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# Impact of Artificial Intelligence in Academia: Navigating the Perceptions and Usage of ChatGPT among University Students

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## Abstract

This research delves into the perceptions, usage behaviors, and experiences of ChatGPT among students, encompassing both undergraduates and postgraduates, enrolled at a public university. Employing a convenient sampling technique, we collected responses from 255 participants via a structured questionnaire. The collected data underwent analysis through descriptive statistics and correlation assessments. The results of this investigation illuminate a prevalent positive perception of ChatGPT across all dimensions explored. Most notably, our study found no significant relationship between students' educational levels (undergraduate or postgraduate) and their perceptions, utilization patterns, or experiences with ChatGPT. These findings underscore the widespread acceptance and utility of ChatGPT within the academic sphere, transcending educational distinctions and reaffirming its value as a versatile tool for a diverse range of university students. This research contributes to the growing body of knowledge surrounding the reception and integration of AI-driven language models, such as ChatGPT, within the educational landscape.

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## Introduction

In the vast realm of human-computer interaction, a revolutionary character has taken center stage: ChatGPT. This digital marvel, powered by the magic of natural language processing, is reshaping the way we communicate, learn, and explore the digital world. In November 2022, OpenAI introduced ChatGPT, which quickly emerged as a digital sensation. Its rapid ascent to fame was nothing short of astonishing, with an impressive one million users signing up within just five days. To put this incredible achievement into perspective, it's noteworthy that Facebook took a leisurely 300 days to reach a similar milestone, Twitter required a patient 720 days, and even the agile Instagram needed 75 days to match ChatGPT's meteoric rise (Biswas, 2023; Fırat, 2023). It is renowned for its ability to produce sophisticated text and engage in persuasive conversations with users. It excels in assisting with a wide range of tasks, including composing essays, generating research concepts, conducting literature evaluations, improving documents, and even crafting computer code (Owens, 2023). As it engages with users and accumulates new data, its capabilities are poised to expand rapidly. (Van Dis et al., 2023). There has been extensive dialogue surrounding its potential to reshape disciplinary practices such as medical writing (Biswas, 2023; Kitamura, 2023), surgical procedures (Bhattacharya et al., 2023), and healthcare communications (Eggmann et al., 2023). Additionally, it is anticipated to enhance the landscape of higher education teaching and learning (e.g., Adiguzel et al., 2023; Baidoo-Anu & Ansah, 2023).

While certain individuals believe that the pioneering application of this AI could lead to a substantial transformation across various domains, including education (Bozkurt, 2023; Hossain et al., 2025; Hossain et al., 2025; Sallam, 2023), others emphasize the potential ethical challenges of ChatGPT and consider it a disruptive technology (Haque et al., 2023; Sardana et al., 2023). To gain a comprehensive grasp of ChatGPT's influence on education, it is imperative to delve into the experiences of students who have interacted with this language model and gauge their perspectives. The students' viewpoints hold immense importance in the realm of education, given their potential to greatly influence motivation, engagement levels, and academic performance. (Muenks et al., 2020, Hossain et al., 2025).

The current study addresses these concerns by addressing the following research questions:

1. How do students perceive ChatGPT in academic context?
2. How do students view the utility of ChatGPT in their academic tasks?
3. To what extent are students satisfied with their experiences using ChatGPT in their academic pursuits?

The study is guided by the following hypotheses:

*Hypothesis 1:* There is a significant association between students' education level and perceptions of ChatGPT.

*Hypothesis 2*: There is a significant association between students' education level and frequency of using ChatGPT.

*Hypothesis 3:* There is a significant association between students' education level and experience with ChatGPT.

## Literature Review

While the application of AI in educational settings is not a new concept, the widespread adoption of OpenAI's ChatGPT application has recently brought it into the spotlight, making it a hot topic during the first quarter of 2023. Prior to the emergence of ChatGPT, in a research conducted by Alotaibi et al. (2020), they investigated how the integration of a chatbot in a computer science course influenced student learning outcomes. The findings indicated a substantial enhancement in students' performance and their ability to retain knowledge when utilizing the chatbot. Likewise, in an investigation led by Xiong et al. (2021), they probed into how students viewed a Chabot used within a language learning context. The study yielded compelling results, indicating that students held a favorable outlook towards the Chabot and regarded it as a valuable asset for enhancing their language learning experience. AI chatbots can boost learners' metacognitive, emotional, and behavioral engagement (Liang et al., 2024).

