Masyarakat, Kebudayaan dan Politik
ISSN: (Print 2086-7050) / (Online 2528-6013)
https://doi.org/10.20473/mkp.V37I42024.432-445

Ethical risks of using ChatGPT in higher education institutions in Malaysia

Risiko etis penggunaan ChatGPT di institusi pendidikan tinggi di Malaysia

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Article History: Received 15 May 2024; Accepted 24 December 2024; Published Online 31 December 2024

Abstract

Artificial Intelligence (AI) chatbot 'ChatGPT' in the education sector has changed the learning patterns among students, staff, and lecturers. The rise of AI-driven tools is bringing forth significant ethical concerns, which are considered essential to discuss. The present study was conducted in three public sector universities in Malaysia, where we opted for the quantitative research design and approached the research participants through personal invitation and snowball sampling procedures. A total of 406 respondents were involved in this study, and the data was gathered through a survey, using structured questionnaire. The purpose of this method is to collect diverse data from a variety of participants, including students, staff, and lecturers. The findings show that it is imperative to highlight the need for robust ethical guidelines and a higher education institution framework to ensure that implementation is indispensable. Furthermore, addressing these ethical challenges can harness the potential of chatbots in academia along with ensuring ethical concerns being addressed. The study concluded that academicians had clear understanding about the ethical issues of using ChatGPT or AIs. The study also suggests recommendations regarding the ethical usage by the government of Malaysia.

Keywords: artificial intelligence in education; ChatGPT; ethical concerns; higher education institutions

Abstrak

Chatbot Kecerdasan Buatan (AI) 'ChatGPT' di sektor pendidikan telah mengubah pola pembelajaran di kalangan mahasiswa, staf, dan dosen. Meningkatnya alat yang digerakkan oleh AI memunculkan berbagai masalah etika yang signifikan, yang dianggap penting untuk dibahas. Studi saat ini dilakukan di tiga universitas sektor publik di Malaysia, di mana kami memilih desain penelitian kuantitatif dan mendekati partisipan penelitian melalui undangan pribadi dan prosedur pengambilan sampel bola salju. Sebanyak 406 responden terlibat dalam penelitian ini, dan data dikumpulkan melalui survei, menggunakan kuesioner terstruktur. Tujuan dari metode ini adalah untuk mengumpulkan beragam data dari berbagai partisipan, termasuk mahasiswa, staf, dan dosen. Temuan menunjukkan bahwa sangat penting untuk menyoroti perlunya pedoman etika yang kuat dan kerangka kerja lembaga pendidikan tinggi untuk memastikan bahwa implementasi sangat diperlukan. Lebih jauh, mengatasi tantangan etika ini dapat memanfaatkan potensi chatbot di dunia akademis sekaligus memastikan masalah etika ditangani. Studi ini menyimpulkan bahwa akademisi memiliki pemahaman yang jelas tentang masalah etika penggunaan ChatGPT atau AI. Studi ini juga menyarankan rekomendasi mengenai penggunaan etika oleh pemerintah Malaysia.

***Kata kunci**: kecerdasan buatan dalam pendidikan; ChatGPT; masalah etika; lembaga pendidikan tinggi*

Introduction

The present study aims to investigate the usage of Artificial Intelligence (AI) specifically 'ChatGPT,' which is posing serious challenges to the academic integrity in both public and private Universities in Malaysia. The emergence of ChatGPT, which opens up various opportunities for learning and exploring ways to learn about any subject, has become a complex issue and requires a comprehensive examination. The impact of AI on cognitive processes and comprehension is evident (Dron 2023) and the extensive use of ChatGPT allows learning and gaining more advanced knowledge about the subject (Javaid et al. 2023). The present study argues that ChatGPT poses ethical concerns for academia in Malaysia, due to its misuse and spread of unverified information, which needs to be researched on. Thus, AI tools for academic achievement may also increase the concerns of ethical risk in higher education institutions which might be a concern of quality education, research and teaching standards. For instance, immediate directions and policies are essential for the implementation.

The promotions of ChatGPT through social media also need to be reconsidered, as it creates impact in several fields (Wibowo et al. 2024). The formation of online learning materials is designed to improve students' research abilities and utilize AI to promote research and development in various ways. In this regard, ChatGPT can be used in educational settings. Furthermore, the impact of ChatGPT on students' reading comprehension and its contribution to improving comprehension skills, such as learning a foreign language, offer significant knowledge about the consequences of using ChatGPT in academia (Rasul et al. 2023).

Conclusively, the impact of ChatGPT on the comprehension of Islamic education (Shareef 2023) in Malaysian society is an intricate and diverse matter that requires a thorough analysis. Additionally, research and empirical evidence focused on the Malaysian context would enhance the discussion about the impact of ChatGPT on the comprehension of ethical concerns in Malaysian universities. This study about AI in education and threats to academic integrity is of greater importance in the context of ethical research. It is imperative to rigorously analyze the role of ChatGPT in promoting the literary concept. It is believed that carrying out research on AI and its influence on research practices and academic integrity is very essential (Sullivan et al. 2023). It is imperative to discuss the impacts of ChatGPT on higher education institutions in Malaysia, as the usage of ChatGPT can be a risk concerning ethical issues, such as the compromising quality education, and more importantly, lessening critical thinking among students in the education sector. This is an important area of research which examines impacts of ChatGPT and the attitude of students, staff and lecturers towards research and practices regarding quality research in Malaysia. The government of Malaysia is continuously investing in educational reforms including teaching, research, and community development, which is indeed a dire need for the development of country and preparing future generations. However, for fostering quality education, the idea of ChatGPT is essential not only for the research but also for giving guidelines about its ethical usage in Malaysian academia.

