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Smart Tools, Smarter Students? Unpacking the AI Paradox: The Influence of AI Tool Usage on Student's Behaviour and Skills

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Abstract

Background: Artificial Intelligence (AI) tools are transforming education, but their growing use raises concerns. Students may become overly reliant, hindering the development of crucial skills such as decision making, responsibility and creativity, potentially fostering laziness. It is crucial to investigate AI's influence on student behaviour and skill development as it becomes more integrated into learning
Aims: This study aims to investigate the significance influence of artificial intelligence tools towards four dependent variables of students' behaviour and skills (decision making, laziness, responsibilities and creative thinking)
Methods: Survey done on 140 pre-university students out of 180 students at Kolej MARA Banting using the questionnaire adapted from the Student Attitudes toward Artificial Intelligence (SATAI) scale, employing purposive sampling. SPSS MANOVA analyzed how gender, course and AI frequency usage collectively differentiate each dependent variable. Multivariate regression further examined AI's individual influence on each dependent variable
Results: The results shown that gender, course and frequency of AI used have no significant difference. However, AI significantly influence student responsibility, laziness and decision making ($p<0.05$), but not creativity ($p>0.05$)
Conclusion: Overall, AI offers academic benefits but risks dependence and reduced effort. Its impact on creativity is minimal, underscoring its role as a supportive tool for original thought. Future studies should expand sample sizes and include diverse educational institutions for clearer, more varied results

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INTRODUCTION

Over the last few years, Artificial Intelligence (AI) becoming an integral part of daily life for people, and has rapidly transformed various aspects of modern life, including education. With the emergence of Generative Artificial Intelligenece (GenAI) tools, like Chat GPT-4o, Gemini and Perplexity students might gain infinite resources that will remarkably influence their study styles and process, how they communicate and think. The tools increasingly integrated into everyday learning processes, raising concerns about their long-term impact and consequences on students' skills and behaviours.

In higher education, AI tools are often seen as an alternative to manage efficiency as it offers rapid access to knowledge, hence saving more time on academic activities (Zhou et al., 2024, Wang & Zhao, 2025). This tools benefited students as time-saving. It allows students to focus more on areas that can enhance their creativity and strategic thinking. Moreover, AI-based feedback mechanisms can support personalized learning by identifying errors and suggesting improvements in real time (Ameen et al., 2023, Merino-Compos, 2025). This advancement enables more path in education, particularly for students with limited access to high-quality academic support.

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The emergence of AI and its integration into the academic area have triggered debate about its wider effects. Some researchers argue that overreliance on AI may erode vital skills, such as critical thinking, decision-making, and responsibility which are key to intellectual development and lifelong learning (Chan, 2025; Rahman et al., 2025; Kim et al., 2024). While there are numbers of students' responses that show better confidence with AI support, others express concern about how it diminishes personal effort and academic integrity (Rahman et al., 2025; Johnston, 2024). The persuasive nature of tools like GPT-4o, Gemini and Perplexity may also encourage students to accept information on the surface, without engaging in self-research and verification.

This particular issue is significant for International Baccalaureate (IB) students, who are supposed to develop higher-order thinking skills such as analysis, evaluation and reflection as part of the IB Learner Profile. The usage of GPT-4o, Gemini and Perplexity raise important questions, especially at institutions such as Kolej MARA Banting (KMB), where students enroll in the rigorous IB Diploma Programme as preparation before furthering studies abroad. Kolej MARA Banting is conducting a pre-university program which preparing students for world universities which requires student to complete six subjects including external assignments and projects. While the tool may offer solutions for core assignments like Extended Essay, Internal Assessments, or Theory of Knowledge essays, it runs the risk of weakening the essential skills that the IB curriculum seeks to nurture, such as academic honesty, independent inquiry and critical engagement with knowledge.

Research has shown that dependence on AI can contribute to academic laziness, reduce creativity, and weaken initiative (Chan, 2025; Rahman et al., 2025; Kim et al., 2024). A study in Seoul reported that a high reliance on AI stems from decreased responsibility and independent thinking among university students (Kim et al., 2024). Similarly, research conducted in Pakistan and China discovered that the use of AI significantly affected students' decision-making capacity, fostering over dependency and passivity (Ameen et al., 2023). Despite these risks, students often continue to perceive AI tools in a positive way, as it is able to save time and simplify academic tasks (Zhou et al., 2024). This creates a paradox: while AI tools boost output and offer helpful assistance, they may simultaneously undermine the very skills that education systems like the IB strive to cultivate.

Therefore, this study seeks to examine KMB students' perceptions of AI tools usage and its influence on their academic behaviours and skills. Specifically, it explores how GPT-4o, Gemini and Perplexity impacts students' decision-making processes, their tendency toward academic laziness, their sense of responsibility, and their critical thinking in learning. By doing so, the research contributes to a deeper understanding of the "AI paradox" in IB education: a tool that is simultaneously empowering and limiting, enabling efficiency while risking the erosion of essential human skills.

