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How Google and Ai Tools is Affecting Our Intelligence?

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ABSTRACT-

In today's digital age, Google search is the default solution for answering a broad spectrum of questions, whether we know the answers or face unfamiliar queries. This reliance prompts a crucial examination of its effects on human memory and attention. As our internet dependance grows, our brains adapt, reshaping what we remember and how we allocate cognitive resources. This study explores Google Search's profound influence on memory, attention and society. It compiles data and insights to reveal how Google Search shapes our intelligence and culture. The research delves into its impact on student learning, the brain's adaptability to the information age, and public perceptions.

INTRODUCTION :

In the contemporary digital landscape, the influence of Google Search on human minds is undeniable. The widespread search engine, an unreal gateway to the world's information, has fundamentally transformed the way we acquire, process and retain knowledge. In the blink of an eye, we can summon many answers, facts and perspectives. This intense shift in our informationseeking behavior raises a series of important questions: How has Google Search altered our cognitive processes? What implications does it carry for memory, critical thinking, and problem-solving? To what extent has it reshaped our approach to learning, education, and even our collective understanding of the world? This study embarks on a journey to explain the varied impact of Google Search. Through a complete exploration of both positive and negative dimensions of this digital phenomenon, we aim to gain a deeper understanding of how this universal tool is shaping the way we think, learn and interact with the world. As we navigate the detailed terrain of memory, attention, learning and societal consequences, this study aspires to provide invaluable insights into the profound implications of Google Search on the human psyche and the challenges and opportunities it presents in our information-rich era.

PROBLEM DEFINITION :

The research aims to be aware of how this tool is transforming our thinking and learning processes, while assessing whether it has positive or negative impact on our cognitive abilities.

Some of the specific questions that the researchers are trying to answer include:

- Is Google Search making us more reliant on external information and less able to think critically on our own?
- Is Google Search making us forget information easily?
- Is Google Search making it difficult to focus and pay attention?
- Is Google Search overpowering our brains and making it difficult to learn and retain new information?
- Can Google Search be used to improve our cognitive abilities?

The research is still in its early stages, and the findings are mixed. Some studies have found that Google Search may have negative effects on our cognitive abilities, while other studies have found out that Google Search can be a tool for improving our abilities. More research is needed to determine the long-term impact of Google search and should be used in a way that maximizes its benefits and minimizes the risks.

Specific examples of problem definition:

- Students are becoming more reliant on Google Search to complete their assignments, rather than learning the material themselves.
- People are becoming more likely to forget information, if they know they can easily find it online.
- Google Search may suppress creativity by making it easy to find existing ideas, rather than coming up with new ones.
- Google may make it more difficult to make good decisions by presenting us with a large number of choices.

III. LITERATURE SURVEY :

Table 1

Sr. No.	Paper	Author	Key findings
1.	"Is Google Making Us Stupid?" (2008)	Carr, N.	Carr argues that Google Search is changing the way we think and learn, making us more reliant on external information and less able to think critically on our own.
2.	"Google Effects on Memory: Cognitive Implications of having information at our fingertips" (2011)	Sparrow, B., Liu, J., &Wegner, D. M.	This study found that people are more likely to forget information if they can find it online. This suggests that Google Search may be making us more dependent on external memory and less able to remember information on our own.
3.	"Cognitive Control in Media Multitaskers" (2009)	Ophir, E., Nass, C., & Wagner, A. D.	This study found that people who multitask between different media platforms, such as watching TV and using a computer, have more difficulty paying attention and filtering our distractions. This suggests that Google Search, which allows us to easily switch between different tasks and sources of information, may be harming our ability to focus.
4.	"Too Much to Know" (2011)	Weinberger, D.	Weinberger argues that the vast amount of information available online is overwhelming our brains and making it difficult to learn and retain new information. He suggests that Google Search may be making us less intelligent, not more.
5.	"Cognitive Integration: When Goals and Representations combine" (2010)	Anderson, J. R.	Anderson argues that Google Search is a tool that can be used to improve our cognitive abilities. He suggests that Google Search can help us to learn new information, solve problems and make better decisions.

As shown in Table 1, the literature on the impact of Google Search is mixed. Some studies suggest that Google Search may be having negative effects on our cognitive abilities, such as making us more reliant on external information, less able to think critically, and more likely to forget information. Other studies suggest that Google Search can be a tool for improving our cognitive abilities, such as helping us to learn new information, solve problems, and make better decisions. More research is needed to determine the long-term impact of Google Search on Human Intelligence.

