

Students' Perceptions Towards Usage of ChatGPT among University Students

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This study aims to explore students' perceptions towards usage of ChatGPT in higher education, focusing on how different aspects of the tool influence their attitudes and engagement. The independent variable consists of seven aspects of ChatGPT, which are capabilities, regulations and ethical concerns, satisfaction and attitude, study issues and outcomes, skills development, labor market and skill mismatch, and emotions, while the dependent variable is the overall usage of ChatGPT among university students. A quantitative research method was adopted using an online survey distributed through Google Forms to collect data from university students. The findings indicate that most students hold positive perceptions towards ChatGPT, viewing it as a useful tool for enhancing learning efficiency, developing new skills, and supporting academic tasks. However, some concerns remain regarding ethical use and overreliance on AI-generated content. The study concludes that ChatGPT has significant potential to complement traditional learning methods, provided it is used responsibly. The findings offer valuable implications for educators and policymakers in integrating AI tools effectively into educational settings.

Keywords: Artificial Intelligence; ChatGPT; Education; Ethical Concerns; Perception; Skills Development; Students

INTRODUCTION

Artificial Intelligence (AI), generally expressed by the public as the ability of machines or computers to think and act as humans do, represents the efforts towards computerized systems to imitate the human mind and actions (Wartman & Combs, 2018). In recent years, AI has rapidly transformed many sectors including education. ChatGPT stands out as the most popular interactive generative AI model in education based on Natural Language Processing (NLP), a field of AI that enables computers to understand, interpret and generate human language. ChatGPT has gained significant attention from students and educators due to its ability to generate human-like text, provide instant feedback, and help in completing academic tasks. The purpose of this study is to understand students' overall perception towards usage of ChatGPT and to determine how different aspects influence students' engagement and adoption.

ChatGPT has been developed by OpenAI, a globally recognized AI research organization. ChatGPT was first released on November 30, 2022, with the main objectives of enhancing human-AI interaction and expanding AI applications in practical domains. As a model for conversational tasks, ChatGPT is freely accessible on multiple platforms. Users can interact seamlessly for conversations, answers and content creation with various languages and styles. Educators and students in higher education also started using ChatGPT immediately after its release. At the same time, many researchers became curious about what ChatGPT can and cannot do, how students interact with ChatGPT for better learning skills, and how educators collaborate with ChatGPT within their teaching methods (Ajevski et al., 2023). In our research, we only focused on students' perspectives, which will be elaborated further in the paper.

ChatGPT offers valuable functions in higher education by providing continuous, on demand support, personal tutoring, enhanced revision tools, and accessibility aid, especially benefiting students who require flexible learning options, customized explanations, or language assistance (Ravselj D et al., 2025). Additionally, its capabilities for generating practice questions, summarizing content, and assisting in academic writing make it a valuable tool for student learning and self-directed studies. However, these benefits are accompanied by challenges, including concerns about academic integrity due to the potential for misuse in assignments and exams, the risk of over reliance that may hinder critical thinking development, and occasional inaccuracies in responses that can mislead students lacking strong foundation knowledge. Privacy and data security concerns add to the complexity, as students are unsure about data handling practices, and the AI's lack of emotional and contextual understanding limits its effectiveness in addressing the needs of learners.

Therefore, ChatGPT has the potential to hinder students' learning. It can reduce cognitive load by handling complex tasks and supporting critical thinking, but it may also lead to dependency and cognitive overload by replacing deep thinking. For example, some students could use ChatGPT's diverse writing and learning assistance capabilities to support self-regulated learning by aiding in goal setting and preparation. The effectiveness of learning how to use ChatGPT depends on the students' AI competency. Students with strong AI competency have the confidence, knowledge, and skills to use ChatGPT effectively and responsibly, using it for a new perspective and feedback to enhance their learning. As students will likely interact with AI tools like ChatGPT in their future careers, building their confidence and competence in using AI is important for their professional development.

LITERATURE REVIEW

Artificial Intelligence in Higher Education

Artificial Intelligence (AI) has become increasingly embedded in higher education, reshaping how students access information, engage with learning materials, and complete academic tasks. One of the most important AI applications in this domain is ChatGPT, a generative AI tool capable of producing human-like text and engaging in interactive dialogue. Prior research indicates that university students widely use ChatGPT for academic writing, professional writing, creative writing, proofreading, brainstorming, study assistance, and calculating help. (Hasanein & Sobaih, 2023; Jishnu et al., 2023; Rahman & Watanobe, 2023). These capabilities position ChatGPT as a supplementary learning tool that supports both independent and guided learning processes.

