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CPS 412 - Section 01

Dr O.Falou

ChatGPT in Academia Survey

Introduction to ChatGPT:

ChatGPT, developed by OpenAI, is an artificial intelligence machine. Using natural language processing (NLP), ChatGPT understands and interacts with users to generate human-like responses using text. The first iteration of GPT – otherwise known as Generative Pre-trained Transformer – appeared in 2018, gradually advancing in technology since then. GPT-2 was released in 2019, GPT-3 in 2020, and GPT-4 in 2022. On November 30, 2022, ChatGPT was released to the public – using the GPT3.5 model – allowing users to give inputs to which the AI would respond. ChatGPT can assist individuals in a multitude of different ways. A couple of use cases of ChatGPT involve summarizing large bodies of text and answering user-posed questions, such as having ChatGPT write a paragraph. However, such features have stirred controversy, especially amongst educational institutions, as students have utilized ChatGPT to complete assignments for them and have cheated by submitting work that they did not produce. Certain school districts in the United States, such as the New York Public Schools district – one of the largest school districts in the United States (Johnson) – have outright banned ChatGPT. This report summarizes the findings from a survey involving one-hundred post-secondary students. The purpose of the survey was to measure students' opinions about the use of ChatGPT and whether universities should allow the AI.

Benefits and Limitation of ChatGPT in Academia:

ChatGPT can benefit students in multiple ways, with two critical abilities being the summarization of text and retrieval of information. ChatGPT's model allows users to input bodies of text that the AI will then summarize. According to ChatGPT itself, it can identify key points in the text, eliminate redundant information, and preserve context. All three abilities benefit students by saving them time. Instead of scouring through multiple pages, the time spent using ChatGPT may allow students to focus on their other subjects. Another benefit of ChatGPT is its ability to answer questions a user asks regarding academic information quickly. For example, a student may read a book and encounter an unknown word. Said student can use ChatGPT to quickly find the word's definition and ask the AI to use said word in a sentence to understand the meaning better. On top of such, a student may be studying a subject with a particular concept the student does not understand. The student can ask ChatGPT about said concept and quickly receive a response that aids them in their learning. However, ChatGPT has limitations, such as solving complex mathematical problems and biases. Firstly, individuals relying on ChatGPT to assist in math courses may arrive at roadblocks due to ChatGPT's inability to explain complex topics. Secondly, problems arise because of the AI's training data. Specific data could lead to biased responses and even inappropriate answers. Such an issue may limit the use of ChatGPT in discussions regarding sensitive issues.

Survey Findings:

Based on the survey results, out of the one-hundred responses, approximately 87% of participants reported having heard of ChatGPT (see fig. 1).

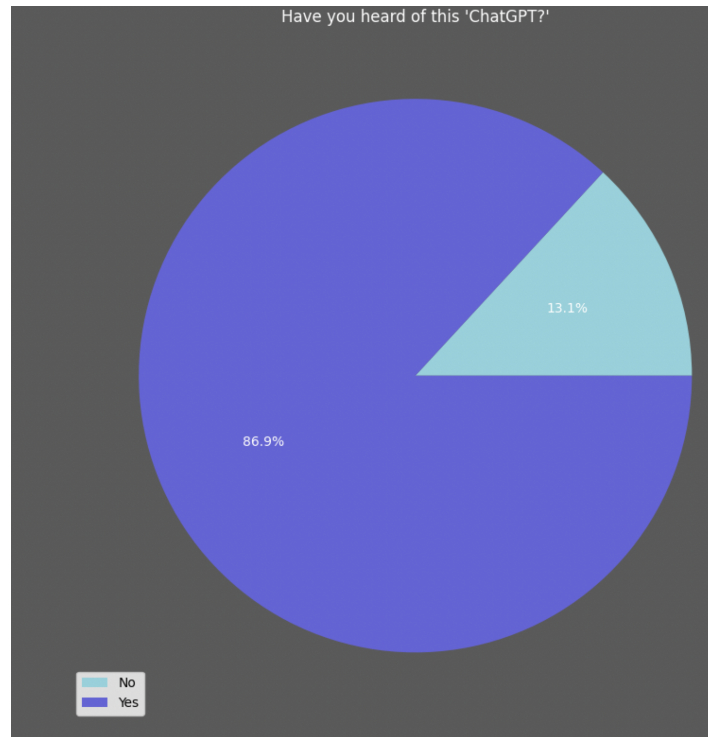


Figure 1. Percentage of students who have heard of ChatGPT.

Among 87% of users, 49% reported using ChatGPT in academia (see fig. 2).

