

THE CROYDON CHRONICLES

SOURCES:

<https://www.bbc.co.uk/bitesize/articles/zkmpng8>

<https://www.livescience.com/60875-sleep-deprivation-sluggish-brain-cells.html>

<https://www.sleepfoundation.org/physical-health/obesity-and-sleep#:~:text=Sleep%20deprivation%20is%20associated%20with,changes%20at%20the%20chemical%20level.>

<https://www.medicalnewstoday.com/articles/322994#stress-and-sleep>

[1] For more see: <https://www.ft.com/content/257a974c-a18a-11ea-b65d-489c67b0d85d>

[2] For example, see: <http://www.open.ac.uk/blogs/music/?p=1167>

[3] There is a good video summary of the research here: <https://pianopower.org/16-benefits-of-playing-an-instrument/>

[4] For more details on the study see: <https://www.cbc.ca/news/technology/music-lessons-improve-kids-brain-development-memory-study-1.600098>

[5] <https://inews.co.uk/news/education/music-lessons-improve-all-round-education-study-306159>

How students are getting less sleep than ever

There are many reasons why students' minds are racing -homework, electronic gadgets to name but two. Sleep deprivation leads our brain cells to struggle to communicate effectively, which results in a lack of memory or retaining information as well as affecting visual perception. As Dr Itzhak Fried, a professor of neurosurgery at the University of California said "We discovered that starving the body of sleep also robs neurons of the ability to function properly," and this was followed by: "This paves the way for cognitive lapses in how we perceive and react to the world around us."

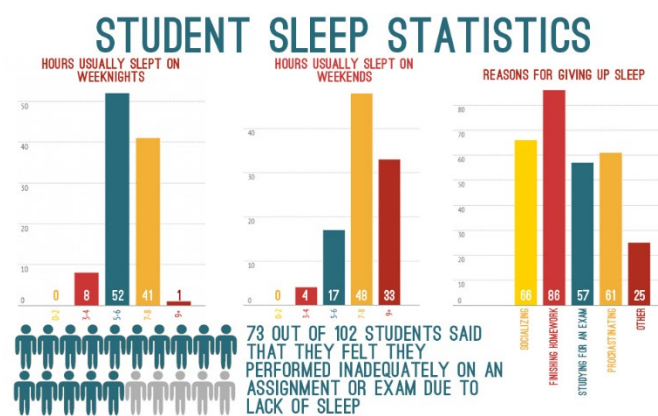
Stress can be a big cause for sleep deprivation as it decreases the quality of sleep. There are many hormones released from the body due to stress, but a key one is adrenaline as it increases the body's heart rate due to the preparation for the 'fight or flight' reaction. Therefore, this increases the awareness of the area around you resulting in sleep deprivation. If this stress is maintained for a long time, it can lead to physical and mental health problems such as anxiety.



A really good way to get sleep is to use meditation, which can be achieved through applications such as Headspace. It talks you through a step by step guide on how to relax from potential stresses around you, further detoxing your environment. This is just one of many apps that can decrease your stress levels, as it will help gain that quality sleep. Another application which can prevent you from being hooked onto your electrical gadget is Forest, as you set a timer for a specific time to take a break, for example how long you would like to be off your phone. This results in more time to relax and the ability to gain more sleep.

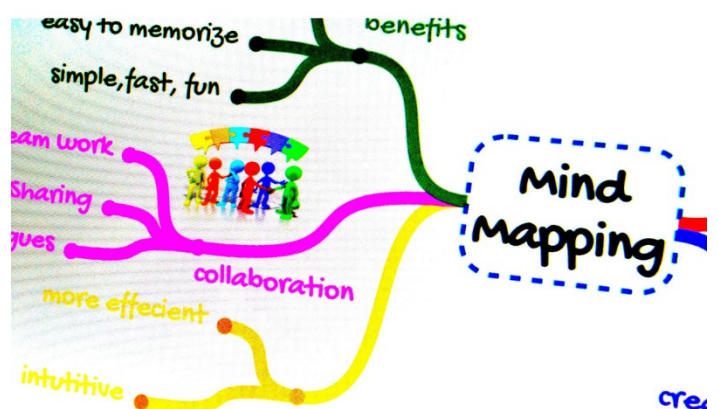
There are serious repercussions from sleep deprivation as it can cause a high blood pressure, which is one of the leading factors to the following complications: obesity, heart disease, strokes. Further, sleep deprivation has been linked to depression from the change in neurochemicals in the brain, which may manifest into depression. Moreover, sleep deprivation is associated with the deficiency of growth hormone and hoisted cortisol levels, both which have been linked to obesity. Therefore, it is crucial to keep a balance when it comes to a sleep work lifestyle. It is recommended that you have at least 8 hours of sleep a day, especially as teens, as it gives the body enough time to repair and grow. Maintaining a healthy lifestyle will help with the ability to revise and collect/maintain information in the long run- hence staying up to revise decreases your ability to retain information, which implies it is worse for your study pattern.

