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## **‘Net Loss: Is the Internet Damaging our Cognitive Functions?’**

### **Description:**

For my project, I am taking a research paper I completed for WRTC 201 and researching the topic more in depth. I took 201 back in 2014, so I am particularly looking for newer information that has been released on the topic. I am planning to study how the internet affects the brain's ability to process and synthesize new information. Internet users are constantly bombarded with random information, advertisements, and hyperlinks to related topics. I am hoping to research my hypothesis and hopefully develop empirical evidence as to whether or not the internet is hampering our abilities to focus and retain information. I plan to find out how internet-based distractions physically affect our brains, to what extent they affect our cognition, and what can be done to allow our minds to regain full scholarly functionality.

During this project, I incorporated several new sources, as well as rewriting many of the earlier points that I made. While I found many recent sources, I was still unable to come up with a definitive conclusion regarding my topic. This is not to say that my research was a failure, however, as I have discovered a wealth of knowledge about how exactly the internet effects our cognition and memory retention.

### **Final Draft:**

The internet is our largest and densest information resource; it contains millions of articles, videos, pictures, and every other information medium conceivable. Almost anything can be found on the internet, from articles detailing the effectiveness of artificial hearts to videos depicting Hollywood superstar Shia Labeouf as a murderous cannibal who terrorizes people in the woods. Students, teachers, doctors, scholars, professional athletes, and even Shia Labeouf use the internet daily to retrieve some of the infinite information accessible by a simple Google search. However, it is this exact use of the internet that may be destroying our abilities to focus and retain information.

On almost any given web page, a user is sure to be bombarded with constantly flashing advertisements and hyperlinks for related web pages. These constant distractions make it irritating for anyone trying to read an article or a thread (an internet-held conversation), and sidetrack even the most diligent web-users. When someone is not being distracted by an advertisement, they are being alerted to a new email, “like” on Facebook, text message, or any other of these social networking updates. Even in the twenty minutes since I began editing this draft, I have stopped to check Twitter twice and sent three texts. These distractions not only cause an assignment to be completed much later than expected, they also make a reader/writer/researcher lose their train of thought. This can be disastrous to the flow of a paper or the retention of the information that was being read at the time of the distraction. In essence, the constant ads and other distractions linked to the internet are hurting our ability to both focus on assignments and projects and to retain information that we’ve read.

I was originally inspired to pursue this topic after reading Nicholas Carr’s article “Is Google Making Us Stupid?”, which was published in 2010 in *The Atlantic*. In his article, Carr raises several points about slowly losing his ability to focus and read in depth pieces. He links

this mental degradation to his increased internet use. Later in the article, Carr interviews several psychologists as to why they think that using the internet to research is making us "stupid." One of these psychologists is Maryanne Wolf, a developmental psychologist at Tufts University. Wolf informs the audience that because reading is not an instinctual behavior like speech, it is easily affected by what information is read, why the reader is reading the piece, and how we're exposed to the information. I am hoping to add empirical evidence to Carr's very well written, very opinionated work, and I plan to find out how internet-based distractions physically affect our brains, to what extent they affect our cognition, and what can be done to allow our minds to regain full scholarly functionality.

I recently read a 2010 *New York Times* article written by Matt Richtel "Attached to Technology and Paying the Price." This article talks about the effects the internet has on our brains during our offline free time, and brings to mind several examples of people being "addicted to technology", ranging from feeling the need to text while driving to forgetting to complete simple tasks because you are not constantly reminded to finish them. This article informs that technology gives off a feeling of pleasure to your brain similar to the pleasure felt while eating or having sex. Our brains are evolved to crave information in the same way our body craves nutrition or our biology craves reproduction.

When we use technology, our brain gets a dose of dopamine (the pleasure-inducing chemical introduced to the brain when a person experiences something gratifying) similar in potency to eating your heart's desire of chocolate or making sweet love by the fire. This keeps us craving the internet and the instant information that accompanies it. Using technology does not give off the amount of dopamine that taking drugs does, however, so we are able to stay away from technology for long periods without suffering severe withdrawal. According to Nora

Volkow, the director of the National Institute of Drug Abuse, “The technology is rewiring our brains.” Volkow and other researchers compare the lure of digital stimulation “less to that of drugs and alcohol than to food and sex, which are biologically essential but counterproductive in excess.”