Following the creation of ChatGPT, Tlili et al. (2023) conducted a case study on ChatGPT's role in education across three distinct stages. These stages unveiled that (1) there is a strong and optimistic reception towards ChatGPT, (2) ChatGPT has the potential to revolutionize education, and (3) concerns emerged related to issues like cheating, veracity, integrity, and manipulation. Their conclusions provided valuable insights and guidance for the secure integration and utilization of ChatGPT within educational contexts. In line with this, ChatGPT has the capacity to assist students in cultivating a diverse range of skills, encompassing reading, writing, information analysis, critical thinking, problem-solving, practice problem generation, and research. It is conducive to both group and remote learning, and it serves as an empowering tool for individuals with disabilities. (Kasneci et al., 2023). It facilitates the comprehension of intricate concepts by presenting them in a straightforward manner, thereby enhancing inclusivity for individuals with communication disabilities (Hemsley et al., 2023; Starcevic, 2023). On the other hand, concerns have also arisen regarding the constraints of GenAI and the ethical dilemmas associated with it, encompassing issues such as plagiarism and threats to academic integrity. The subject of academic integrity is likely to emerge as the foremost and widely debated challenge presented by ChatGPT in the realm of education. (Kasneci et al., 2023).

In their research, Aydin and Karaarslan (2022) discovered that a literature review paper produced by ChatGPT exhibited a plagiarism rate of 40%. Besides, It presents a substantial concern for the integrity of online examinations, particularly in the context of tertiary education, where these exams are becoming more widespread (Susnjak, 2022). In addition, Lametti (2022) and Frieder et al. (2023) both voiced the view that AI systems proved unsuccessful in resolving mathematical challenges. As noted by Harrer (2023), when the dataset used for model training contains biases, inaccuracies, or harmful elements, there is a potential for GenAI-generated content to exhibit these same issues. Additionally, because most plagiarism detection software cannot identify AI-generated output, determining the authenticity of an author's original work becomes a challenging task, as pointed out by (Peres et al., 2023).

While there has been a significant body of research on ChatGPT in general, as evidenced by the review of existing studies in this section, there is currently a dearth of inquiry into the perceptions of students regarding ChatGPT.

Given the current remarkable interest in ChatGPT, there is a pressing requirement to investigate how university students view ChatGPT and their interactions with GenAI. This exploration is essential to acquire a deeper understanding of how ChatGPT can be effectively incorporated into higher education to augment the teaching and learning process.

## Methodology

### Data Collection

The study exclusively relied on a questionnaire as the sole instrument for gathering data. This questionnaire was structured into four distinct sections: the Academic and Demographic Profile, the Perception and Cognition of ChatGPT, the Experiential Section, and another section focused on students' usage patterns of ChatGPT and their associated experiences. The first section inquired about participants' age, gender, and academic level. The second section aimed to assess students' perceptions and understanding of ChatGPT. The fourth section delved into the frequency and purposes of students' ChatGPT usage, while the fifth section explored students' emotional responses to the outcomes generated by ChatGPT. Prior to distribution, experts reviewed the questionnaire to assess its content validity, including the wording and structure of questions. Expert recommendations were sought to ensure the questionnaire elicited the desired responses. Students were guaranteed privacy and confidentiality when providing their opinions. They were asked to voluntarily and anonymously complete the questionnaire, which typically took 7-8 minutes. Importantly, the survey instrument was presented in the English language.

### Participants

The study focused on students from Noakhali Science and Technology University, encompassing both undergraduates and postgraduates. The research used a convenient sampling method to select participants and distributed an online questionnaire across diverse social media platforms. In total, 255 responses were gathered, yielding a significant dataset for analysis and insights

### Data Analysis

The quantitative data was examined using SPSS version 25, and we applied descriptive and inferential statistical techniques, including calculations of means, standard deviations, and chi-square tests, among others.