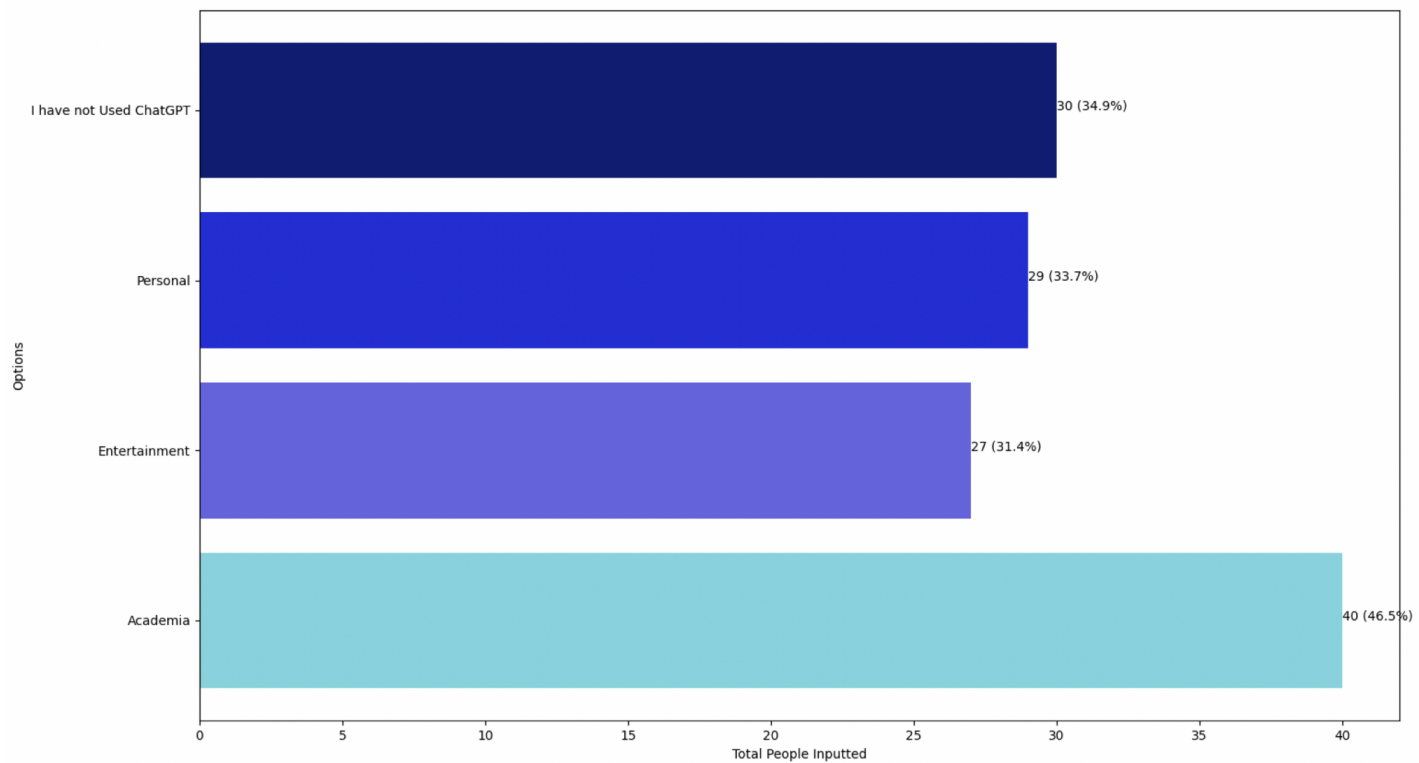


Figure 2. How students use ChatGPT.

The most common use case for ChatGPT was developing research ideas, followed by grammar assistance and proofreading assignments. Of the 49% of students that used ChatGPT in academia, 63% reported an improvement in their grades, and 37% of individuals did not see any improvement in their grades (see fig. 3).