Existing studies further demonstrate that students utilize ChatGPT to summarize academic content, paraphrase texts, take notes, and organize ideas efficiently (Jishnu et al., 2023). In more technical disciplines, such as software engineering, ChatGPT has been reported to assist students with translating texts, generating code, and supporting complex scientific writing tasks, including literature summarization (Neumann et al., 2023). These findings highlight the versatility of ChatGPT across different academic fields and learning contexts.

Despite these benefits, scholars have raised concerns regarding the ethical and pedagogical implications of ChatGPT usage in higher education. Key issues include academic integrity, plagiarism, data privacy, content accuracy, and the risk of students becoming overly dependent on AI-generated outputs (Kasneci et al., 2023). Such concerns underscore the importance of institutional regulations and ethical guidelines to ensure responsible use of AI tools. Studies suggest that when clear policies and guidance are provided, students are more confident and comfortable integrating AI tools into their academic work.

Students' satisfaction and attitudes toward ChatGPT are also critical factors influencing its adoption. Prior research indicates that students who perceive ChatGPT as useful, accessible, and easy to use tend to report higher satisfaction and more positive attitudes, which in turn increase their likelihood of continued usage (Rahman & Watanobe, 2023). The ability of ChatGPT to provide immediate feedback and non-judgmental interaction supports self-regulated learning and reduces anxiety when seeking academic assistance.

In terms of learning outcomes, ChatGPT has been associated with improved study efficiency, enhanced understanding of complex concepts, and better preparation for assessments. Additionally, ChatGPT contributes to skills development, particularly in writing, comprehension, digital content creation, and communication skills. However, the extent of these benefits depends largely on students' AI literacy and their ability to critically evaluate AI-generated information rather than relying on it passively.

The literature also presents mixed views regarding the impact of AI on the labor market. While some students express concerns about job displacement and skill mismatch, others perceive AI as a productivity-enhancing tool that transforms job roles rather than replacing human labor entirely. This perspective emphasizes the growing importance of new competencies, including ethical awareness, adaptability, and digital skills, in preparing students for future employment.

Overall, prior studies suggest that ChatGPT offers substantial educational benefits while simultaneously raising ethical, emotional, and practical challenges. These mixed findings highlight the need for a multidimensional examination of students' perceptions toward ChatGPT, forming the basis for the hypotheses and conceptual framework of the present study.

Hypotheses Development

Based on the reviewed literature, students' overall usage of ChatGPT is influenced by multiple interrelated factors. First, the perceived capabilities of ChatGPT, such as providing reliable information, generating ideas, and assisting with problem-solving, are expected to positively influence students' willingness to use the tool. When students view ChatGPT as effective and functional, they are more likely to integrate it into their academic activities.

Second, regulations and ethical concerns play a crucial role in shaping students' perceptions and usage behavior. Clear institutional guidelines regarding ethical use, plagiarism, and data privacy can increase students' confidence and reduce uncertainty, thereby encouraging responsible adoption of ChatGPT. Conversely, ambiguity in ethical standards may discourage usage or lead to misuse.

Third, students' satisfaction and attitudes toward ChatGPT are expected to influence their usage patterns. Positive experiences, ease of interaction, and perceived usefulness contribute to favorable attitudes, which have been shown to increase acceptance and continued use of AI tools in educational settings.

Fourth, perceptions related to study issues and learning outcomes, such as improved efficiency, better understanding of course material, and academic performance, are likely to affect how frequently students use ChatGPT. Students who believe that ChatGPT enhances their learning outcomes are more inclined to rely on it as a learning support tool.

Fifth, skills development is another important factor influencing ChatGPT usage. Prior studies suggest that students who perceive ChatGPT as helpful in improving writing, comprehension, and digital skills are more motivated to engage with the tool regularly.

Sixth, perceptions regarding labor market and skill mismatch may influence students' attitudes toward ChatGPT usage. Students who view AI as a tool that enhances employability and future job readiness may be more open to using ChatGPT, whereas those who fear job displacement may be more cautious.