In addition to studying the chemicals given off by our brain, this article also speaks on how multi-tasking affects the brain. The article says that, despite thinking otherwise, people are bad at multi-tasking. “Heavy multitaskers actually have more trouble focusing and shutting out irrelevant information...and experience more stress. And scientists are discovering that even after the multitasking ends, fractured thinking and lack of focus persist.” When multi-tasking, people complete both actions half-heartedly instead of doing one thing well at a time. For example, someone who is texting while driving neither gives their full attention to the road nor texts quickly and without error.

This is because our brains are designed to complete things one task at a time. For example, take one pencil in each hand. On two separate sheets of paper, simultaneously draw a circle with your right hand and a square with the left. Unless the right and left halves of your brain are physically separated (like Leonardo Da Vinci’s allegedly was) you should find this activity impossible to do, and end up with some sort of square-circle on both sheets of paper. The same concept applies when attempting to socialize via internet and read or write an article at the same time: you will be too distracted by all of the things the internet has to offer to competently complete your reading or writing. You will need to either get off the internet or stop writing to complete either task sufficiently.

In the case of Kord Campbell, ineffective multitasking nearly cost him 1.3 million dollars after an important business message had slipped by him amid two computer screens filled with e-

mails, instant messages, online chats, a Web browser and the program he was coding. “I stood up from my desk and said, Oh my God, oh my God, oh my God,” Mr. Campbell recalled. “It’s kind of hard to miss an e-mail like that, but I did.” Luckily, Mr. Campbell was able to save his deal. However, distractions like these can be very dangerous to students and professionals who miss important e-mails from professors, bosses, or co-workers.

Another useful article I encountered was called “The Internet Is Making Us Smarter, Experts Say.” Author Dan Whitcomb lists several factors determining whether the internet is making us smarter or dumber. While a short piece, it gives good points to both sides of the argument. The article starts out by citing a Reuters online study in which 895 people were asked whether they thought, if by the year 2020, use of the internet would increase the intelligence of the general population or decrease it. Of the 895 people surveyed, 371 are considered “internet experts.” The article states “most of the respondents said that the internet would improve reading and writing by the year 2020.” To contrast this, the article brings in Nicholas Carr, who, as I mentioned above, is the author of my inspiration piece “Is Google Making Us Stupid?”. Mr. Carr explained his point that, while it may improve reading skills by 2020, the internet is moving us away from a society that thinks deeply about subjects and instead jumps back and forth between bits of information.

### **Conclusion & Analysis:**

This is a critical question to be able to answer because we live in the age of the internet and are steadily becoming more dependent on it. Because I was unable to gather any empirical data on this study, I cannot tell you that “1 in 13 Americans suffer from internet-related loss of cognition.” However, if I validate my hunch that constant distractions on the internet really *are*

hurting people's mental capacity then the general public needs to know. This topic has the potential to be lifestyle changing in that, upon hearing that the internet is making them slow, thousands of people would seriously restrict their daily use of the internet. Like any safety hazard, this needs to be explored to determine whether or not it is a serious health risk.

However, we should not run in fear from our laptops and phones. According to Hermann Maurer, a professor of computer science at the Graz University of Technology, we should not be worried about the effects that the internet has on our cognition, as long as we are able to retain some basis of technological independence and logical thinking. According to Maurer, "it is clearly positive that we can easily access new research results and communicate worldwide as a basis for imaginative thinking." Maurer postulates that our instant access to limitless information is a net positive for humanity, although he also cautions that "the Net will also make us more stupid as far as some of our cognitive capabilities are concerned." People should accept this possibility if two important points are not forgotten: that we must not be completely dependent on technology and that we must retain the capability for logical thinking and creativity.

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