IV. PROPOSED SYSTEM System Overview:

The proposed system is a survey–based system that will be used to investigate the impact of Google Search on our intelligence. The system will consist of a single component: a quantitative survey.

Quantitative Survey Component:

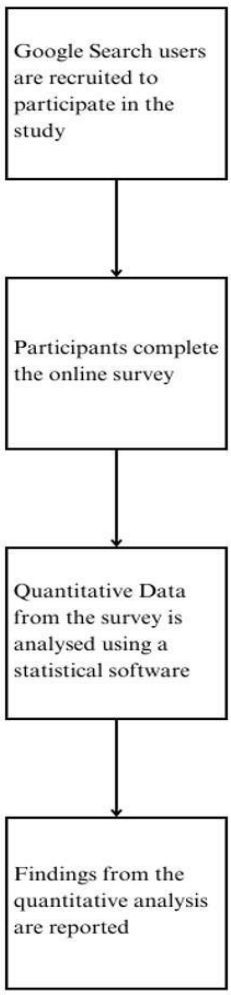
The quantitative survey component of the system will be used to collect data on the following variables:

- Frequency of Google Search use
- Perceived impact of Google Search on intelligence
- Performance on a battery of cognitive tests The cognitive tests will be designed to assess different types of intelligence, crystallized intelligence, and practical intelligence. **System Components:**

The proposed system will consist of the following components:

- Survey: The survey will be developed using a survey platform *"Google Forms"*. The survey will be administered to Google Search users online.
- Data Analysis Software: The quantitative data from the survey will be analyzed using the software *"Google Sheets"*. **System Workflow:**

The following diagram illustrates the workflow for the proposed system:



The system workflow is as follows:

1. It is important to recruit a diverse sample of Google Search users in terms of age, gender, education level, and occupation.
2. The survey should be designed to be clear, concise, and easy to understand.
3. Once the survey data is collected, it can be analyzed using software like Google Sheets. The analysis can be used to identify correlations between Google Search use and cognitive performance, as well as to assess the recognized impact of Google Search.
4. The findings from the quantitative analysis should be reported. The report should include discussion of the implications of the findings for our understanding of the impact of Google Search on intelligence. **Evaluation:**

The proposed system should be evaluated using the following criteria:

- Validity: The system should collect valid data on the variables of interest.
- Reliability: The system should produce reliable data that can be replicated by other researchers.
- Completeness: The system should collect all of the data necessary to answer the research questions.
- Feasibility: The system should be feasible to implement and administer. **Expected Results:**

The expected results of the proposed system are to provide insights into the following questions:

- How does Google Search affect our cognitive performance?
- How does the frequency of Google Search use affect our intelligence?
- What are the perceived benefits and drawbacks of Google Search use?

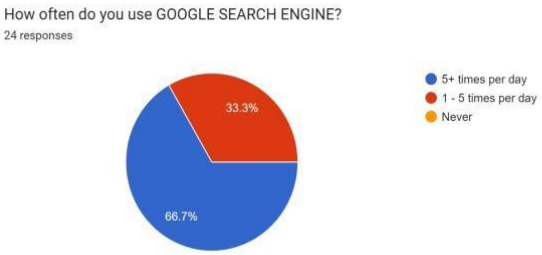
OBJECTIVE :

The objective of this study is to investigate the complex and elaborated impact of Google Search on our logical abilities. This study will provide an extensive and up-to-date review of the research literature on this topic, as well as discuss the implications of the findings for the general public. The study will also discuss the potential benefits and drawbacks of Google Search for our intelligence, and provide recommendations for how to use Google Search in a way that maximizes its benefits and minimizes its drawbacks. By investigating this issue, this study will help us to better understand the ways in which this powerful tool is shaping our minds and our society.