Finally, emotional responses toward ChatGPT, such as curiosity, enjoyment, or frustration, can shape students' engagement with the tool. Positive emotions are expected to encourage usage, while negative emotions may limit students' willingness to interact with ChatGPT.

Based on these arguments, the following hypotheses are proposed:

H1: ChatGPT capabilities have a significant relationship with the overall usage of ChatGPT among university students.

H2: Regulations and ethical concerns have a significant relationship with the overall usage of ChatGPT among university students.

H3: Satisfaction and attitude have a significant relationship with the overall usage of ChatGPT among university students.

H4: Study issues and learning outcomes have a significant relationship with the overall usage of ChatGPT among university students.

H5: Skills development has a significant relationship with the overall usage of ChatGPT among university students.

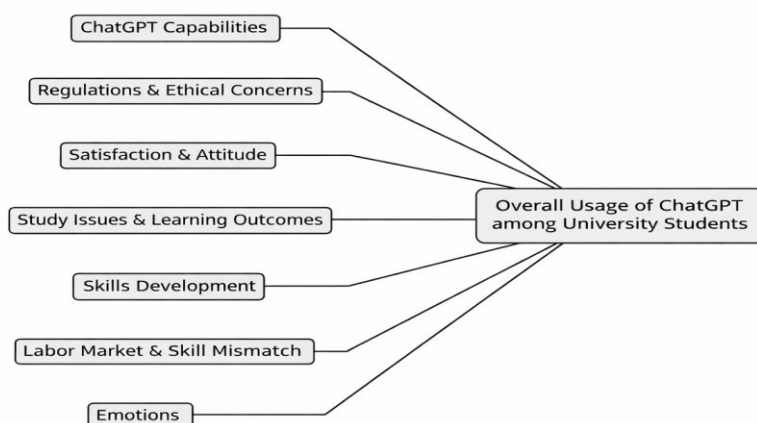
H6: Labor market and skill mismatch have a significant relationship with the overall usage of ChatGPT among university students.

H7: Emotional responses have a significant relationship with the overall usage of ChatGPT among university students.

Conceptual Framework

The study framework model is depicted in Figure 1.

Figure 1. Research Framework



RESEARCH METHOD

Sampling

Online survey method has been utilized to collect data from ChatGPT users in this study, and we intend to assess how student perceived ChatGPT by examining seven aspects: capabilities, regulations and ethical concerns, satisfaction and attitude, study issues and outcomes, skills development, labor market and skill mismatch, and emotions. It also aims to analyze students' overall usage of ChatGPT in academic content. Our target population is university students who use or are aware of ChatGPT. This study was conducted in a higher education environment, aiming on Malaysian and Indian university students and we are analyzing each individual students results. Each student provides responses based on their personal experiences, perceptions, and usage of ChatGPT. Our study uses convenience sampling as we collected data from students who were easy to reach using Google Forms. We also use purposive sampling since we specifically target university students aged 18 years old and above.

Data Collection

This study data collection applied quantitative research and uses an online questionnaire distributed through Google Forms, allowing respondents to participate voluntarily and

anonymously. The questionnaire consisted of three sections: demographic information, perceptions of ChatGPT based on seven aspects, and overall usage of ChatGPT among university students. We aim to collect around 150-200 or more responses to ensure that the data is sufficient for analysis and reasonably represents the diversity of students across different levels of study.

Measures

In this study we measured the responses using the 7 aspects of students' perceptions towards ChatGPT in this case our independent variable is aspects of ChatGPT that include seven aspects which are capabilities, regulations and ethical concerns, satisfaction and attitude, study issues and outcomes, skills development, labor market and skill mismatch, and emotions (see Appendix 1). Each variable is measured using a 5-point Likert scale. The scale ranges from 1 (Strongly Disagree) to 5 (Strongly Agree). This 5-point Likert scale enables respondents to show how strongly they agreed or disagreed with each statement to help measure their views and feelings. These items were adapted and developed based on previous studies and the context of AI usage in education.

