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Writing For the Sciences

Prof. Brown

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Cell Phone: Brain Cancer

Aydin D, Feychting M, Schuz J, Tynes T, Andersen TV, Schmidt LS, Poulsen AH, Johansen C, Prochazka M, Lannering B, et al. 2011. Mobile Phone Use and Brain Tumors in Children and Adolescents: A Multicenter Case-Control Study. *JNCI Journal of the National Cancer Institute*. 103(16):1264–1276. doi:<https://doi.org/10.1093/jnci/djr244>.

This source called “Mobile Phone Use and Brain Tumors in Children and Adolescents: A Multicenter Case–Control Study” by Denis Aydin and more will be used to support my topic because it supports the notion that cellphones can lead to brain tumors. The article mainly focuses on the effects of mobile phone usage on children and young adults because the phone usage is greater within that specific age group compared to older adults. This study was confirmed through the testing of children between the ages of 7-19 who were diagnosed with a brain tumor. There was a set of control and case patients. The control was randomly picked so there were no biases in the results. Then, participants were asked about their phone usage and records. Based on the data, it was found that cell phone usage does affect whether someone develops brain tumors because when someone who was using a phone for at least 5 years is at a lower chance of the develop of brain cancer compared to those who don’t regularly use a cell phone. It’s believed that this is partially because the people who were using for a longer period were able to develop a tolerance. Additionally, the data was collected from people with brain

cancer in Denmark, Sweden, Norway, and Switzerland which supports the idea of the results not being biased. This is because the participants are from different places instead of one which allows from the analysis of whether its only one area that is stronger than others. Overall, I will use this article to support my topic of mobile phones and brain cancer because it supports the idea of there being a connection between the two. Lastly, the article is reliable because data presented is firsthand evidence directly from the scientist.

Castaño-Vinyals G, Sadetzki S, Vermeulen R, Momoli F, Kundi M, Merletti F, Maslanyj M, Calderon C, Wiart J, Lee A-K ., et al. 2022. Wireless phone use in childhood and adolescence and neuroepithelial brain tumours: Results from the international MOBI-Kids study. *Environment International*. 160(107069). doi:<https://doi.org/10.1016/j.envint.2021.107069>.

This source called “Wireless phone use in childhood and adolescence and neuroepithelial brain tumours: Results from the international MOBI-Kids study” by G. Castano-Vinyals and more will be used to support my topic because it supports the idea that mobile phones can lead to the development of brain tumors. This article talks about mobile devices specifically wireless phones have a higher possibility of causing brain tumors. The study included about 899 participants with brain tumors around the age of 10 to 24 years old. It was decided to use children and young adults for the experiment because the cell phone use is larger in the age group compared to an older group. It was also data based on 14 countries (Australia, Austria, Canada, France, Germany, Greece, India, Israel, Italy, Japan, Korea, the Netherlands, New Zealand, and Spain). The participants would also be exposed to radiofrequencies, extremely low frequencies, and electromagnetic fields. Based on the study, majority of individuals had neuroepithelial type tumors and the rest had glioma type tumors. Additionally, the study found

that there isn't a significant link of wireless phone use and brain tumors. However, this could've been caused by the fact that the participants were exposed to low frequencies of radiations instead of higher frequencies. Thus, the concluding results could've been due to that significant factor. But the possibility of the radiation being released from the phone having an impact on the development of brain cancer is high. Overall, I plan to use this article to support my topic by using it to justify that there is a link between extensive cell phone usage and brain cancer. Lastly, the article is reliable because data presented is firsthand evidence directly from the scientist.

Mialon HM, Nesson ET. 2019. THE ASSOCIATION BETWEEN MOBILE PHONES AND THE RISK OF BRAIN CANCER MORTALITY: A 25-YEAR CROSS-COUNTRY ANALYSIS. *Contemporary Economic Policy*. 38(2):258–269.
doi:<https://doi.org/10.1111/coep.12456>.

This source called “The association between mobile phones and the risk of brain mortality: A 25-year cross-country analysis” by Hugo M. Mialon and others. The study describes the investigation of the relationship between cell phones and brain cancer by using data from the World Health Organization between 1990 to 2015. The study includes data collection of death rates collected from a range of 88 countries and country level mobile phone subscription ratios from a World Bank. There wasn't a correlation between specific age groups and gender. Meaning, the scientist collected data from anyone with brain cancer during that time. Based on the data, it was statistically found that there was a relation between mobile phone subscription rates and death rates due to brain cancer between 19- 20 years later. Scientist also arrived to the conclusion that aside from mobile phone use, there are other major factors that lead to the development of brain cancer. They established that the ionizing radiation from computed

tomography (CT) scans is also a leading cause for brain cancer. While also connecting that mobile phone radiation and CT scans are linked together meaning that depending on the number of times you use your phone, it's almost as if you're undergoing a CT scan. On the other hand, the study found that the switch of data plans from 4G to 3G or 4G to 5G could significantly affect whether you develop brain cancer. If you increase your data plan, you're increasing amount of radiation being emitted from your phone. While if you decrease your plan data plan, you're lowering the radiation being emitted from your phone thus decreasing the chance of the development of brain cancer. Overall, the argument presented in the article can help support my topic because it strongly backs the idea that mobile phones are linked to the development of cancer. Lastly, the article is reliable because data presented is firsthand evidence directly from the scientist.