## Results

The study aims to navigating the perceptions and usage of ChatGPT among Public University Students in Bangladesh. In Table 1, the gender distribution revealed that 60.4% of the respondents were male, while 39.6% were female. In terms of age groups, the majority, accounting for 85.9%, fell within the 21-25 years range, with 7.8% being 18-20 years old and 6.3% aged 26 and above. Additionally, the degree level distribution showed that 85.1% of respondents were pursuing Bachelor's degrees, while 14.9% were at the Master's level.

Table 1. Academic and Demographic Information ($n$ = 255)

| Variable | Category | *n* | (%) |
|---|---|---|---|
| Gender Identity | Male | 154 | 60.4 |
| | Female | 101 | 39.6 |
| Age Group | 18-20 years | 20 | 7.8 |
| | 21-25 years | 219 | 85.9 |
| | 26 above | 16 | 6.3 |
| Degree Level | Bachelor's level | 217 | 85.1 |
| | Master's level | 38 | 14.9 |

In Table 2, the data illustrates the distribution of respondents based on their levels of familiarity with ChatGPT. The data indicates that a significant portion of the respondents, accounting for 41.2%, reported being "Familiar" with ChatGPT, while 36.1% described themselves as "Somewhat familiar." A smaller percentage, 9.0%, stated that they were "Unfamiliar," while 7.8% indicated they were "Very familiar" with ChatGPT. Only 5.9% of respondents reported being "Very Unfamiliar" with the technology.

Table 2. Frequency of Familiarity with ChatGPT ($n$ = 255)

| Familiarity with ChatGPT | *n* | % |
|---|---|---|
| Familiar | 105 | 41.2 |
| Somewhat familiar | 92 | 36.1 |
| Very familiar | 20 | 7.8 |
| Unfamiliar | 23 | 9.0 |
| Very Unfamiliar | 15 | 5.9 |
| Total | 255 | 100.0 |

Figure 1 depicts the perceptions of respondents regarding ChatGPT as an open-source extension.

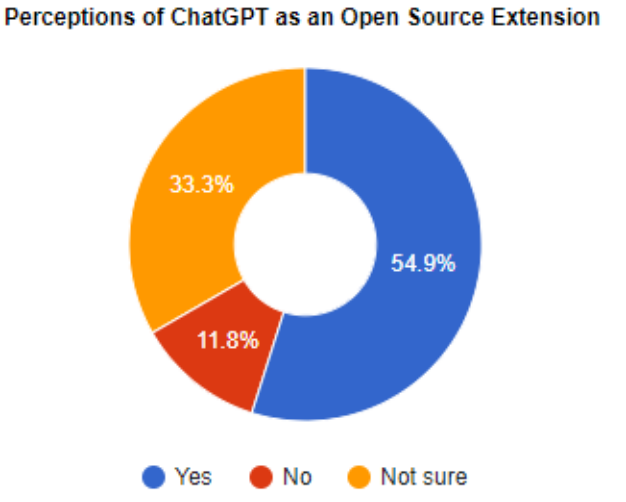


Figure 1. Perceptions of ChatGPT as an Open Source Extension

Among the surveyed students, 54.9% (140 respondents) affirmed that ChatGPT is open source ("Yes"), while 11.8% (30 respondents) held the opposite view ("No"). Additionally, 33.6% (85 respondents) expressed uncertainty ("Not sure") about ChatGPT's open-source status.

The data in Table 3 provides insights into respondents' perceptions of ChatGPT, measured on a Likert scale ranging from 1 to 5. "It violates academic integrity" received an average rating of 3.27, indicating a moderately neutral view with some concerns. "It increases creative productivity" had an average score of 3.51, reflecting a moderately positive perception. "It can write blogs" received an average rating of 3.35, suggesting a moderately positive view of ChatGPT's blogging capabilities. "It can be treated as an academician" garnered an average of 3.81, indicating a moderately positive perception of ChatGPT's potential as an academic resource. "It can be used for doing homework" scored an average of 3.06, showing a moderately neutral stance. "It is used for conversation" received the highest average rating of 3.87, indicating a relatively positive perception of ChatGPT's utility in conversational contexts.