Scholarly literature provides a complete understanding of ChatGPT's impact on interpreting, translating, and providing a new context in the form of concepts and empirical analysis. Studies like Aeni et al. (2024) and Wang et al. (2024) found out that ChatGPT not only assists in language translation but also provides information about poetry and research. Gao et al. (2024) indicated that machine translation of Chinese classical poetry was examined by applying ChatGPT and other translation sources.

There are several challenges of ChatGPT for the digital authenticity of information and ethical issues in Malaysian academics. Safdar et al. (2024) examined that 90% of the results produced by ChatGPT are fake, even if the information is complete and sometimes, the data is provided with incomplete information. Thus, the technological developments in the current era have led to the discussion of the role of ChatGPT in investigating academic integrity. Further, the usage of ChatGPT in Islamic studies is very critical and crucial, Usman & Wazir (2018) analyzed the misinformation about a hadith and its ethical consequences. The digitization process and its educational impact are discussed in the survey by Istianah & Wahyuningsih (2019), highlighting the obstacles faced in the millennial era.

The introduction of AI chatbots in different sectors such as education, mental health and customer service poses complex ethical challenges that need to be scrutinized. Major ethical issues include trust, transparency, data privacy, and abuse potential, particularly in situations where accuracy and human well-being matter. One of the biggest problems that educational settings face is academic dishonesty; for instance, ChatGPT and other AI systems can generate content that students can use for passing out while submitting assignments, leading to a downfall in integrity. This problem is further complicated, where chatbots generate incorrect or misleading answers, thus raising problems of data reliability in the educational process (Lund et al. 2023, Williams 2024). As a result, schools and colleges are encouraged to improve plagiarism detection systems and reconsider the assessment methods that would address these risks effectively (Williams 2024). In addition, the ownership of revealed information via AI will also come under ethical consideration where questions like whether to follow copyright law and how much responsibility the users shall take (Khan 2023, Lund et al. 2023).

This leads to new ethical dilemmas for AI chatbots in the field of health especially mental health. For every other discipline, trust, and transparency are important due to unwillingness to make the use of AI-based systems in the absence of explicit information regarding functionality (Coghlan 2023, van der Schyff et al. 2023). We have also highlighted how ethical frameworks play a vital role in the development of these technologies responsibly, ensuring alignment with a host of values such as beneficence, non-maleficence and respect for autonomy (Fournier-Tombs & McHardy 2023, Benosman 2024). Algorithmic bias within artificial systems has the potential to also affect the treatment of marginalized populations (Balcombe 2023, Eslami 2023). Poor use of AI chatbots in the mental health field without strict rules and regulations leads to fears of quality assistance and harm (Haque & Rubya 2023, Omarov et al. 2023).

While AI chatbots help in increasing the customer service productivity and driving personalized conversations, even then the ethical concerns around data privacy and user consent arise. Corporations need to address these problems by ensuring that the process in which an interaction with a chatbot takes place is transparent and fair, given the rising attention being paid to data protection legislation. Chatbots in customer service require deployment without exploiting users who observe responsible AI principles to protect user rights (Cain 2023, Ghosh 2024). AI chatbots pose complex ethical dilemmas that require collaboration from creators, users, and regulators. It is vital to establish broad ethical standards and regulations to address these fears and ensure the mindful and fair distribution of AI technology across societies (Kooli 2023, Rostami 2023, Srinivasan 2024).

The use of AI chatbot in Malaysian higher institutions of learning has helped academicians in various aspects along with the ethical issues that need to be addressed. The importance of AI chatbots is increasing as the education sector has gradually started getting digitalized, especially in the post COVID-19 world. Chatbots serve as virtual assistants, providing tailored assistance, increasing student engagement, and streamlining learning activities. However, their usage is riddled with ethical issues particularly when it comes to privacy, scholastic honesty and potential algorithmic biases. The transition towards online learning during the pandemic has become a common practice in Malaysian higher education and increased reliance on AI chatbots that help student's educational pathways. Chatbots were perceived quite positively by Malaysian students and this positive perception indicates that students embraced chatbots as an engagement tool for facilitating student learning and success (Neo 2022). With the help of chatbots, students get instant support, answers to the queries, and connected with the educators thus creating an interactive learning environment. However, this increased use raises ethical questions about data privacy and the potential for abuse (Baskara 2023).

The most important ethical issue that AI chatbots can bring into higher education is related to academic integrity. With access to AI-generated content, fears arise over the possibilities for plagiarism and whether students have indeed submitted their authentic work. Khatri (2023) concluded that students rely on these tools to come up with the ideas and content which decreases critical thinking skills and creativity and ultimately creating dependency upon chatbots. Accepting this dependency can hinder

the education process, preventing necessary learning for life skills such as independent thought and problem-solving (Parsakia 2023). Additionally, AI chatbots may also posit serious ethical issues such as algorithmic bias. Studies show that AI systems can unintentionally reflect the biases embedded in training the data, potentially leading to disproportionate treatment of certain groups of students (Slimi & Villarejo-Carballido 2023). Such as, Malaysian higher education institutions must build robust codes of ethics and oversight systems that ensure the proper and fair deployment of AI chatbots.

One of the most discussed ethical issues is lack of transparency in how AI chatbots work. Often, students and educators do not fully understand the algorithms that power these types of technologies, potentially leading to distrust in understanding the results (Baskara 2023). This is intensified due to the "black box" nature of various AI systems, making it impossible for users to understand how decisions are being made or how data is processed (Baskara 2023). To combat with such challenges, institutions should encourage transparency with AI-centric chatbots by informing all consumers on how these systems function and what data is used to facilitate the operations digitally.

