Adapting work hours to circadian rhythms**

The first step towards a more flexible work life is to accept that we all have different needs and wishes as to the best working hours and workplaces. The working hours should fit the various circadian rhythms of the human being. We can make it possible for the early risers to start work at 7 in the morning and the late risers to start at 10. This could increase productivity in the companies, increase the quality of life, and decrease sick leaves and stress.

When are your optimal working hours? Can you move your working hours by an hour? Sometimes just half an hour can make a difference. Your possibilities for moving your working hours are dependent on the work culture and its rules.

How is the culture at your workplace? Is there a social acceptance and respect for different working hours at your workplace? Some workplaces have a very strong culture of comparison, which results in everyone being induced to work in the same manner, at the same time, and in the same work space. Often the traces of industrial work culture are found in the way colleagues are talking to each other. Is there a sarcastic tone at your workplace about flexible hours? Do you get comments from your colleagues if you leave the workplace at 2:30 in the afternoon?

It is possible to change the work culture, but it takes time. You are welcome to contact the B-Society if you want to learn more about this process. We give various talks about how to increase productivity and quality of life at the workplace by incorporating the employees different circadian rhythms when planning the working schedules and environments.



## **FLEXIBLE SCHOOLS AND WORK-PLACES = BETTER HEALTH**

Why would a late chronotype (B-person) get up at 05:30 in the morning? Society, which dictates work from early morning to late afternoon, is producing negative health outcomes in the late chronotype people. These people function optimally as late risers, so they will generally consume more invigorating stimuli like coffee and sugar than early risers in order to fit into the dictated working time. Furthermore, it is observed that late risers between the age of 31 and 40 have an increased risk of developing depression disorders.

There is a close correlation between circadian rhythm and well-being. By considering different circadian rhythms, types of families and various work forms, we will get a better everyday life, better learning, better health, better quality of life and productivity along with a better infrastructure, when we do not all use the roads at the same time every day.

Just imagine if you could move your life by one hour!