Overall, it is important to get those 8 hours of sleep needed, as it will help students work more effectively. Also, it helps reduce serious health problems caused by sleep deprivation. Therefore, using the apps recommended will help reduce the stress, as well as reduce the craving to use your electronic gadgets so you get more sleep. You could also join Mindful Breathing, run by Deborah from Place2Be on a Wednesday and Thursday at 3.40pm. This is a 10-minute webinar session that can help bring your school day to a close and prepare you for a relaxing evening and a good night's sleep (details on year group Google Classrooms)



Mind Maps - how can these help me?

Mind maps are an essential revision tool to master, as it will make your revision eye-catching and therefore your mind will retain the information faster. A key aspect of making mind maps is to remember to hang them up on your ceiling, or other places where you can see them regularly. Exercise books and revision guides are very good for finding the information you need to create your mind maps as they contain precise knowledge that you can easily remember. It also really helps that you use capital letters and diagrams as it makes your revision map more eye-catching (especially if you are a visual learner).



Music and the Brain

Dr Purvis



The COVID-19 pandemic has underlined the important place that subjects like music, art and drama occupy in the national consciousness. Faced with the isolation and uncertainty of lockdown, people turned to institutions like the National Theatre, took virtual tours around galleries and watched numerous music concerts such as the one hosted by Lady Gaga amongst others.[1] These events, and many more besides, provided solace and escapism in equal measure. They became the prism through which we could make sense of the emotional effects of isolation and the lack of human interaction, especially since the arts are chiefly concerned with the human experience. I was especially relieved, then, when the government announced that it

was providing a healthy support package to the cultural institutions which we have come to rely on. Right now, we need the arts more than ever before.

And yet, the appetite for music and the other arts in schools is regrettably diminishing. According to Ofqual—the body which oversees the examination system in the UK—the number of pupils choosing A level music has halved in the last decade while uptake of GCSE music has seen a decline of 20,000 pupils since 2009. Admittedly, the largest decline has been seen in the state sector as teachers and headteachers seek to bolster the external metrics that are used for accountability, and which lamentably side-line music. Outside of this system, but not beyond broader scrutiny, independent schools such as ours have remained committed to the educational importance of the arts as one of the ways we seek to educate our pupils in the round. Indeed, I am especially proud of our school's commitment to music and the other arts as an important part of your educational experience.

The figures supplied by Ofqual, while worrying, have galvanised those who want to fight for the arts in education. However, in doing so, figures (and prominent ones, at that), frequently resort to justifications which champion the use of the arts as cultivating transferable skills such as teamwork, organisation and communication.[2] However, I argue that in doing so, they ultimately devalue the very arts that they are trying to save. Music education, I posit, is justifiable in its own right and on its own terms, as well as having broader cross-disciplinary benefits in the skills it fosters.

One of the musical arguments for the place of music within the education system is the effect that it has on the brain and brain development. Now, I do not see myself as an expert on these matters so, please, bear with me while I seek to describe, succinctly and clearly, the relationship between music and brain development. A Canadian study demonstrated, clearer than ever before, of the benefits of listening to music on brain activity.[3] What is more, the study found that the act of playing musical, or singing, connects certain areas of the brain used for language, arithmetic, motor skills and memory. A series of breakthroughs by neuroscientists into how the brain works –there is still so much we do not know about this most important of organs – have only served to strengthen the relationship between practical

musicianship and brain development. Real-time monitoring of musician's brains, while people were playing their instruments or singing, shows that multiple brain synapses were 'lighting up'. [4]

Indeed, research, which is still very much in the embryonic stages, showed that playing a musical instrument combines the linguistic and mathematical aspects of the right hemisphere with the novel and creative content in the left hemisphere. Furthermore, neurologists found that engaging in a musical activity such as playing an instrument increased the volume of activity and connections between both hemispheres of the brain.

While the biological processes seem somewhat removed from the act of playing an instrument, other benefits of the engagement with music are perhaps more predictable and easier to rationalise. Playing a musical instrument develops higher levels of the brain's executive functioning: the process of planning, attention to detail and strategising, amongst other things. Anyone who has played a musical instrument knows how integral these facets are to musicianship. Moreover, the act of regular and disciplined practice allows musicians to refine how to practice and apply this learning to extra-musical activities. Given that musicians often play music from memory, it is perhaps not that surprising that musicians exhibit a better memory function, sharpening the way that our brains store and retrieve information (akin to a good internet search engine).