AI chatbot products cannot simply be judged as ethical or unethical because there are broader social issues at play here, even beyond how individuals and institution's function. As AI technology develops, ethical frameworks that may address such issues in the educational sector are urgently needed to assess quality and sensitize about the concerns about whether AI will ever replace a human teacher (Slimi & Villarejo-Carballido 2023). AI chatbots should be incorporated to complement human connection and mentorship, which are critical aspects of education. The use of artificial intelligence chatbots in higher education institutions in Malaysia opens up new teaching and learning approaches along with raising serious ethical questions. We need to consider their impact on academic integrity, privacy, and the learning environment as these technologies become more prevalent. Cheating is another challenge confronted in academic institutions through the usage of AI chatbots as AI-generated content is now easily available posing serious fears of plagiarism and submission validity. The use of chatbots in academic writing can potentially impact students' critical thinking and creativity by over-relying on chatbots to produce ideas, instead of developing their ideas and brainstorming (Baskara 2023, Parsakia 2023). Such dependence hinders the development of vital skills such as independent thinking and problem-solving (Ng et al. 2023). It is imperative that institutions set clear guidelines on academic integrity and educate students on the ethical ramifications of using AI for their work.

The use of AI chatbots in education therefore has reared up serious ethical problems about data privacy. While personalized learning tools often need access to individual student data to offer students customized support, this poses challenges related to the gathering, protecting, and the use of data. The changes in data protection rules and lack of sound and standard legislation in Malaysia heightens the risk of potential abuse in this regard (Taecharungroj 2023). Transparency needs to be given an urgent consideration by teaching students that how data is used and this would cultivate trust between institutions and the citizens.

An ethical problem that is also between students and teachers in the application of AI chatbots is algorithmic prejudice. Research suggests that AI models may unintentionally reflect biases in training the data, leading to biased/mismatched outcomes for particular student groups (Rostami 2023, Wang et al. 2023). For school admissions or grading, biased algorithms can lead towards bigoted and unfair trends and needs of disciplines and fields for the students. It is the responsibility of Malaysian institutions to create ethical foundations that promote fairness and equity in AI technology development and the usage (Taylor et al. 2023). These ethical issues are worsened by the opacity of knowledge about AI chatbot algorithms. Students and even instructors often miss a full picture of how the underlying AI works, skepticism about chatbot outputs is common (Moldt et al. 2023). This issue is compounded by the relative opaqueness of various AI models, where their inner functioning is black-boxed which obfuscates how data and decisions are processed. Therefore, it is required to constitute openness in the working process and the data processing of AI chatbots by institutions to increase trust (Kim 2023).

The ethical consequences of AI chatbots go beyond individual considerations. As AI technology evolves, the need for detailed ethical frameworks to address issues including equity and access, as well as the potential replacement of human teachers with AI systems arises (Lee 2023). This means that AI implementation in higher education should be institutionlized for human engagement and mentoring which are integral to a wholesome learning experience. Numerous studies have concluded that AI chatbots help students receive immediate assistance and facilitate interactions among the students and educators, thus improving their engagement levels and student learning outcomes (McBee 2023, Salah 2023). However, organizations will need to be much more diligent in addressing the questions of privacy, integrity and transparency that can undercut the benefits to be gained through AI. Regular engagement with stakeholders, including students, teachers and staff at colleges and universities, policymakers and other education leaders, is a necessary way forward to develop the best possible approaches for the usage of AI in academia.

While AI chatbots have the promises and capabilities to improve the Malaysian higher education learning experience and incorporating them in the local context requires a careful and ethically guided approach. The ethical issues are important including privacy, academic integrity, bias and transparency which have to be managed very diligently. Despite there are certain challenges due to non-clarified ethical norms and ethos, lack of transparency and responsibility behind these powerful tools can be proven detrimental in their usage in educational systems, but aligning with basic human principles and devising appropriate measures, we can maximize the benefits and minimize the harms.

With the emergence of AIs or ChatGPT, cases of academic plagiarism are increasing and becoming a great concern in educational institutions. Elkhatat (2023) researched the authenticity of the ChatGPT responses and found out that educators should carefully consider the practical constraints and explore alternative assessments. Hafid & Mahmuddin's (2023) study critiques modern Islamic intellectuals' views on the authenticity of hadith, while Alwi et al. (2022) documented hadith teachings in the context of work ethics. These studies contribute to the current discourse and public understanding about ChatGPT, shaping discussions around contemporary criticisms and practical implementation of hadith teachings. These findings can potentially address public awareness and discussions regarding the usage of ChatGPT. The previous research provides valuable insights into the understanding and implementation of AI in educational institutions, not just focused on the queries related to social sciences subject, but also Islamic studies that need to be cross-checked. These findings have prospective relevance with the discussions on the ethical use of ChatGPT.

Figure 1.
Theoretical framework
Source: Created by the author

Ultimately, the impact of ChatGPT on the comprehension of knowledge in Malaysian society can be examined by studying scholarly literature that explores text categorization, verification, digitalization, modern criticisms, and practical implementations of the subjects in various fields. Thus, based on the analysis of existing literature, the theoretical framework for this study has been established. It shows the relationship of ChatGPT usage with understanding ethical concerns and academic integrity (Figure 1). Hence, the research hypothesis of the present study is that the usage of ChatGPT significantly influences the understanding of ethical concerns in Malaysian academia.

