

# Chronic sleep deprivation can affect your overall health

[Health & Medicine](#), [Mental Health](#)



Chronic sleep deprivation (CSD), sleep less than 6 hrs a day over a long period of time, is a prevalent condition existing among many adults and teenagers worldwide, which leads to various lasting effects on brain and health. This essay explores nature of a review article regarding CSD as well as the journal the article is published-in, offering comprehensive descriptions of one primary research referenced in the review article and explaining connections between these two resources, also personal reflections are provided throughout.

Based on the results from different primary experiments and other resources, 'Neural Consequences of Chronic Short Sleep: Reversible or Lasting?' by Zhao et al. is a review article which focuses on the lasting impacts of CSD on brain cells, particularly the 'neurobehavioral performance', it also discusses possibilities of recovering neural injury due to CSD. This article is an open resource for both specialists and the public, especially targeting at workforce and adolescents since CSD is more common in these 2 groups due to work and study pressure. Providing understandings of long-term effects of CSD on neurons and brain, the article educates the audience on the significant health effects of CSD, evoking the awareness of the importance of sufficient sleep. Neurology is the main discipline of this article, most obviously, as it is published in the journal 'Frontiers in neurology' and headings of the article also helped me determine the discipline. I think neurology is the study related to the nature and functions of nerve system. In my opinion, this article could also fit into neuroscience, since neuroscience and neurology are interconnected and

related to the study of nerve system, but I am not sure how to distinguish one from another.

According to Frontier, the publisher of this review article, Frontiers in Neurology is a journal that publishes free access scientific literatures, allowing effective communications of scientific discoveries and knowledge. As shown in the title, neurology is the discipline of the journal, although this journal-is not directly linked to particular professional societies, it, however, is run by over 4000 editors worldwide, including university professors, directors of science institutions and scholars who are specialised in neurology, which contributes to the academic diversity of resources. Diverse scientific articles are published here for educating the public with respect to the understandings, treatments etc. of neurological disorders, it assists researchers to better proceed with and exchange scientific information, findings and ideas. This journal targets international audience with different educational backgrounds as it is available online. To my mind, reviewed articles are more accessible for non-researchers as vocabularies and concepts are relatively understandable and conclusive. By comparison, primary articles mainly serve the scientific studies for professionalists since specialised concepts and jargons are widely used.

‘ Sleep Deprivation During Early-Adult Development Result in Long-Lasting Learning Deficits in Adult Drosophila’ is a-primary research constructed by Seugnet et al. at Washington University. Its purpose is to investigate impacts of sleep deprivation on-brain developments and provide first-hand results indicating various kinds of impairments of eclosed drosophilae caused by

sleep loss. This research is primarily for scientific studies for scholars and some outcomes are neural related, which is beneficial for future studies in neurology. This research aims to determine if eclosed drosophila can be used for mimicking sleep loss in human to identify in what degree the developing processes involving memory, learning abilities etc. can be influenced by sleep. It started with the hypothesis that sleep plays a crucial role for ‘ neonatal plasticity’ of and developing brains, which is based on the existing facts that children with disordered sleep breathing display on average decreased IQ, deficits etc.

The results of the experiment suggest that damages of ‘ short-term memory and response inhibition’ [Seugnet-et-al., 2011] were observed on the eclosed flies that were sleep deprived on the first 24 hours of their adult life followed by 3 days of unerupted recovery, the damages lasted for more than 6 days. Whereas for adult flies that were exposed to the same condition, the impairments were reversed few hours after recovery sleep. This outcome is significant as-it provides scientific data which acts as experimental evidence, allowing researchers to justify their hypothesis and come to the conclusion that sleep plays an essential role in developing brain. Furthermore, the results become scientific resources for-other scholars to do extended researches on the topic. In addition, the outcomes can confirm existing knowledge and imply other possibilities to be further explored. The results also allow improvements of experiment methods, measurements etc. as some data attained in the current experiment may not be accurate due to uncontrolled variables.

In my opinion, this primary article is well structured using headings, which makes it logic and easy to follow. Visual evidence and diagrams used also support the statements, enhancing its reliability. I could understand the general ideas of the article, however, it-is challenging to understand some results in depths due to many jargons applied, especially in the section ‘ Sleep deprivation and dopamine’, I-tried using dictionary to understand it but it was not time efficient. I particularly like the critical thinking in discussion section, the researchers are not only limited to the results obtained, they discuss possible factors and uncertainties that may also contribute to the experimental outcomes. This allows further exploration and more accurate results to be gained. Interestingly, I also learnt some fun facts that are outside of this topic, for instance, I did not know that flies share many commonalities with human, I was surprised that flies have memories too! This leads me to a new point of view about creatures and biology.

To conclude, primary literatures provide first-hand resources and evidence to certain topics, indicating the original work of the author(s), they are mainly for scientific researches and studies. Whereas secondary literatures are works that summarise, interpret and reflect a range of primary literatures, they target at broader audience as they are more understandable for non-scholars. The-primary article directly contributes to the formation of ideas and the structure of the review article, it provides professional knowledge and primary data which allows summarisation and ideas to be clearly conveyed in the review article. Meanwhile, the reliability of the review article

is enhanced by applying first-hand scientific evidence. Therefore, primary articles are interconnected and significantly contribute to review articles.