Table 3. Descriptive Statistics on the Perceptions of ChatGPT

| **Perceptions of ChatGPT** | **Mean** | **Std. Deviation** |
|---|---|---|
| It violates academic integrity | 3.27 | 1.117 |
| It increases creative productivity | 3.51 | .959 |
| It can write blogs | 3.35 | 1.097 |
| It can treat as an academician | 3.81 | .908 |
| It can be used for doing homework | 3.06 | 1.157 |
| It is used for conversation | 3.87 | .956 |

In Figure 2, the data presented in the "Use of ChatGPT for academic purpose" reveals how respondents perceive ChatGPT's role in an academic context.

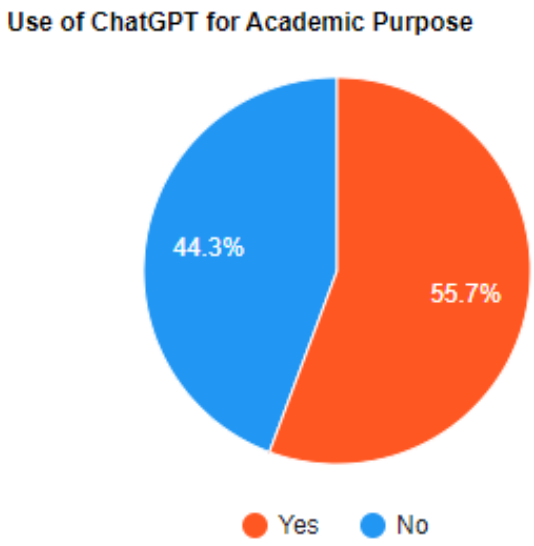


Figure 2. Use of ChatGPT for Academic Purpose

Among the surveyed individuals, 55.7% (142 respondents) expressed a willingness to utilize ChatGPT for academic purposes, indicating a degree of acceptance and openness towards incorporating this technology into their academic pursuits. On the other hand, 44.3% (113 respondents) indicated a reluctance to use ChatGPT for academic tasks.

Table 4 presents a breakdown of respondents' frequency of using ChatGPT, shedding light on their usage patterns and habits. Notably, the data reveals a diverse range of usage frequencies. A small percentage, 4.3% (11 respondents), reported using ChatGPT "Always," indicating a consistent reliance on the tool. Conversely, a substantial portion, constituting 35.7% (91 respondents), claimed to "Never" use ChatGPT. Additionally, 16.1% (41 respondents) stated that they use it "Often," while 9.8% (25 respondents) mentioned "Rarely" utilizing the tool. The majority, comprising 34.1% (87 respondents), indicated that they use ChatGPT "Sometimes," suggesting intermittent reliance.

Table 4. Frequency of Using ChatGPT (*n = 255)*

| **Use of ChatGPT** | ***n*** | **%** |
|---|---|---|
| Never | 91 | 35.7 |
| Rarely | 25 | 9.8 |
| Sometimes | 87 | 34.1 |
| Often | 41 | 16.1 |
| Always | 11 | 4.3 |
| Total | 255 | 100 |

Figure 3 provides a visual representation of the various purposes for which ChatGPT is utilized among the surveyed individuals.