Are these things unique to music? In short, yes. The particular brain process of playing music has not been replicated when the brains of artists, actors and sportspeople took part in similar research. I do not intend to create a hierarchy between subjects, however, since all subjects bring something very different educationally. Nevertheless, the uniqueness of music at improving cognitive function should be just one part of the advocacy for music's place in our schools. The way that music develops creativity, emotional resilience deserves shouting about too.

Will playing a musical instrument improve your academic attainment? Well, studies suggest that it will. Again, we go to Canada for the answer. "On average, the children who learned to play a musical instrument for many years, and were now playing in a secondary school band and orchestra, were the equivalent of about one academic year ahead of their peers with regard to their English, mathematics and science skills, as measured by their exam grades," said Dr Peter Gouzouasis, of the University of British Columbia, one of the authors of the paper, published in the Journal of Educational Psychology. [5]

Should you take up a musical instrument to improve your grades? No! You should learn to play an instrument because it is a wonderful thing to do, in its own right? Yes! For me, there is nothing quite like playing music with others. It is a merely happy by-product, that your musical endeavours will undoubtedly improve the way that your brain functions. Let us hope we can resume our many choirs, orchestras and other musical clubs, and honing our minds when it is safe to do so. In the meantime, I will leave you with a quote from Confucius: "Music produces a kind of pleasure which human nature cannot do without." Why don't you give it a go? The benefits are huge!

Should you listen to music while studying?



Music isn't for everyone when it comes round to studying, but for those who do enjoy music when learning, there is a very logical reason why. Listening to music reduces the hormone called Cortisol, which is directly responsible for the stress and anxiety you may feel. Therefore, listening to calming music/ listening to music before you work can lower your stress levels resulting in your concentration increases, and your ability to maintain concentration for

a greater amount of time. However, studies have also shown that people who listen to music while studying, struggle to retain the information, or process it. This can be due to the mind wondering, resulting in the mind finding more interest in the music than the work you are carrying out. Hence it can be said that for some people music is beneficial for studying, but for others, it can prevent the links of thoughts and the understanding of a topic, resulting in a lack of retaining information.

<https://www.studyinternational.com/news/does-listening-to-music-while-studying-make-you-a-better-student/#:~:text=Research%20has%20found%20that%20listening%20to%20music%20actually%20lowers%20your%20cortisol%20levels.&text=For%20long%20study%20sessions%2C%20background,studying%20or%20a%20longer%20time.>

What foods are the best to eat whilst studying?

The food you eat affects your brain considerably and to fuel your brain into problem-solving with ease, you should choose to consume a wide variety of healthy foods that are rich in protein, antioxidants, and Omega-3! According to Diane Roberts Stoler, protein can optimize brain functions whilst helping to reduce fatigue, increase mental clarity, and memory. Yoghurt, lentils, and turkey are all high in protein levels. Additionally, antioxidants are just as useful at preventing specific effects of ageing on the brain. According to Sherry Christiansen, the "brighter the colour, the higher the level of disease-fighting antioxidants in food." These are foods such as artichokes, berries, and pomegranates. Furthermore, Omega-3 has been shown to improve mental health and make the brain function with ease. Examples of Omega-3 include but are not limited to wild salmon and oily fish, shrimp, and flax seeds. To obtain the best results, make sure to eat well-balanced meals and a wide range of foods.

1. <https://www.psychologytoday.com/gb/blog/the-resilient-brain/201506/the-power-protein-optimize-brain-health#:~:text=Protein%20for%20Brain%20Health,balance%2C%20and%20also%20brain%20regulation.>
2. <https://au.reachout.com/articles/foods-that-help-our-brain-study>

How does music affect our mood?

Many of us listen to music to help lift our spirits and boost the emotions we want to feel. In 2015, a study took place, with 7,000 patients, who chose to listen to music when they were in pain. This study proved that the patients, who listen to their own choice of music were in less pain and needed less pain killers. Furthermore, music has also been seen to impact your mood, as the university of Durem, found from an investigation, that sad music brings pleasure and comfort to most listeners. Hence, research has been conducted to discover the true effect of music and whether musical therapy is a beneficial supplement for a drug. What can be seen from the statistics, is the true power of music hasn't been discovered, especially when it comes to the effects of music on the brain.

<https://www.healthline.com/health-news/mental-listening-to-music-lifts-or-reinforces-mood-051713>