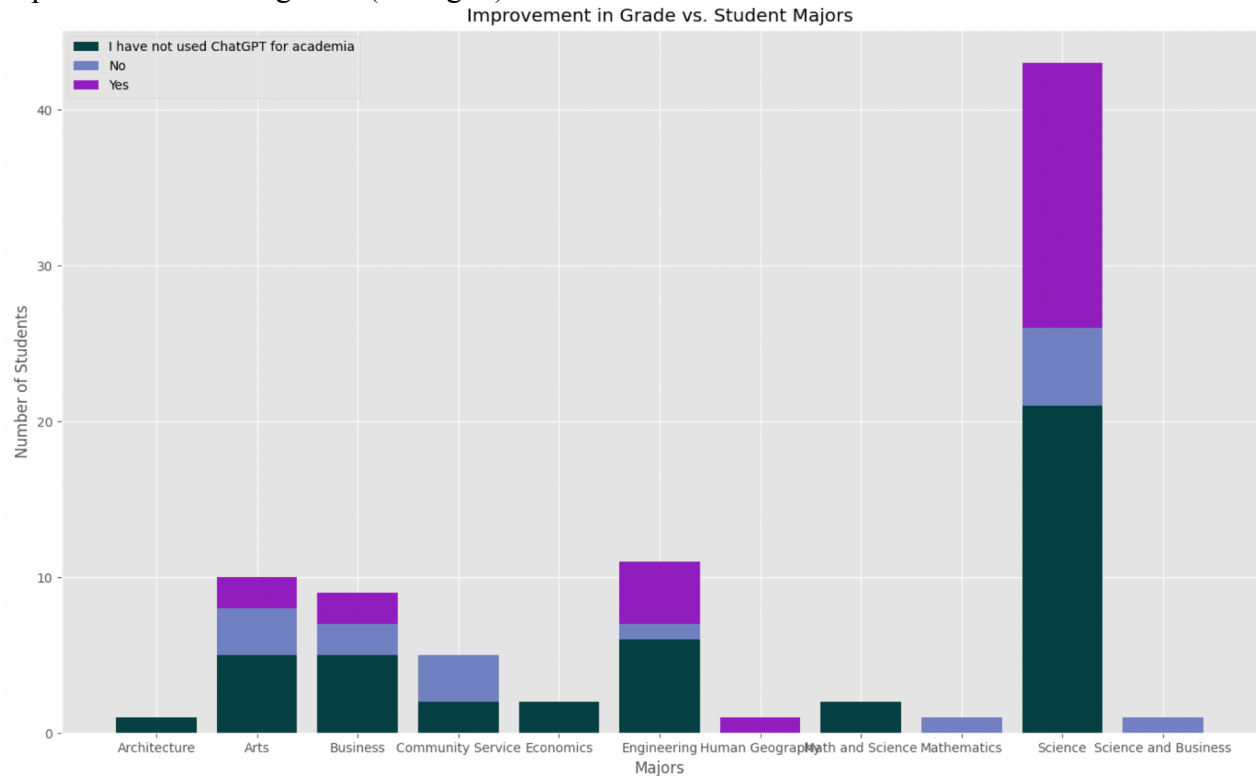


Figure 3. Comparison of majors and if they have seen an improvement in their grade after using ChatGPT.

Although grade improvement may not have occurred, 61% of responses from those who had used ChatGPT for academia indicated that ChatGPT assisted them with learning to some extent. The data relating to whether universities should ban ChatGPT is split. Of those who have heard of ChatGPT, roughly 27% say universities should ban ChatGPT, 46% disagree with a ban, and 27% are neutral (see fig. 4).

Statement: Schools should ban the usage of ChatGPT due to it being under the category of academic dishonesty.

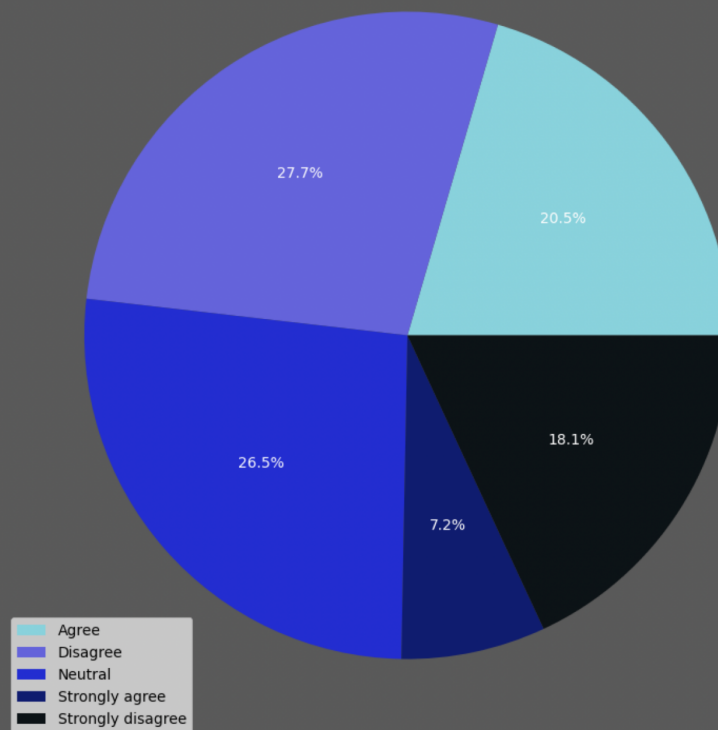


Figure 4. Opinions of students on the statement, "Schools should ban the usage of ChatGPT due to it being under the category of academic dishonesty."

When analyzing findings based on the 49% of participants that had reported previous academic use of ChatGPT, it can be discerned that most users felt that the use of ChatGPT aided in improving their grades and assisted in their learning experience.

Future of ChatGPT in Academia:

The future of ChatGPT in academia is not clear-cut but rather a mixed bag of opinions. Analyzing data from the survey displays different paths for ChatGPT in academia. Firstly, those who remain neutral about the subject could take the stance that ChatGPT may benefit students only under the right circumstances. Approaches may be taken to limit the use of ChatGPT in assignments or other graded material, but welcome AI to assist in studying and homework. Such an approach would allow the student to find a happy balance with ChatGPT while still being able to apply their critical thinking skills to problems in assignments. Secondly, the users that want to ban ChatGPT from academia may argue that students are not performing the work required of them but instead having ChatGPT answer for them. Such behavior creates overreliance. Students who request ChatGPT to do all their work are not learning anything from classes but instead hindering their ability to develop critical thinking, problem-solving, and research skills, all needed to succeed in many future careers. Lastly, academia, where ChatGPT is allowed with no restrictions, may lead to a great deal of overreliance, which, as mentioned before, may decrease students' ability to apply themselves in their courses.