1. Capabilities: Four items analyze the capabilities of ChatGPT for the users. An example for this is: "ChatGPT can provide reliable information"
2. Regulations and Ethical Concerns: Four items examined the regulations and ethical concerns of the users of ChatGPT. For instance: "ChatGPT should be subject to university/ faculty ethical guidelines"
3. Satisfaction and Attitude: Four items assessed the satisfaction and attitude of the users of ChatGPT. For example: "ChatGPT can help with things in everyday life"
4. Study Issues and Outcomes: Four items evaluate how ChatGPT affected the study issues and outcomes of the users. For instance: "ChatGPT can increase my study efficiency"
5. Skills Development: Four items analyses if ChatGPT helps with skills development of the users. For example: "ChatGPT can improve my digital content creation skills".
6. Labor Market and Skill Mismatch: Four items assessed the challenge in the labor market with ChatGPT. For instance: "ChatGPT will reduce the number of jobs"
7. Emotions: Seven emotions describe the emotions of the users when using ChatGPT. An example for this is: "What do you feel while using ChatGPT?" and the answer options are angry, bored, curious, confused, frustrated, happy or neutral.

We also measure the one dependent variable of our study, which is the overall usage of ChatGPT among university students and still applying the 5-point Likert scale along with one dichotomous question, ordinal-scale question and a 5-point star rating scale.

1. Usage of ChatGPT: Seven items assessed the usage of ChatGPT by the respondents. For example: "How often do you use ChatGPT for the following tasks?". The seven items are how often they use ChatGPT for academic writing, professional writing, creative writing, proofreading, brainstorming, study assistance, and calculating help.
2. Dichotomous question: "Have you ever used ChatGPT?" and the respondents can answer between yes or no.

3. Ordinal-scale: "How often do you use ChatGPT" and the options to choose are rarely, occasionally, moderately, considerably and extensively.
4. 5-point star rating scale: "What is your experience with ChatGPT" and the respondents can choose between 1-5 stars.

RESULTS

Table 1. Summary of Respondent's Demography (N=184)

Response	Frequency	Percent
Gender		
Female	111	60.3
Male	73	39.7
Age		
18-21 years old	97	52.7
22-25 years old	76	41.3
25 years old and above	11	6.0
Student Status		
Full-time	172	93.5
Part-time	12	6.5
Year of Study		
Year 1	42	22.8
Year 2	92	50.0
Year 3	47	25.5
Year 4	3	1.6
Level of Education		
Degree	142	77.2
Diploma	15	8.2
Master	26	14.1
PhD	1	0.5
Field of Study		
Applied Sciences	62	33.7
Art & Humanities	49	26.6
Natural & Life Sciences	30	16.3
Social Sciences	43	23.4
Frequency of Using ChatGPT		
Considerably	62	33.7
Extensively	33	17.9
Moderately	54	29.3
Occasionally	29	15.8
Rarely	6	3.3

The table shows the demographic profile of respondents (N=184). Most respondents (N=111, 60.3%) are female, while male make up a small proportion (N=73, 39.7%). In terms of age, the majority of respondents (N=97, 52.7%) are aged between 18-21 years old, with the least respondents from the age of group 25 years old and above (N=11, 6%). For students' status, most of the respondents are full-time students (N=172, 93.5%) and the rest (N=12, 6.5%) are part-time students. For educational level, the largest group

of respondents hold a degree (N=142, 77.2%), followed by those with masters (N=26, 14.1%) and then those with diplomas (N=15, 8.2%) and the least is PhD (N=1, 0.5%). Most of the students are from the Applied Sciences field (N= 62, 33.7%) and the least are from Natural & Life Sciences (N=30, 16.3%). Regarding to the use of ChatGPT, 62 respondents (33.7%) reported using it considerably, 54 respondents (29.3%) use it moderately, 33 respondents (17.9%) use it extensively, 29 respondents (15.8%) use it occasionally, whereas 6 respondents (3.3%) using it rarely.

Table 2. Descriptive statistics, Cronbach's Coefficients Alpha, and Zero-order Correlations for all study variables Note:

Variables	1	2	3	4	5	6	7
1. ChatGPT Capabilities	.894						
2. Regulations and Ethical Concerns	.401***	.760					
3. Satisfaction and Attitude	.501***	.725***	.867				
4. Study Issues and Learning Outcomes	.466***	.740***	.851***	.959			
5. Skill Development	.424***	.688***	.795***	.829***	.946		
6. Labor market and Skill Mismatch	-.120	.507***	.448***	.498***	.582***	.977	
7. Emotional	.354**	.497***	.654***	.627***	.618***	.518***	0
Number of Items	4	4	4	4	4	4	1
Mean	3.76	4.04	4.01	4.11	4.02	3.29	3.28
Standard Deviation	.415	.661	.678	.652	.685	1.22	1.14

N = 184; *p < .05, **p < .01, ***p < .001.