Research Method

The present study is conducted in three public sector universities in Malaysia, where we opted for the quantitative research design and approached the participants through personal invitation and snowball sampling procedures. A structured questionnaire-based survey was carried out to investigate the usage of ChatGPT in seeking knowledge and considering the ethical challenges in Malaysian universities. The study's respondents included university lecturers, students and the staff, who are associated with the universities in Kuala Terengganu, Malaysia. The researchers also ensured that the sample included individuals from different demographic groups. Snowball sampling approach followed the Krejcie and Morgan method was used, considering Malaysia's estimated Muslim population of 20.604 million (according to the 2020 Malaysian Population and Housing Census Report), to reach out an optimum sample size of the respondents.

A total of 406 respondents were involved in the survey that aimed to collect diverse data from various research participants, including students, staff, and lecturers. The questionnaire was prepared with the help of literature and in accordance to the research objectives. The data was collected through Likert scale items (ranging from 1 to 5) to measure the frequency of respondent's ideas about the research objectives. The data was analysed using SPSS v.26 and the results are presented in tabulations.

Result and Discussion

This section of the paper describes the results about the ethical concerns and risks in using ChatGPT in Malaysian higher education institutions. The data presented includes reliability test by applying Cronbach alpha, correlation between ChatGPT and academicians' understanding about the ethical concerns, correlation analysis and ANOVA and academic integrity. Furthermore, this part of the paper also discusses previous studies, which not only support the results but also enrich the findings of the study.

Table 1.
Reliability analysis

Factor	Cronbach Alpha value	Item number
ChatGPT usage	0.802	5
Understanding of Ethical concerns/academic integrity	0.740	4

Source: Analysis results using SPSS v.26

The Cronbach's alpha values reported in this study reflect the degree of internal consistency reliability of the factors under investigation. The Cronbach's alpha value of 0.802 for the 'ChatGPT' factor indicates a high level of internal consistency among the items used to measure usage of ChatGPT by the respondents. The findings in Table 1 suggest that ChatGPT represents the fundamental concept, and Cronbach's alpha value of .740 indicates the other variable. Taber (2018) added that a higher value of Cronbach alpha indicates acceptable internal consistency. In the data Table 1, the value is above 0.7, which shows significant result, and it also depicts that the usage of ChatGPT is adequately associated with understanding of ethical concerns.

Table 2, shows the correlation analysis investigating the understanding of ethical concerns/academic integrity and the utilization of ChatGPT in the academia of Malaysia. The results examine that, there is a positive relationship between these two variables, and the coefficient is .404**. The positive association indicates that, higher usage of ChatGPT also increases the awareness of ethical concerns, and academic integrity among users. Bin–Nashwan et al. (2023), conducted a study on ChatGPT in academia integrity among 702 respondents from ResearchGate and academia.edu, which found out that ChatGPT usage is positively shaped by time saving features. In contrast, ChatGPT has negative effects on academic integrity. Therefore, the data presented in Table 2 also show similar findings that, experiencing usage of ChatGPT will benefit the academicians in discussing the ethical issues.

Table 2.
Pearson correlation

		Understanding of Ethical concerns/ academic integrity	ChatGPT
Understanding of Ethical concerns/academic integrity	Pearson Correlation	1	.404**
	Sig. (2-tailed)		.000
	N	399	399
ChatGPT	Pearson Correlation	.404**	1
	Sig. (2-tailed)	.000	
	N	399	399

** Correlation is significant at the 0.01 level (2-tailed).

Source: Analysis results using SPSS v.26

Table 3.
Regression analysis

Model Summary [b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.404[a]	.163	.161	.67809	.163	77.301	1	397	.000	1.781

a. Predictors: (Constant), ChatGPT_ Usage

b. Dependent Variable: Understanding of Ethical concerns/academic integrity

Source: Analysis results using SPSS v.26

The model Table 3 reveals the correlation between ChatGPT and scholars' understanding of the ethical concerns in the academia of Malaysia. The findings depicted that, there is a positive relationship between the independent variable (ChatGPT) and the dependent variable (ethical concerns), R square value of .163 also indicates almost 16.3% of the variations. It further offers a more accurate estimation among variables. Moreover, the standard error of the estimate, 0.67809, quantifies the average deviation of observed values from the regression line, it also shows an increase in the amount of variation explained. The p-value .000 indicates that including ChatGPT as a predictor greatly enhances the validity of the models, which further defines the data. In addition, the Durbin-Watson statistic shows the value 1.781 (between 1 and 2), indicating no significant autocorrelation. Thus, the model shows the correlation between the usage of ChatGPT and understanding the issue of academic integrity. Acosta-Enriquez et al. (2024) in their study examined that college students' perceptions regarding the importance of ChatGPT and its ease of use are decisive factors in determining their intentions. Therefore, risks about ethical usage can also negatively affect academic integrity and quality standards. Thus, the data in Table 3 highlights the substantial impact of AIs as a predictor.

The one-way ANOVA Table 4 offers significant insights into the general adequacy of the regression model and the usage of ChatGPT in explaining the variability in understanding ethical concerns/academic integrity among Malaysian academics. The independent variable included the frequency of ChatGPT usage (low, moderate or higher), while the dependent variable comprised of academic integrity. Currie

(2023), added that, the development of AIs in higher education institutions has become a concern of academic integrity. The regression sum of squares 35.544, is the total of the squared differences between the predicted values of the understanding of ethical concerns/academic integrity and the average of the dependent variable. On the other hand, the residual sum of squares with value 182.545, represents the sum of squared discrepancies between the actual values and the anticipated values derived from the regression model. The aggregate of these figures yields the total sum of squares, which amounts to 218.090. This value represents the overall variability in the dependent variable.