Conclusion:

ChatGPT comes with benefits, limitations, and risks, all of which affect academia differently. The ability to enable students to summarize and retrieve information is helpful as it saves students time. However, individuals run the risk of creating an overreliance on ChatGPT to answer questions. On top of such, ChatGPT still has its limitations in complex math and bias. Ultimately, the direction of academia will come down to institutions' ability and how they balance ChatGPT's benefits with its potential risks of hindering essential learning and fostering academic dishonesty.

Word Count: 958

Works Cited

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Appendix

Figure 1.
Percentage of
students who
have heard of
ChatGPT.

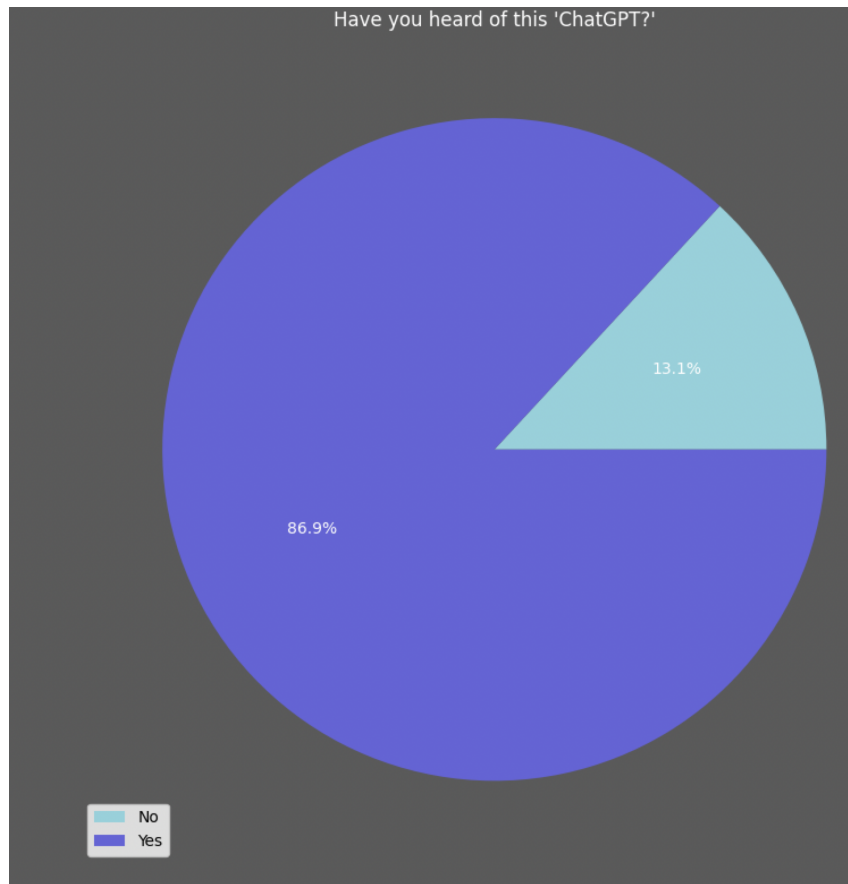


Figure 2. How
students use
ChatGPT.

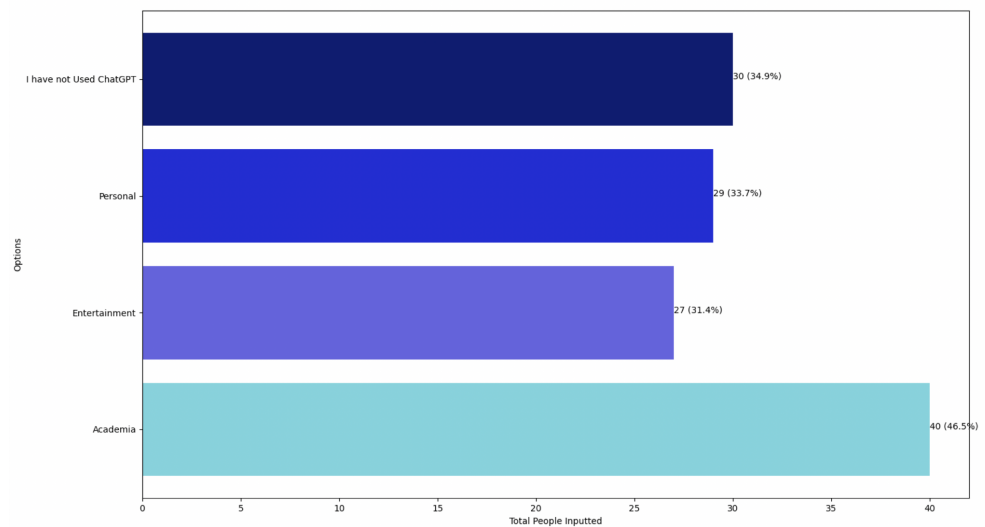


Figure 3.
Comparison
of majors and
if they have
seen an
improvement
in their grade
after using
ChatGPT.