Table 2 presents descriptive statistics, measures of reliability, and zero-order correlations among study variables. All tested variables demonstrate high levels of reliability, with Cronbach's alpha coefficients ranging from 0.76 to 0.977.

Table 3. Regression analysis

Variable	Overall Usage of ChatGPT among university students
1. ChatGPT Capabilities	.190*
2. Regulations and Ethical Concerns	-.064
3. Satisfaction and Attitude	.225*
4. Study Issues and Learning Outcomes	.134
5. Skill Development	.132
6. Labor market and Skill Mismatch	.346***
7. Emotional	.021
R ²	.454
F value	15.795
Durbin-Waston Statistic	1.886

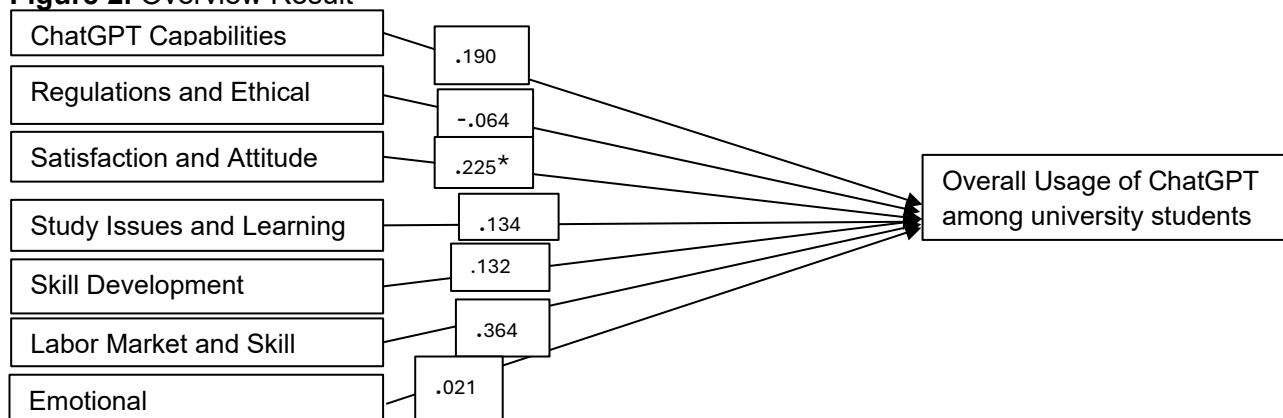
Note: N=184; *p < .05, **p < .01, ***p < .001.

The results of the regression analysis are presented in table 3, examining the relationship between the overall usage of ChatGPT among students and seven aspects of ChatGPT: capabilities, regulations and ethical concerns, satisfaction and attitude, study issues and outcomes, skills development, labor market and skill mismatch, and emotions. The findings indicate that Labor Market and Skill Mismatch was found to have a significant positive effect on the Overall Usage of ChatGPT among University Students. The R^2 value of 0.454 suggest that 45.4% of the variance in the overall usage of ChatGPT among University Students can be explained by Labor Market and Skill Mismatch.

Labor Market has the strongest influence in the Overall Usage of ChatGPT among University Students (.346***). ChatGPT Capabilities (.190*) and Satisfaction and Attitude (.225*) also show a positive and significant relationship with the Overall Usage of ChatGPT among University Students.

In addition, Regulations and Ethical Concerns, Study Issues and Learning Outcomes, Skill Development, and Emotional demonstrate no significant influence on the Overall Usage of ChatGPT among University Students.

Figure 2. Overview Result



DISCUSSION

In this research, we investigate how university students see ChatGPT, by looking at how well they think ChatGPT works, the ethics surrounding its use, how they feel about ChatGPT, what ChatGPT does for them, and how using ChatGPT relates to their work opportunities upon graduating from college, as well as the emotional effects of using this technology. In addition to providing solid evidence of the positive impact that ChatGPT has on students in terms of providing valuable information and networking opportunities for future jobs, we find that student views and perceived value associated with ChatGPT have a direct correlation with the student's overall experience with using the tool while in school and their level of acceptance of the tool as a resource for their education. ChatGPT's adaptability and versatility position it as a transformative force in education technology, poised to enhance the learning experiences of students across various educational contexts (Bahroun et al., 2023; Klayklung et al., 2023).