Table 4.
ANOVA regression analysis

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	35.544	1	35.544	77.301	.000[b]
	Residual	182.545	397	.460		
	Total	218.090	398			

a. Dependent Variable: Understanding of ethical concerns/academic integrity

b. Predictors: (Constant), ChatGPT usage

Source: Analysis results using SPSS v.26

The regression has 1 (one) degree of freedom, corresponding to the number of predictors (in this example, ChatGPT usage). The residual degrees of freedom are 397, which considers the sample size minus the number of predictors. The total number of degrees of freedom is 398, equal to the sample size minus 1 (one). The mean square values, obtained by dividing the sum of squares by the degrees of freedom, indicate the average amount of variation accounted for by the regression model and the average amount of variance that is not explained. The F-statistic, with a value of 77.301, assesses the overall significance of the regression model by comparing the amount of variability explained by the model to the amount of unexplained variability. The extremely low p-value of .000 suggests that the regression model, which includes ChatGPT as a predictor, is statistically significant in explaining the variability in understanding ethical concerns/academic integrity. Cotton et al. (2024), added that the ChatGPT offers a wide range of benefits, which increases student engagement, collaboration and accessibility, however, it also raises ethical concerns regarding academic honesty and plagiarism. The data portrays that, the usage of AI considerably impacts research knowledge and integrity. Hence, a statistically strong model supports this association.

Table 5.
Coefficients table from the regression analysis

Coefficients [a]

Model B		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		Std. Error	Beta			Lower Bound	Upper Bound	
1	(Constant)	2.682	.151		17.703	.000	2.384	2.980
	ChatGPT	.372	.042	.404	8.792	.000	.289	.456

a. Dependent Variable: Understanding of ethical concerns/academic integrity

Source: Analysis results using SPSS v.26

The coefficient results offer comprehensive insights about the regression coefficients of the predictors in the model and their statistical significance. Unstandardized coefficients represent the amount by which the dependent variable (understanding of ethical concerns/academic integrity) changes when the

predictor variable (utilization of ChatGPT) increases by one unit, while keeping all other factors equal. The unstandardized coefficient for the constant (2.682) represents the estimated intercept when ChatGPT usage is zero (see Table 5). The unstandardized coefficient for usage of ChatGPT (0.372) indicates the estimated change in knowledge of research and academic integrity for each one-unit increased (refer to Figure 2 and Figure 3). The standardized coefficients, also known as Beta coefficients, represent the change in the dependent variable measured in standard deviation units when there is a one-standard-deviation change in the predictor variable. The standardized coefficient for ChatGPT (0.404) indicates the magnitude and direction of the association between ChatGPT usage and understanding of ethical concerns/academic integrity, considering the measurement scale. In addition to this, a study found out that, there has been engagement and disengagement in examining the students, who have been using ChatGPT in schools (Nie et al. 2024).