This study was aimed to explore to what extend will AI influence students' behaviours and skills in four key areas: decision making, creativity, laziness and responsibilities. Research objectives are as follows:

1. To examine how students perceive the influence of AI tools on their decision-making processes in academics.
2. To evaluate the impact of AI usage on students' human laziness in completing academic tasks.
3. To evaluate the impact of AI usage on students' sense of responsibility in completing academic tasks.
4. To evaluate the impact of AI usage on students' creative thinking in learning academically.

From the research objectives, four hypotheses were developed.

H_1: AI usage has significance influence on student's decision-making processes in academics.

H_2: AI usage has significance influence on students' human laziness in completing academic tasks.

H_3: AI usage has significance influence on students' sense of responsibility in completing academic tasks.

H_4: AI usage has significance influence on students' creative thinking in learning academically.

The integration of Artificial Intelligence such as GPT-4o, Gemini and Perplexity has significantly influenced the educational landscape. Based on various definitions of AI from current educational discourses (Bearman et al., 2022; Holmes et al., 2022; Luckin et al., 2022), AI in education can be understood through the increasing variety of tools and systems used in education

practices. In this context, AI in education can mean the vast family of AI tools that can become different when used in teaching and learning in a certain group of students, although constituted with a similar approach. Furthermore, AI has been increasingly propagated as having strategic value for education.

It could be an effective learning tool that lessens the burdens of both teachers and students and offers an effective learning experience for students. Moving hand to hand with current education reforms such as the digitalization of educational resources and personalized learning experiences, there are many opportunities for the development of AI applications in education (Fan et al., 2025). An example of AI applications being used in education is learning analytics systems, which enable teachers to analyze student data to predict student success and personalized feedback (Cerratto Pargman & McGrath, 2019). Other examples include the use of AI that serves as both a tutor and a collaborator in learning, enhancing personalized education by adapting to students' needs. Students now rely on AI not only for academic help but also to structure their learning process, making it a convenient alternative to traditional study methods.

Since AI tools like GPT-4o, Gemini and Perplexity are widely used by students to cater their academic tasks from answering questions, doing assignments, writing an essay. Greenfield (2021) warns that despite the advantages, overreliance on such tools may reduce student's efforts to think independently and critically. Emerging challenges also include student's attitudes towards these changes to the extent of leveraging AI to improve learning outcomes (Rahman et al., 2025; Chan, 2025). Nonetheless, students may fail to use suitable AI techniques appropriately for a specific learning context, which would result in a negative attitude towards learning. This research consists of impacts of AI on changes in different student's behaviour and skills from decision-making, laziness, responsibility and creative thinking. These are the focuses on the next section.

Decision-making ability is a fundamental cognitive skill and critical for processing and reasoning through complex information across diverse domains, including research and education, in return nurturing proficient decision-making capabilities (Duhaylungsod & Chavez, 2023). In exploring decision-making theories, a distinction can be seen between descriptive and normative theories (Bell et al., 1988; Johnston et al., 2024). Descriptive theories focus on understanding actual decision-making behaviors, including both rational and irrational elements, through empirical research. Normative theories, on the other hand, advocate for decisions that maximize expected utility, grounded in mathematical models and ideal behavioral principles (Fan et al., 2025; Chan, 2025; Damnjanović & Janković, 2014). These elements are crucial for enhancing learning experiences, as they pertain to reasoning, planning, inquiry, interpretation of findings, and the subsequent derivation of conclusions in research and education (Ismail, 2023).

Moreover, habitual dependence on AI for decision-making may reduce individuals' motivation to engage in independent thinking and analysis, potentially leading to a weakening of essential cognitive abilities (Rahman et al., 2025; Grinschgl & Neubauer, 2022) and automation bias (Gsenger & Strle, 2021). Students acknowledged that relying too much on AI models could undermine their autonomy and decision-making abilities (Zhai C. et al., 2024). With AI tools providing instant recommendations, summaries, or even direct answers, students may be less inclined to evaluate alternatives critically. On top of that, it can lead to passive decision-making, where students adopt the first suggestion without further analysis. This may impact their long-term ability to think independently and make informed judgments.

Conversely, AI tools can be seen as an aid to decision-making, especially for students who struggle for organizing thoughts or evaluating sources. Students who used AI to explore multiple perspectives demonstrated improved judgment in writing and project-based tasks (Xu and Yu, 2022). By exposing students to a broader range of possibilities, AI can help them to evaluate options and make decisions more thoroughly, fostering analytical skills rather than replacing them. Additionally, AI can assist with brainstorming, idea generation and providing feedback acting as a thought partner for students (Misha A., 2024). For instance, generating drafts to help students write an essay which would help them to narrow down possible contents, creating an impactful and compact work. As Floridi and Cowls (2021) emphasize, decision-making in the AI era requires new skills in evaluating digital content and ethical reasoning. Therefore, the key lies in how AI is introduced and integrated into educational environments.