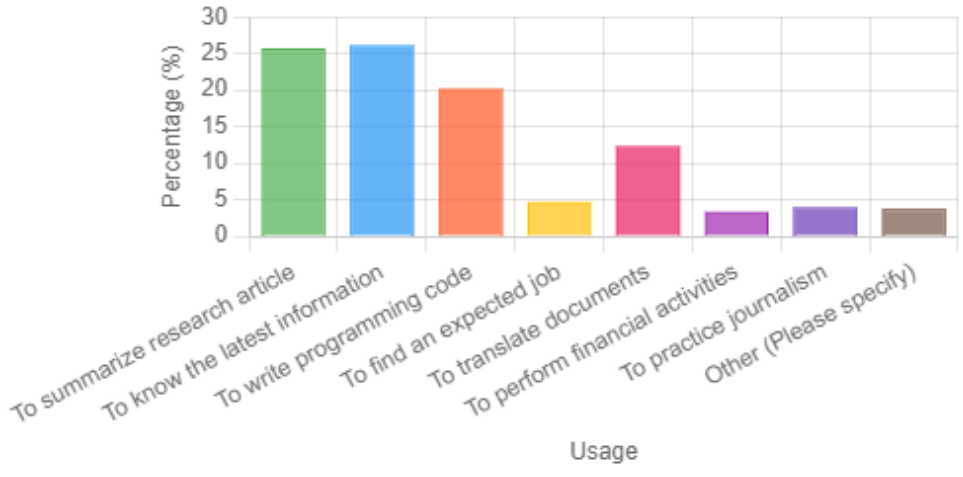


Figure 3. Usages of ChatGPT

The chart reveals that the most common usage of ChatGPT among the surveyed individuals is to "know the latest information" (26.1%) and "to summarize research articles" (25.7%). These findings suggest that a significant portion of the respondents leverage ChatGPT as a tool for staying informed and condensing lengthy research

articles. Additionally, "writing programming code" (20.2%) and "translating documents" (12.3%) are other notable purposes for which ChatGPT is employed. Conversely, purposes such as "performing financial activities" (3.3%) and "practicing journalism" (3.9%) are less frequently reported. The "other" category, which allows respondents to specify additional purposes, accounts for 3.7% of the responses.

Table 5 summarizes respondents' feelings about ChatGPT results.

Table 5. Feelings with the Result of ChatGPT ($n$ = 255)

| **Satisfactory Level** | ***n*** | **%** |
|---|---|---|
| Satisfied | 125 | 49.1 |
| Very satisfied | 36 | 14.1 |
| Neither satisfied | 84 | 32.9 |
| Dissatisfied | 9 | 3.5 |
| Very dissatisfied | 1 | .4 |
| Total | 255 | 100 |

Nearly half (49.1%) were satisfied, while 32.9% felt neither satisfied nor dissatisfied. Dissatisfied and very dissatisfied combined for 3.9%, and 14.1% were very satisfied. Overall, a majority expressed positive sentiments about their ChatGPT experiences.

*Hypothesis 1:* There is a significant association between students' education level and perceptions of ChatGPT.

Table 6. Hypothesis Testing 1

| **Statements** | **N** | **Sig. (2-tailed)** |
|---|---|---|
| It violates academic integrity | 255 | 0.475 |
| It increases creative productivity | 255 | 0.047 |
| It can write blogs | 255 | 0.414 |
| It can treat as an academician | 255 | 0.383 |
| It can be used for doing homework | 255 | 0.846 |
| It is used for conversation | 255 | 0.349 |

To test the hypotheses, a Pearson chi-square test was conducted to examine the association between students' education levels (bachelor's and master's) and their perceptions of ChatGPT. The data revealed a significant association between education levels and the perception that ChatGPT increases creative productivity, as indicated by a low p-value of 0.047. However, for other perceptions such as ChatGPT's potential to violate academic integrity, write blogs, impersonate an academician, be used for doing homework, and for conversation, there was no significant association with education levels, as reflected by higher p-values.

*Hypothesis 2:* There is a significant association between students' education level and frequency of using ChatGPT.

Table 7. Hypothesis Testing 2

| Statement | N | Sig. (2-tailed) |
|---|---|---|
| Frequency of using ChatGPT | 255 | 0.184 |

The data indicates a p-value of 0.184, which suggests that there is no statistically significant association between these factors at the conventional significance level of 0.05. In essence, the data does not provide strong evidence to support this hypothesis.

*Hypothesis 3:* There is a significant association between students' education level and experience with ChatGPT.

Table 8. Hypothesis Testing 3

| Statement | N | Sig. (2-tailed) |
|---|---|---|
| Feelings with the result of ChatGPT | 255 | 0.709 |

The data provided, with a p-value of 0.709, indicates that there is no statistically significant association between education levels and the experience with ChatGPT. In other words, the data suggests that students' education levels do not significantly influence their experience with ChatGPT, as the p-value is not below the conventional significance level of 0.05.