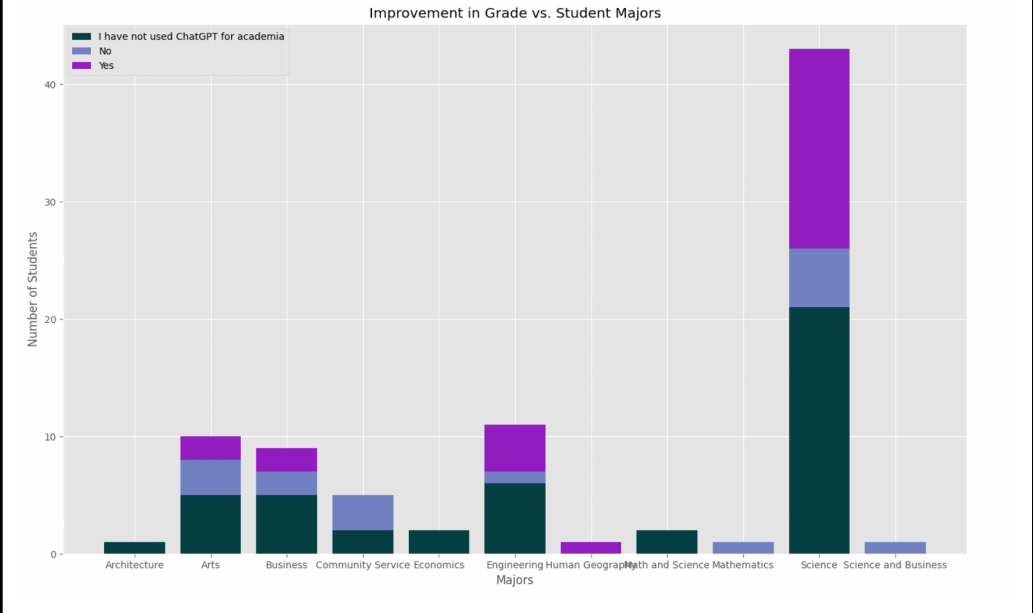


Figure 4.
Opinions of
students on
the statement,
“Schools
should ban the
usage of
ChatGPT due
to it being
under the
category of
academic
dishonesty.”

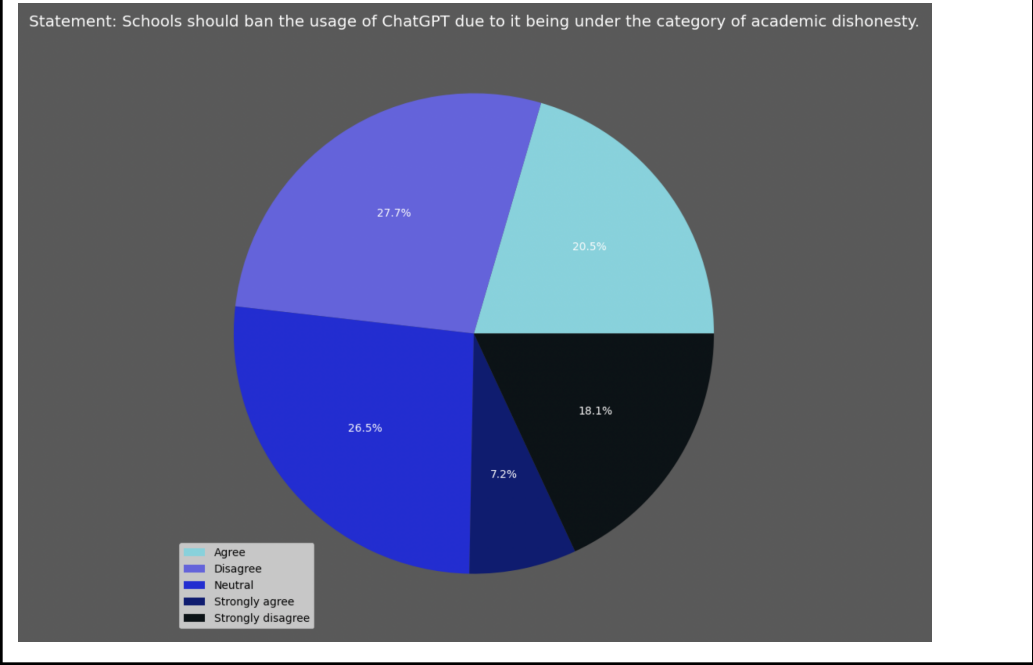


Figure 5. Age of students who have answered the survey.