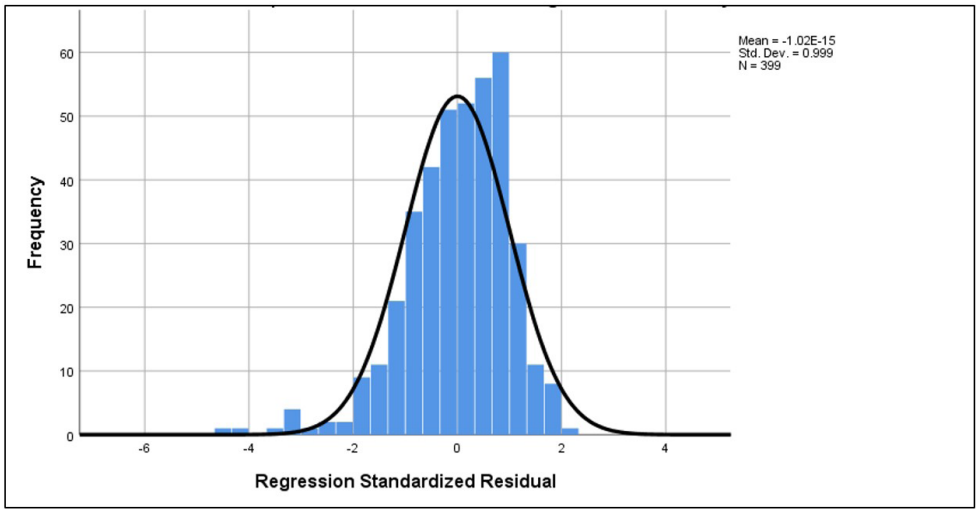

Figure 2.
Zresid Histogram
Source: Results of analysis by the author

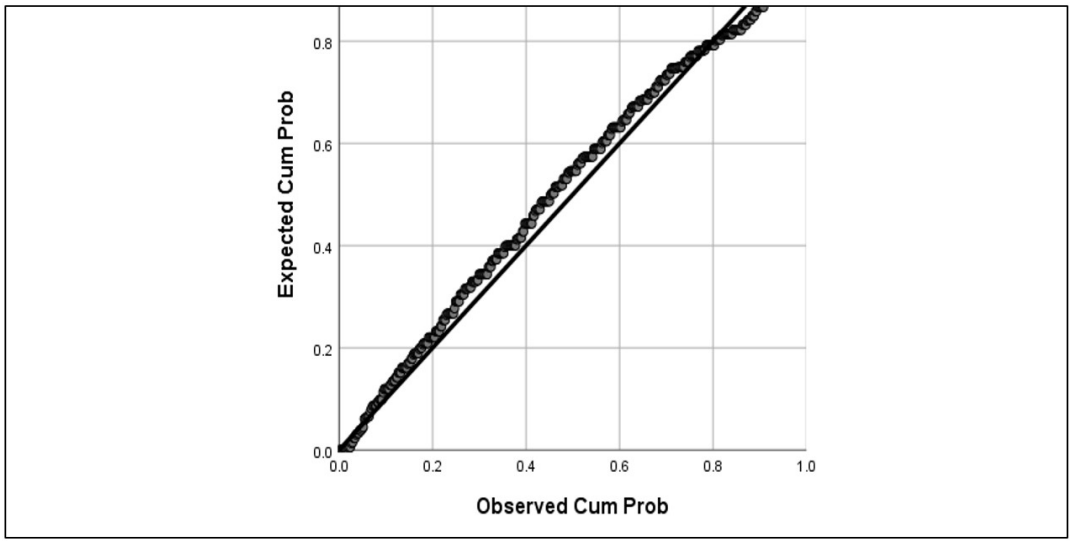

Figure 3.
Zresid Normal P-P Plot
Source: Results of analysis by the author

While using ChatGPT it must contain obvious conditions, such as the acknowledgement of its usage. In this article, we have discussed how ChatGPT can provide simple explanations for complex concepts and ideas. It provides a wide range of ideas, the benefits of ChatGPT and ethical concerns in higher

institutions. The t-value shown in Table 5 is 8.792 indicates the ratio between the estimated coefficient and its standard error, providing a measure of the significance of each coefficient. The extremely low p-value of .000 suggests that each predictor variable has a strong statistical significance in predicting the understanding of ethical concerns/academic integrity. Thus, academic perspectives on ChatGPT till today, however not make any guidelines on AI and its serious threat to higher education (Sullivan et al. 2023). The confidence interval for B represents a range that estimates the true population parameter (the coefficient) with a specified confidence level (95% in this instance). The 95% confidence interval for the coefficient of usage of ChatGPT is 0.289 to 0.456. This indicates that its usage's actual impact on understanding ethical concerns/academic integrity lies within the range of 95% confidence interval. In nutshell, the coefficients obtained from the analysis show a statistically significant association between the usage of ChatGPT and understanding of ethical concerns/academic integrity culture in Malaysian academia. This positive relationship depicts that increased ChatGPT usage is associated with a higher level of understanding of ethical concerns/academic integrity. The data reveals mixed discussions from academicians who mainly focused on academic integrity concerns and opportunities to suggest strategies for the usage of ChatGPT in Malaysian higher education institutions.

Conclusion

The study examined the correlation between the usage of ChatGPT and the understanding of ethical concerns/academic integrity, employing diverse statistical approaches. The key findings revealed a significant statistical relationship between ChatGPT usage and the understanding of ethical concerns/academic integrity. The study concluded that more involvement and familiarization of AIs can also boost people's knowledge about ethical risks and can ruminate them towards the ethical guidelines. This relationship is moderately positive, with a correlation coefficient (R) of 0.404. Furthermore, the R Square value of 0.163 indicates that approximately 16.3% of the variation in ethical challenges can be attributed to AI's usage. The Cronbach alpha coefficients for ChatGPT (0.802) and seeking knowledge (0.740) provide evidence of the scales' dependability. The ANOVA and regression analysis provide additional evidence of the model's importance, as indicated by a highly significant F-statistic (77.301) and p-value (.000).

The study documented that the usage of ChatGPT provides a platform to the academicians, where they can prepare their tasks in a short period. However, verifying the content or information needs to be checked on factual grounds. In conclusion, the results emphasized the importance and influence of ChatGPT among academicians in improving the understanding of ethical concerns/academic integrity, highlighting its effect on the spread of knowledge and utilization of AIs in Malaysia's education system. The findings of the study could be expanded upon by carrying out more research in different ways, such as carrying out research in more than two countries, especially in East Asia, where the growth of technologies is increasing and the chances of ethical risks can be more than before. Thus, researching AI in Malaysia and other part of countries can enrich the research on ChatGPT. Further research can also be conducted on the teacher–student perception about ChatGPT, which can also provide new insights into its benefits and valid information.

References

Acosta-Enriquez BG, Arbulú Ballesteros MA, Huamaní Jordan O, López Roca C, & Saavedra Tirado K (2024) Analysis of college students' attitudes toward the use of ChatGPT in their academic activities: Effect of intent to use, verification of information and responsible use. BMC psychology 12 (1):255. https://doi.org/10.1186/s40359-024-01764-z.

Aeni R, Putera LJ, & Melani BZ (2024) The accuracy of ChatGPT in translating linguistics text in scientific journals. Didaktik: Jurnal Ilmiah PGSD STKIP Subang 10(1):59-68. https://doi.org/10.36989/didaktik.v10i1.2559.

Alwi M & Amir M (2022) Debate on work ethos in reflection of the prophet's hadith. Pappaseng International Journal of Islamic Literacy and Society 1 (1):33-46. https://doi.org/10.56440/pijils.v1i1.4.

Balcombe L (2023) AI chatbots in digital mental health. Informatics 10 (4):82. https://doi.org/10.3390/informatics10040082.

Baskara FR (2023) Chatbots and flipped learning: Enhancing student engagement and learning outcomes through personalized support and collaboration. Ijorer International Journal of Recent Educational Research 4 (2):223-238. https://doi.org/10.46245/ijorer.v4i2.331.

Benosman M (2024) On the ethics of chatbots in psychotherapy. Europe PMC. https://doi.org/10.31234/osf.io/mdq8v.