Capabilities of ChatGPT

The study indicates that students who consider ChatGPT as capable in providing reliable information and ideas and assisting with problem solving are more likely to use ChatGPT more frequently for both academic and professional activities. Students generally agree that they perceive ChatGPT as an effective way to increase their learning, which is consistent with other studies indicating that the use of AI chatbots has increased students' perceptions of the usefulness of learning support and task performance in the

university level. When students feel confident in their ability to use ChatGPT effectively, they tend to use it more often and deeper for academic work and their keenness towards ChatGPT. Students often use it as a strategic learning partner to improve understanding of thought topics and course material. This shows that students see ChatGPT as a tool that is easy to use. The concept of “easy to use” relates to how users perceive a system’s ease of understanding and the time required for effective utilization (Limna, Kraiwanit, and Janjarat, 2023). When used responsibly, it’s a powerful, functional tool that genuinely helps them engage actively with the studies and be more productive in academic.

Regulations and Ethical Concerns Towards Usage of ChatGPT

Students' feelings about ChatGPT and their perception of ethical liability and regulations are closely related. Those students who believe their university offers clear guidelines regarding the acceptable use of ChatGPT such as plagiarism, citations, and data privacy have more favorable feelings and feel more comfortable with incorporating ChatGPT into their work than those students who believe their university does not offer such guidelines. This aligns with prior research indicating that when organizations have transparent institutional policies and ethical frameworks to mitigate uncertainty and moral tension, students are better able to concentrate on their academic goals instead of worrying about potential disciplinary actions related to their misuse of ChatGPT. However, the presence of neutral and disagreeing responses indicates some students are still uncertain about the parameters of acceptable and responsible engagement with this technology, signaling that institutions need to provide more examples, training, and communication on how to engage with the use of ChatGPT ethically within coursework and assessments.

Satisfaction and Attitude Towards Usage of ChatGPT

As stated by (Martinez et al., 2020) attitudes can be defined as individuals’ positive or negative sentiments regarding a specific subject. According to the results, those who stated they are happy with ChatGPT believe it has a positive impact on their studies and has helped improve many of the skills they are developing. Students who have being very satisfied with ChatGPT reported that it is easier for them to interact with ChatGPT more than their professors. It is because ChatGPT is better-timed and reachable more than lecturers itself. As the ChatGPT provides immediate responses also allow them to interact without time pressure and can reduce the feelings of anxiety or feel like being judged when asking questions. Based on the results, they find ChatGPT very interesting for them to use because it can help with things in everyday life. The possibilities and uses of ChatGPT offer a wide range of options to the students in their learning process. However, how students use the opportunities offered by the new technology varies according to their abilities, interests, affection, and integrity (Jorg von Garrel & Jana Mayer et al., 2023). Additionally, they report an increase in their ability to create digital content, improve their written quality, and enhance their communication skills. This indicates that ChatGPT can be used both as a source of information and as a tool for developing, revising, and creating their own work.

Study Issues and Outcomes of ChatGPT

The outcome of the research shows that, in general, the learners have a favorable opinion about the usability and the outcomes of ChatGPT. Most of the participants expressed their consent or strong consent to the statement that ChatGPT is a source of trustworthy information, communicates in a human-like manner, helps to solve complex issues, and participates in conversations that are fun. As a result, it implies that students consider ChatGPT to be both a powerful and handy tool for academic help and daily chats. Attractive regulatory and ethical issues, the students' opinions showed otherwise the need for regulation of ChatGPT usage. Most of the participants believed ChatGPT should fall under the governing rules of the university or faculty and employer's ethical

codes. On the other hand, opinions about the negative impact of ChatGPT on learning through performing students' work were less united, with significant amounts of agreement, disagreement, and neutrality showing up. Most of the respondents showed their agreement saying that they are satisfied with ChatGPT, deem it useful for academic purposes, and that they are very comfortable using it as a tool to support their learning. In conclusion, these results point out that the students' perception of ChatGPT is aspect where improvement is not required, though the issues around its ethical use and dependency in learning areas, etc., are still there which can make a case for responsible and guided implementation.