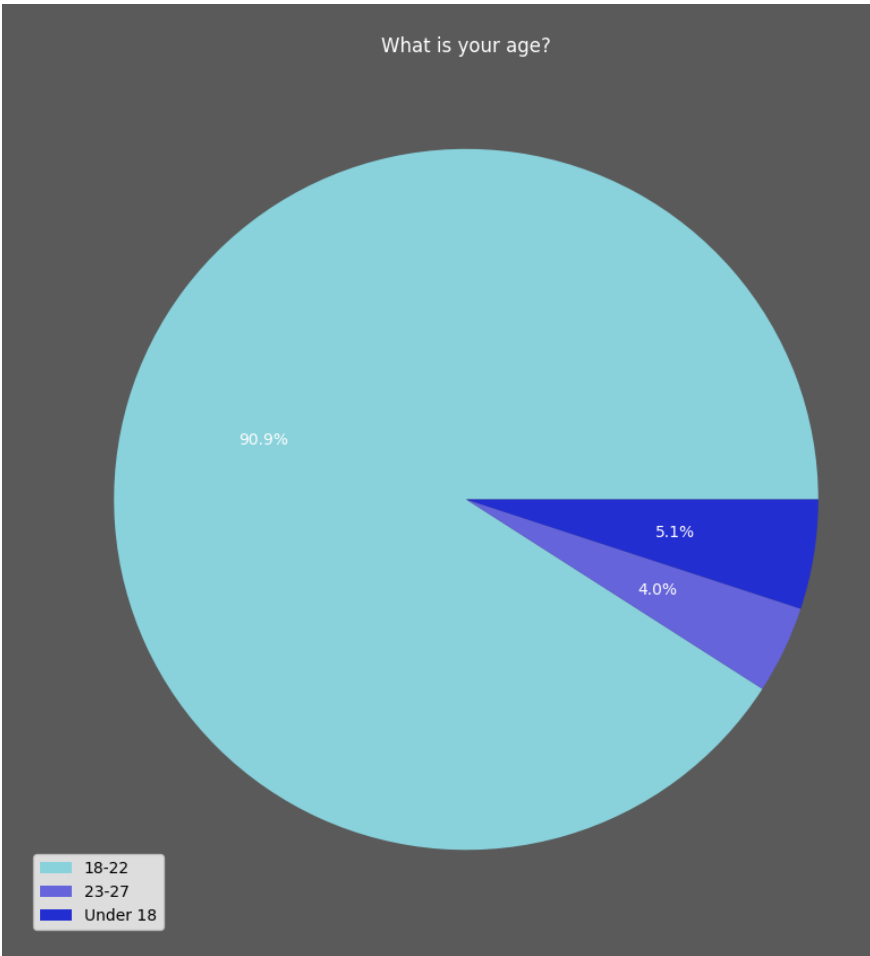


Figure 6.
Department
from which
students are a
part of who
have
answered the
survey.

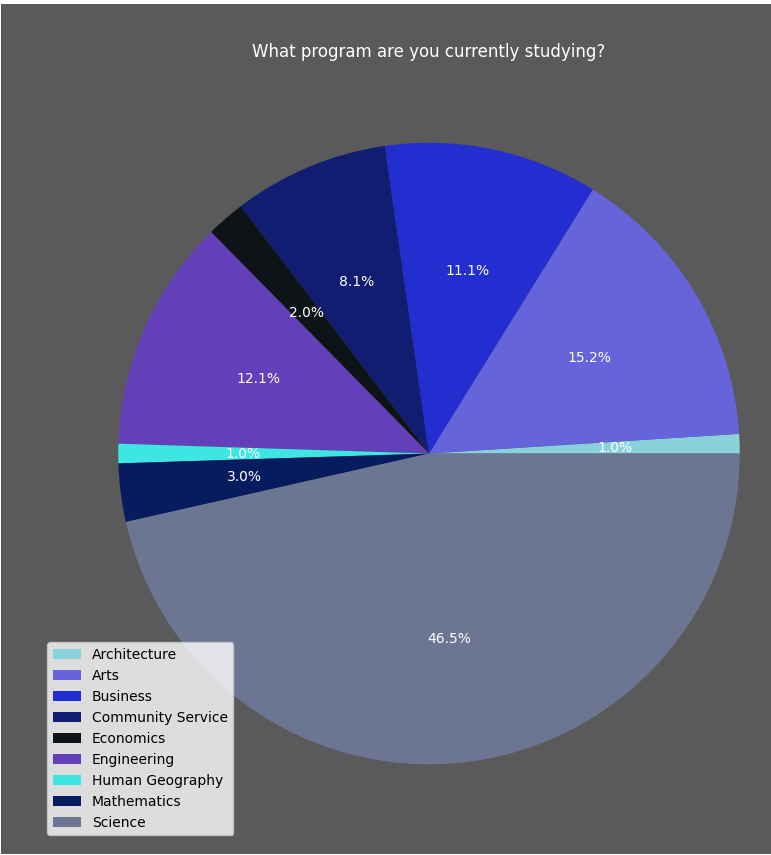


Figure 7.
Students' opinions on how ChatGPT affects their learning.