Bin-Nashwan SA, Sadallah M, & Bouteraa M (2023) Use of ChatGPT in academia: Academic integrity hangs in the balance. Technology in Society 75: 102370. https://doi.org/10.1016/j.techsoc.2023. 102370.

Cain CC (2023) Artificial intelligence and conversational agent evolution – a cautionary tale of the benefits and pitfalls of advanced technology in education, academic research, and practice. Journal of Information Communication and Ethics in Society 21 (4):394-405. https://doi.org/10.1108/jices-02-2023-0019.

Coghlan S (2023) To chat or bot to chat: Ethical issues with using chatbots in mental health. Digital Health 9. https://doi.org/10.1177/20552076231183542.

Cotton DR, Cotton PA, & Shipway JR (2024) Chatting and cheating: Ensuring academic integrity in the era of ChatGPT. Innovations in education and teaching international 61 (2):228-239. https://doi.org/10.1080/14703297.2023.2190148.

Currie GM (2023) Academic integrity and artificial intelligence: is ChatGPT hype, hero or heresy? In: Seminars in Nuclear Medicine 53 (5):719-730. WB Saunders. https://doi.org/10.1053/j.semnuclmed.2023.04.008.

Dron J (2023) The human nature of generative AIs and the technological nature of humanity: Implications for education. Digital 3 (4):319-335. https://doi.org/10.3390/digital3040020.

Elkhatat AM (2023) Evaluating the authenticity of ChatGPT responses: A study on text-matching capabilities. International Journal for Educational Integrity 19 (1):15. https://doi.org/10.1007/s40979-023-00137-0.

Eslami F (2023) Experiences of freelancers with AI and chatbots. AI and Tech in Behavioral and Social Sciences 1 (3):28-34. https://doi.org/10.61838/kman.aitech.1.3.5.

Fournier-Tombs E & McHardy J (2023) A medical ethics framework for conversational artificial intelligence. Journal of Medical Internet Research 25: e43068. https://doi.org/10.2196/43068.

Gao R, Lin Y, Zhao N, & Cai ZG (2024) Machine translation of Chinese classical poetry: A comparison among ChatGPT, Google Translate, and DeepL Translator. Humanities and Social Sciences Communications 11 (1):1-10. https://doi.org/10.1057/s41599-024-03363-0.

Ghosh S (2024) The role of AI-enabled chatbots in omnichannel customer service. Journal of Engineering Research and Reports 26 (6):327-345. https://doi.org/10.9734/jerr/2024/v26i61184.

Hafid E & Mahmuddin M (2023) Criticism of hadith authenticity on contemporary Islamic thinkers. Journal of Islam and Science 9 (2):119-126. https://doi.org/10.24252/jis.v9i2.31696.

Haque MR & Rubya S (2023) An overview of chatbot-based mobile mental health apps: Insights from app description and user reviews. JMIR Mhealth and Uhealth 11: e44838. https://doi.org/10.2196/ 44838.

Istianah I & Wahyuningsih S (2019) The hadith digitization in millennial era: a study at center for hadith studies, Indonesia. Qijis (Qudus International Journal of Islamic Studies) 7 (1):25. https://doi.org/10.21043/qijis.v7i1.4900.

Javaid M, Haleem A, Singh RP, Khan S, & Khan IH (2023) Unlocking the opportunities through ChatGPT Tool towards ameliorating the education system. BenchCouncil Transactions on Benchmarks, Standards and Evaluations 3 (2):100115. https://doi.org/10.1016/j.tbench.2023.100115.

Khan RA (2023) Ethical considerations for using chatbots in research. Health Professions Educator Journal 6 (1). https://doi.org/10.53708/hpej.v6i1.2626.

Khatri BB (2023) Artificial Intelligence (AI) in higher education: Growing academic integrity and ethical concerns. Nepalese Journal of Development and Rural Studies 20 (1):1-7. https://doi.org/10.3126/njdrs.v20i01.64134.

Kim SH (2023) Changes in patient perceptions regarding ChatGPT-written explanations on lifestyle modifications for preventing urolithiasis recurrence. Digital Health 9. https://doi.org/10.1177/20552076231203940.

Kooli C (2023) Chatbots in education and research: A critical examination of ethical implications and solutions. Sustainability 15 (7):5614. https://doi.org/10.3390/su15075614.

Lee JC (2023) Exploring the role of artificial intelligence chatbots in preoperative counseling for head and neck cancer surgery. The Laryngoscope 134 (6):2757-2761. https://doi.org/10.1002/lary.31243.

Lund B, Wang T, Mannuru NR, Nie B, Shimray SR, & Wang Z (2023) ChatGPT and a new academic reality: Artificial intelligence-written research papers and the ethics of the large language models in scholarly publishing. Journal of the Association for Information Science and Technology 74 (5):570-581. https://doi.org/10.1002/asi.24750.

Malaysian Population and Housing Census Report (2020) MyCensus' findings a guide for ageing nation policies. Keratan Akhbar, The Malaysian Reserve. https://www.ekonomi.gov.my/sites/default/files/2022-02/Akhbar%20Online%201%2020220215.pdf.

McBee JC (2023) Interdisciplinary inquiry via PanelGPT: Application to explore chatbot application in sports rehabilitation. medRxiv. https://doi.org/10.1101/2023.07.23.23292452.

Moldt J, Loda T, Mamlouk AM, Nieselt K, Fuhl W, & Herrmann–Werner A (2023) Chatbots for future docs: Exploring medical students' attitudes and knowledge towards artificial intelligence and medical chatbots. Medical Education Online 28 (1). https://doi.org/10.1080/10872981.2023.2182659.