SURVEY FINDINGS :

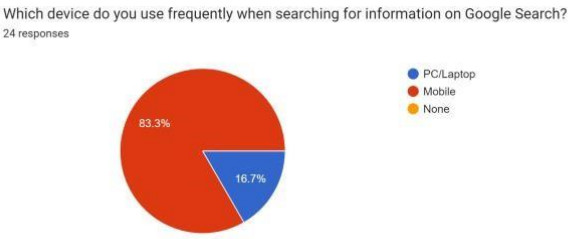
This survey investigated the relationship between the use of Google Search and cognitive abilities. The survey was conducted with a sample of 24 participants with the help of "Google Forms" and were asked some questions. Participants were asked about their frequency of Google Search use, their perceived impact on their intelligence, and their performance of cognitive abilities.
These are the 10 questions that were asked to the participants with the chart based on the responses and the analysis of the responses:

Q1.



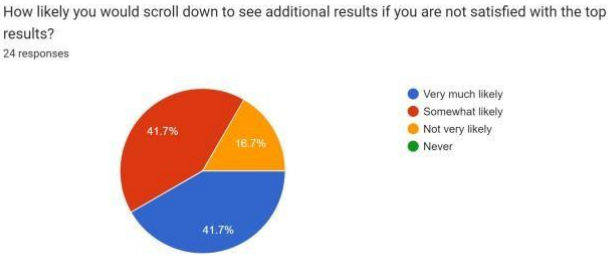
The survey indicates that the majority of respondents (66.7%) reported using Google Search more than 5 times a day. A significant portion (33.3%) uses it 1 - 5 times a day and no one can live without using Google Search for a single day.

Q2.



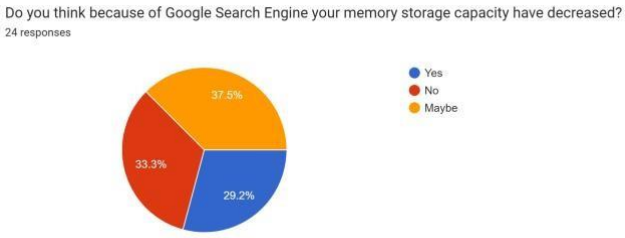
Among respondents, the most commonly used device for searching on Google is the mobile device, with almost 83.3% of respondents favoring it. PC/Laptop closely follow, with 16.7% of respondents frequently using them.

Q3.



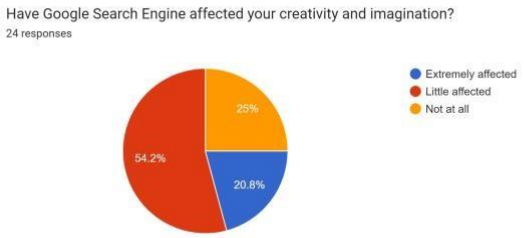
The survey findings reveal that a significant majority (41.7%) of respondents reported that they were very much likely to scroll down to see additional results if they are not satisfied with the top results. The same percentage (41.7%) mentioned scrolling occasionally, while a smaller percentage (16.7%) indicated that they rarely scrolled down.

Q4.



A significant portion of respondents (37.5%) reported occasional forgetfulness. A similar percentage (33.3%) mentioned no significant impact on their memory. A minority (29.2%) expressed a belief that Google Search has impacted their cognitive ability, indicating a decrease in memory storage capacity.

Q5.



A notable percentage (54.2%) believes that their creativity and imagination is little affected. About 25% believe that Google Search has not at all affected them and has positively contributed to them. A smaller portion (20.8%) believes that it has extremely affected their creativity and imagination.
In analyzing the survey responses, it becomes evident that Google Search has become an integral part of our daily lives, with a vast majority using it frequently, often multiple times a day. This demonstrates its profound influence as the primary source of information. The survey findings also reveal a constant behavior among users, where they are willing to scroll down to explore additional results. This underscores the importance of obtaining comprehensive and accurate information. Of particular note is the concern about the impact on memory, with a significant percentage of respondents expressing the belief that Google Search has reduced their memory storage capacity. This concern is further highlighted by respondents reporting occasional forgetfulness.

VII. CONCLUSION :

Google Search is a powerful tool that can be used for learning, problem solving, and creativity. However, it is important to be aware of the potential negative effects of Google Search on our intelligence, such as information overload and cognitive distraction. To reduce these negative effects, we can educate people about how to use Google Search effectively and critically. By using Google Search wisely and strategically, we can maximize its benefits and minimize its drawbacks.
In addition, we can also:

- Be mindful of the amount of time spent using Google Search.
- Take breaks to avoid information overload.
- Make an effort to develop our own understanding of the information we find on Google.

By taking these steps, we can ensure that Google Search is a force for good in our lives.

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