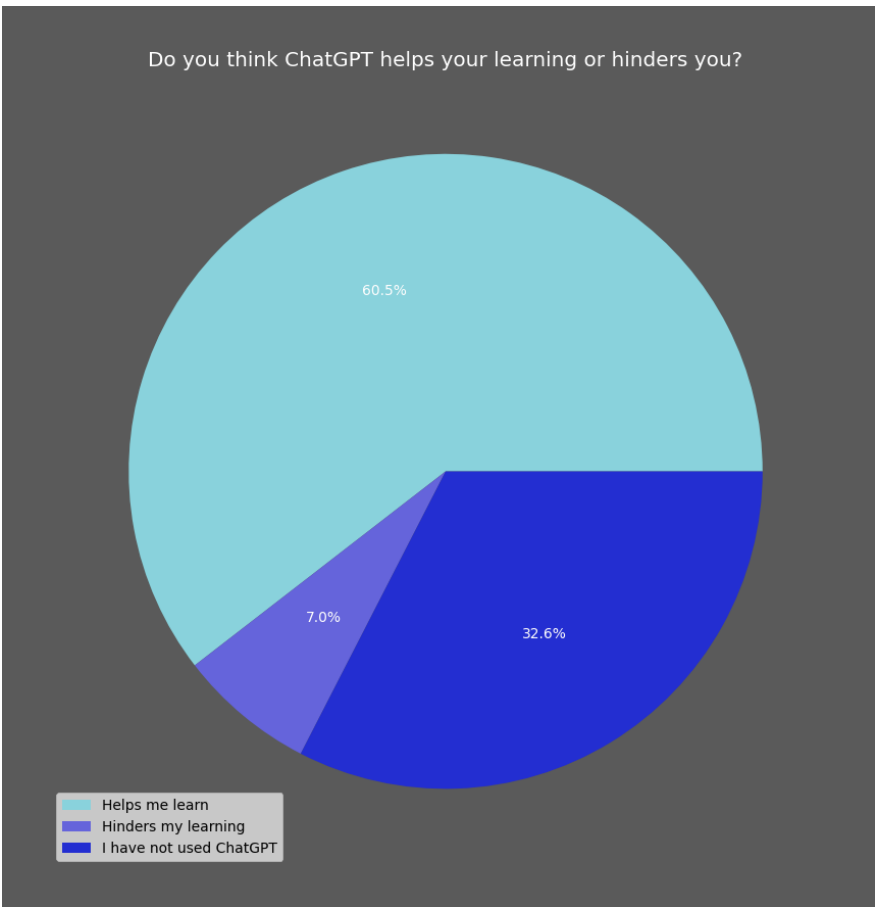


Figure 8.
Accuracy of
ChapGPT
among
students.

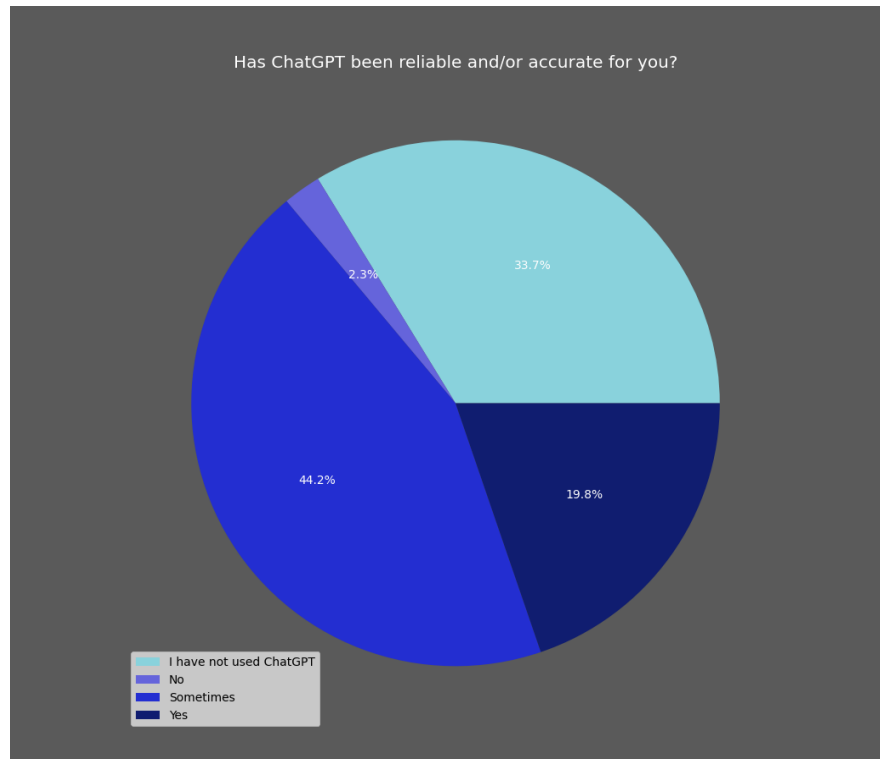
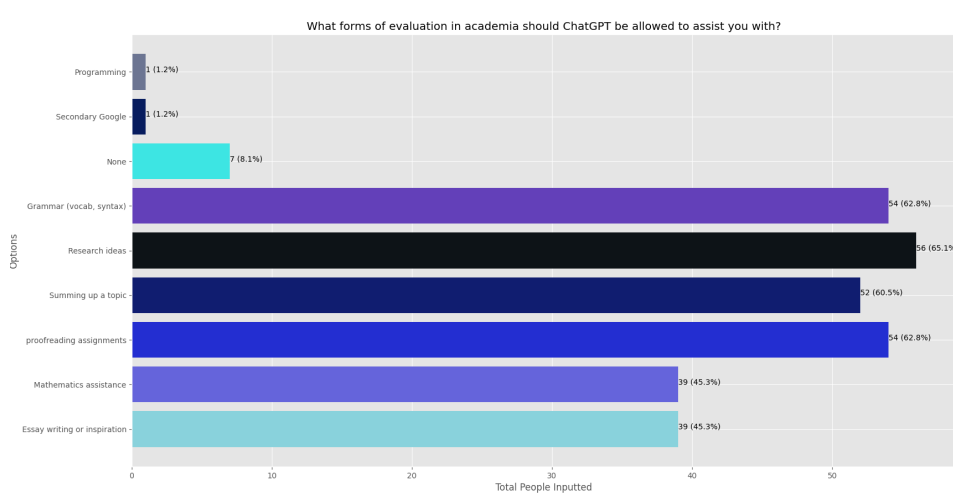