Skills Development

The perceptions of ChatGPT's potential to facilitate skills development varied significantly by field of study, impacting all skills except creativity (Ravselj D et al., 2025). According to the results of this survey, most students agree that ChatGPT can improve their academic writing and foreign language proficiency. This is because they view ChatGPT as an efficient tool for potentially improving AI literacy, digital communication, and digital content creation skills. The authors conclude that ChatGPT supports the development of various skills through a combination of continuing informal education such as self-directed learning and by using ChatGPT strategically for continuous skill improvement. However, how effective ChatGPT is at supporting each learner's skill development depends greatly on how much each learner invests in their own engagement with ChatGPT.

Labor Market and Skill Mismatch

Regarding to the labor market, respondents believed that ChatGPT will not reduce the number of jobs in the workplace. They also belived that ChatGPT cannot change the nature of jobs even in the future. They emphasized the importance of acquiring new skills is important to remain competitive in a technologically evolving job market. Jobs involving wwriting and programming are more susceptible to being impacted by AI, underscoring the need for new competencies in the workforce. In particular, industries related to technology, products, and operations are expected to have higher proficiency requirements for ChatGPT-related skills, while the manufacturing, services, education, and health science related industries will have lower requirements for chatGPT-related skills (Lan Chen et al., 2023).

Emotions

According to the results, those who stated they are happy with ChatGPT believe it has a positive impact on their studies and has helped improve many of the skills they are developing. Students who have reported being very satisfied with ChatGPT reported that it has allowed them to study more efficiently, helped them prepare for exams, and given them the ability to comprehend complex concepts and structure papers. Additionally, they report an increase in their ability to create digital content, improve their written quality, and enhance their communication skills. This indicates that ChatGPT can be used both as a source of information and as a tool for developing, revising, and creating their own work. The way that these patterns of usage support the view that using generative AIs interactively and actively creates pathways for students to engage in self-regulated learning, engage in critical thought, and foster ongoing improvement of academic outputs.

CONCLUSION

This research evaluated students' perceptions toward the usage of ChatGPT by analyzing seven aspects of ChatGPT which are capabilities, regulations and ethical concerns, satisfaction and attitude, study issues and outcomes, labor market and skill mismatch, skill development and emotions. The findings show that there is a positive perception of students related to usage of ChatGPT as they recognize it as a valuable

tool to support them academically which enhances understanding, efficiency, and learning engagement.

The study also highlights various concerns related to ethical usage and overreliance on AI tools. Students expressed that overlooking the overreliance on ChatGPT may affect their critical thinking ability, originality, and problem-solving capabilities. This shows that clear institutional guidelines and ethical frameworks should be implemented while using AI in an academic environment.

The results from the survey conducted showed that there is a direct correlation between students' perceptions towards seven aspects of ChatGPT and their overall usage of ChatGPT. Although ChatGPT can enhance learning experience, it is essential to use it ethically and requires regulatory oversight in education. So, educational institutions should promote AI literacy and its ethical use to make ChatGPT a supplement rather than substitute for human cognition. This will sustainably maximize the benefit of using ChatGPT among students for educational purposes and will minimize the risks related to this.

LIMITATION

While this study provides meaningful insights into the overall usage of ChatGPT among university students, several limitations must be acknowledged. First, the use of convenience sampling for engaging participants led to uneven representation across several socio-demographic sub-groups, with level of education and field of study being a prime example. Despite including participants from different university, less than 1% are holding PhD that participating in this research. Second, the study only captured the experience of using ChatGPT among university students. As generative AI technologies are developing and students become more familiar with their strengths and limitations, these initial impressions may not fully align with their future opinions on ChatGPT. Third, the questionnaire relied on students' self-reports, which can be subject to information bias. Therefore, it is reasonable that some students may have either underestimated or overestimated their perceptions of ChatGPT in those seven aspects. Finally, the identified socio-demographic differences in students' perceptions towards usage of ChatGPT among university students may also reflect factors beyond ChatGPT that were not covered in the questionnaire, such as variations in the digital transformation of higher education, economic development, cultural and religious backgrounds, and political circumstances.

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DECLARATION OF CONFLICTING INTERESTS

The authors declare that there is no conflict of interest concerning the study, authorship, and/or publication of this article.

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