## Discussion

The study of student perceptions of ChatGPT provides a nuanced understanding of how respondents perceive ChatGPT across different aspects, from its academic implications to its practical utility. To begin with, it's apparent that there were a slightly greater number of male participants compared to their female counterparts in the survey that implies their level of awareness. This observation aligns with Tagoe's (2012) findings, which noted that male students were more inclined to utilize the internet and other technologies in their higher education compared to their female counterparts. The research findings offer a comprehensive view of students' perceptions and utilization of ChatGPT. Notably, a significant portion of surveyed students exhibited familiarity with ChatGPT, indicating its recognition within the student community. Perceptions of ChatGPT leaned toward a moderate and neutral spectrum, particularly regarding its creativity and productivity. It's noteworthy that a majority of respondents acknowledged using ChatGPT for academic purposes, reflecting its role in tasks such as summarizing research data, coding, and document translation. Most students reported utilizing ChatGPT at varying intervals, demonstrating its adaptability to their diverse academic needs.

Notably, students frequently turned to ChatGPT to access the latest information, summarize research, write code, and translate content. Encouragingly, a majority expressed satisfaction with ChatGPT's results, affirming its effectiveness as a valuable educational tool. Overall, the findings underscore ChatGPT's prominent position in the student landscape, emphasizing its versatile utility and positive impact on their academic pursuits. Previous research has provided corroborative evidence, with studies by Fathema et al. (2015) and Tlili et al. (2023) highlighting the satisfaction derived from the utilization of new technologies. Additionally, Pavlik (2023) has

associated improved outcomes with these technologies, while Biswas (2023) and Tlili et al. (2023) have emphasized the exceptional user experience. Collectively, these studies contribute to the support for students advocating the integration of ChatGPT into higher education. The findings have also revealed a very subtle correlation between students' perceptions and their education levels, aligning with our initial hypothesis that proposed a correlation between perception and education level. However, it's important to highlight that there is no discernible association between education level and the frequency of ChatGPT use or the depth of experience, contradicting our hypothesis regarding the relationship between perception and education level. These results underscore the complexity of the interaction between education levels and students' interactions with ChatGPT. While our hypotheses were supported in one aspect but not in another, it emphasizes the nuanced nature of the impact of education on technology adoption in higher education.

## Limitations

While this study has undeniably provided valuable insights, it is crucial to acknowledge its inherent limitations. A significant constraint lies in the relatively modest sample size, which exclusively comprises students from a single institution. This confinement severely restricts the diversity of viewpoints available for scrutiny. To attain a more all-encompassing comprehension of ChatGPT's perceptions, utilization patterns, and experiences, forthcoming research initiatives should ardently aspire to broaden the participant base by encompassing individuals hailing from diverse backgrounds and geographical locales. Moreover, an expanded scope that encompasses scholars and students spanning a diverse spectrum of academic disciplines can furnish a profoundly comprehensive vantage point regarding the ramifications of AI integration within the realm of higher education.

## Conclusion

This research has unveiled a positive landscape in the realm of student perceptions of ChatGPT. The overall sentiment among students leans towards acceptance and favorability. ChatGPT is perceived as a valuable asset within higher education, offering versatile solutions and enhancing creative productivity. Although certain limitations and challenges persist, the prevailing positivity suggests a promising future for the integration of ChatGPT and similar AI technologies in the educational domain. This study highlights the importance of understanding and harnessing AI's potential to enrich the learning experience and opens doors for further exploration in this evolving field.

## Statements and Declarations

**Authors' notes:** We declare no known conflicts of interest.

**Credit Authorship Contribution Statement:** *FA:* Writing- review & editing, Methodology, Resources, Software, Formal analysis, Visualization, Writing- original draft. *MSB:* Conceptualization, Methodology, Writing- review and editing, Supervision, Validation, Project administration. *SH:* Conceptualization, Data curation, Writing- review and editing, Formal analysis, Resources, Software, Visualization

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**Declaration of Competing Interest:** The authors have no competing interests.

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