Figure 9.
Students' opinions on
how ChatGPT should be
allowed to be
used in
academia.



ChatGPT Survey PDF Link:

ChatGPT Survey.pdf

ChatGPT Survey Link:

<https://forms.gle/CVH2ucVJkqvs3SqB7>

Images of our survey are also below:

Section 1 of 5

ChatGPT Survey

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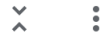
⋮

This is a quick survey on questions that gather your thoughts and opinions on an AI developed bot, ChatGPT.

Note:
This survey's purpose is intended only for students or those who are involved in any sort of academic institution with educational programs.

After section 1 Continue to next section ▼

let's get to know you a bit!



Description (optional)

What is your age? *

1. Under 18
2. 18-22
3. 23-27
4. Above 28

What gender do you identify as? *

- ☐ Male
- ☐ Female
- ☐ Trans Gender/Non-Binary
- ☐ Prefer Not To Say
- ☐ Other...

What's your ethnicity? *

- ☐ Asian
- ☐ Black or African American
- ☐ Hispanic
- ☐ Indigenous or Native American
- ☐ White / Caucasian
- ☐ Middle Eastern
- ☐ Other...

What level of education are you currently enrolled in? *

- ☐ College Diploma
- ☐ Bachelor's Degree
- ☐ Master's Degree
- ☐ PhD
- ☐ Certificate
- ☐ Professional Degree

What program are you currently studying? *

Short answer text



Section 3 of 5

... onto ChatGPT!



Description (optional)

Have you heard of this 'ChatGPT?' *

☐ Yes

☐ No

After section 3 Continue to next section



Section 4 of 5

here ya go!



Note:

This survey's purpose is intended only for students or those who are involved in any sort of academic institution with educational programs.

How have you used ChatGPT? *

☐ Academia (essay writing, programming help)

☐ Entertainment (play chess with me)

☐ Personal (cooking, inspiration, etc.)

☐ I have not used ChatGPT

If you have used ChatGPT for academia, did you see an improvement in ^{*} your grade?

- ☐ Yes
- ☐ No
- ☐ I have not used ChatpGPT for academia

Has ChatGPT been reliable and/or accurate for you? ^{*}

- ☐ Yes
- ☐ Sometimes
- ☐ No
- ☐ I have not used ChatGPT

Do you think ChatGPT helps your learning or hinders you? *

- ☐ Helps me learn
- ☐ Hinders my learning
- ☐ I have not used ChatGPT

Statement: Schools should ban the usage of ChatGPT due to it being under the category of academic dishonesty. *

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

What forms of evaluation in academia should ChatGPT be allowed to assist you with? *

- ☐ Essay writing or inspiration
- ☐ Mathematics assistance
- ☐ Proofreading assignments
- ☐ Summing up a topic
- ☐ Research ideas
- ☐ Grammar (vocab, syntax)
- ☐ None
- ☐ Other...

After section 4 Submit form ▼

Section 5 of 5

well, you're missing out!



Have a nice day!

Abstract:

The point of this document is to highlight the changes made to the original data and the differences between the two spreadsheets.

Changes Made to Original Data:

Firstly, some data rows from the original sheet had to be removed - lines 75¹, 76² & 81³ refer to footnotes for an explanation - said data was removed due to its irrelevance with the questions asked. Secondly, degrees were cleaned up for consistency - answers such as “comp sci” were submitted and were changed to “Computer Science.” Lastly, two unique sheets were created to store the cleaned data. Each sheet specializes in a different presentation of the “**What program are you currently studying?**” column. One sheet, “**Cleaned Up ChatGPT Responses Non-Generalized,**” keeps the specific program - i.e., “Computer Science” is used as the answer within the cell. However, the other sheet, “**Cleaned Up ChatGPT Responses Generalized,**” changes the specific degree and replaces it with the general department which it falls under.⁴

Argument for Generalized Data:

The decision to generalize the data was made because many specific degrees may lead to convoluted and hard-to-read data. If specific data is used, over forty points must be graphed for degrees alone. However, if generalized data is utilized, only eleven data points would need to be graphed for degrees - roughly seventy-three percent less than specific data. We must decide, as a group, what spreadsheet to use: either generalized or non-generalized.

¹ Row 75 has gender as “Chinese.”

² Row 76 has gender as “Arab.”

³ Row 81 has gender as “Tiny wang gang” and degree as “Rizzology.”

⁴ Exceptions include “Occupational Health and Safety.”