Neo M (2022) The Merlin project: Malaysian students' acceptance of an AI chatbot in their learning process. Turkish Online Journal of Distance Education 23 (3):31-48. https://doi.org/10.17718/tojde.1137122.

Ng JY, Maduranayagam SG, Lokker C, Iorio A, & Moher D (2023) Attitudes and perceptions of medical researchers towards the use of artificial intelligence chatbots in the scientific process: A protocol for a cross-sectional survey. medRxiv. https://doi.org/10.1101/2023.07.26.23293211.

Nie A, Chandak Y, Suzara M, Malik A, Woodrow J, Peng M & Piech C (2024) The GPT Surprise: Offering large language model chat in a massive coding class reduced engagement but increased adopters' exam performances (No. qy8zd). Center for Open Science. https://doi.org/10.31219/osf.io/qy8zd.

Omarov B, Narynov S, & Zhumanov Z (2023) Artificial intelligence-enabled chatbots in mental health: A systematic review. Computers, Materials & Continua 74 (3):5105-5122. https://doi.org/10.32604/cmc.2023.034655.

Pappagallo S (2024) Chatbots in education: A dual perspective on innovation and ethics. Journal of Digital Pedagogy 3 (1):3-10. https://doi.org/10.61071/jdp.2420.

Parsakia K (2023) The effect of chatbots and AI on the self-efficacy, self-esteem, problem-solving, and critical thinking of students. Health Nexus 1 (1):71-76. https://doi.org/10.61838/hn.1.1.14.

Rasul T, Nair S, Kalendra D, Robin M, de Oliveira Santini F, Ladeira WJ, & Heathcote L (2023) The role of ChatGPT in higher education: Benefits, challenges, and future research directions. Journal of Applied Learning and Teaching 6 (1):41-56. https://journals.sfu.ca/jalt/index.php/jalt/article/view/787.

Rostami M (2023) Artificial empathy: User experiences with emotionally intelligent chatbots. AI and Tech in Behavioral and Social Sciences 1 (3):19-27. https://doi.org/10.61838/kman.aitech.1.3.4.

Safdar M, Siddique N, Gulzar A, Yasin H, & Khan MA (2024) Does ChatGPT generate fake results? Challenges in retrieving content through ChatGPT. Digital Library Perspectives 40 (4):668-680. https://doi.org/10.1108/DLP-01-2024-0006.

Salah M (2023) Me and my AI bot: Exploring the 'AIholic' phenomenon and university students' dependency on generative AI Chatbots - is this the new academic addiction? https://doi.org/10.21203/rs.3.rs-3508563/v1.

Shareef O (2023) The realizability of strong AI: A deeper look from an Islamic perspective. Dissertation, Harvard College, Cambridge. https://dash.harvard.edu/handle/1/37376423.

Slimi Z & Villarejo-Carballido B (2023) Navigating the ethical challenges of artificial intelligence in higher education: An analysis of seven global AI ethics policies. TEM Journal 12 (2):590-602. https://doi.org/10.18421/tem122-02.

Srinivasan M (2024) Navigating the pedagogical landscape: Exploring the implications of AI and chatbots in nursing education. JMIR Nursing 7: e52105. https://doi.org/10.2196/52105.

Sullivan M, Kelly A, & McLaughlan P (2023) ChatGPT in higher education: Considerations for academic integrity and student learning. https://doi.org/10.37074/jalt.2023.6.1.17.

Taber KS (2018) The use of Cronbach's alpha when developing and reporting research instruments in science education. Research in science education 48:1273-1296. https://doi.org/10.1007/s11165-016-9602-2.

Taecharungroj V (2023) "What can ChatGPT do?" Analyzing early reactions to the innovative AI chatbot on Twitter. Big Data and Cognitive Computing 7 (1):35. https://doi.org/10.3390/bdcc7010035.

Taylor Z, Eguiluz L, & Wheeler P (2022) Ni máquina, ni humano ni disponible: Do college admissions offices use chatbots and can they speak Spanish? Journal of Communication Technology 5 (2):72-94. https://doi.org/10.51548/joctec-2022-009.

Usman A & Wazir R (2018) The fabricated hadith: Islamic ethics and guidelines of hadith dispersion in social media. The Turkish Online Journal of Design Art and Communication 8 (Sept):804-808. https://doi.org/10.7456/1080sse/114.

van der Schyff EL, Ridout B, Amon KL, Forsyth R, & Campbell AJ (2023) Providing self-led mental health support through an artificial intelligence–powered chat bot (Leora) to Meet the demand of mental health care. Journal of Medical Internet Research 25: e46448. https://doi.org/10.2196/46448.

Wang S, Wong DF, Yao J, & Chao LS (2024) What is the best way for ChatGPT to translate poetry? arXiv preprint arXiv:2406.03450. https://doi.org/10.48550/arXiv.2406.03450.

Wang T, Lund B, Marengo A, Pagano A, Mannuru NR, Teel ZA, & Pange J (2023) Exploring the potential impact of artificial intelligence (AI) on international students in higher education: Generative AI, chatbots, analytics, and international student success. Applied Sciences 13 (11):6716. https://doi.org/10.3390/app13116716.

Wibowo G, Gunawan I, & Sunuantari M (2024) Social network analysis# ChatGPT on social media. International Journal of Innovative Research in Multidisciplinary Education 3 (07):1178-1186. https://doi.org/10.58806/ijirme.2024.v3i7n02.

Williams RT (2024) The ethical implications of using generative Chatbots in higher education. Frontiers Media SA. https://doi.org/10.3389/feduc.2023.1331607.

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