One of the most debated topics in AI and education is whether AI promotes laziness among students. Critics argue that AI encourages shortcuts, making it easier for students to finish their work without fully understanding the content. AI tools have the ability to create well-written student essays, summarize research papers, answer questions well enough to pass medical exams, and generate helpful computer codes, for instance (Dergaa I. et al., 2023). Ahmed and Karim (2023) observed that some students relied on these tools for quick answers, often bypassing their thinking process. This behaviour, they argue, can weaken long-term motivation and lead to academic laziness.

However, the impact of AI on motivation is not entirely negative. Past studies show that technology increases access to educators and students, providing more up-to-date learning resources and they can access the materials anytime and anywhere (Mcknight et al. 2016). This will help students become more productive by reducing stress and simplifying repetitive tasks. According to Li, Zhao and Chen (2021), students who use AI to structure their study sessions and manage deadlines showed higher satisfaction with their academic performances. The efficiency provided by AI allowed them to delve on deeper learning rather than routine work.

Therefore, the relationship between use of AI and students' laziness often depends on the user itself. If they perceive the tool as a partner in learning, it could boost their confidence and significantly reduce procrastination. The drawbacks are if they treat is as a replacement for effort, it may hinder their own development of persistence and problem-solving skills. As Schunk et al. (2014) mentioned, motivation in learning is shaped by self-regulation, which can be either enhanced or weakened by the misuse of these digital tools (Fan et al., 2025; Chan, 2025; Rahman et al., 2025).

Responsibilities in education include personal effort, ethical behaviour and academic integrity. The rise of AI-generated responses poses a challenge to these values. Many students also expressed that the growing reliance on AI posed a threat to academic integrity, as it encouraged plagiarism and lack of genuine engagement. (Lanie P., 2024) For instance, Dehouche N. (2021) points out that AI-generated essays can be used by students to submit work that is not their own. This issue is further complicated by the difficulty in detecting AI-generated content, prompting many institutions to revise their plagiarism policies.

Furthermore, as AI becomes more integrated into higher education, the temptation for students to misuse these technologies for cheating increases. (Lanie P., 2024) The line between assistance and cheating is becoming increasingly blurred. For example, over-reliance on AI tools for grammar checking may reduce students' sense of ownership, as users bypass the learning process in favour of quick corrections. (Herman B., Marzuki, Wiwik P., 2025) This can lead to a decline in personal accountability as students could be inspired to cheat more (Rosenblatt, K. 2025), especially if students are not taught the ethical limits of AI use. This temptation can diminish students' sense of responsibility over time as they are limiting their efforts to learn.

Moreover, ethical issues such as plagiarism and data bias highlight the need for transparent and fair AI models to ensure academic integrity and fairness. (Alrazaq et al., 2023; De Angelis et al., 2023) However, integrity can only be promoted if responsible AI tools are used and if the students are guided properly. When students are transparent about their AI usage and use it only to support their thinking, it can enhance academic honesty. This can be done by integrating digital ethics into the education system to help students understand the importance of responsibility in a technology-driven world. (Zou C., 2024) Therefore, this ensures that AI becomes a tool to assist learning rather than encourage cheating.

Creative thinking is the ability to come up with unique, original solutions, thinking outside the box or solving problems innovatively. One concern is that AI tools might suppress creativity by offering ready-made content that discourages students from thinking independently. Kim (2021) warns that when students use AI to generate full essays or solve creative tasks, their imaginative thinking may be stunted due to a lack of practice and exploration (Chan, 2025; Johnston et al., 2024).

On the other hand, AI can also enhance creativity by providing inspiration and helping students overcome mental blocks. Davis (2023) found that students who used ChatGPT as a brainstorming partner produced more varied and original ideas in writing assignments. The AI

provided alternative phrases, ideas, or angles that encouraged students to develop their work further, rather than copying it entirely.

The key to using AI creatively lies in how students engage with it. When used to spark ideas rather than replace them, AI can serve as a valuable partner in the creative process. Amabile (1996) emphasizes that creativity is not about avoiding help but about how individuals transform input into unique expressions. With proper instruction and guidelines, AI can act as a catalyst for imaginative thinking rather than a barrier.

The Student Attitudes toward Artificial Intelligence (SATAI) scale was developed by Suh and Ahn (2022) as a 26-item, five-point Likert-type instrument aiming to measure high school students' attitudes toward AI across cognitive, emotional, and behavioral aspects. The authors designed the instrument to implement the abstract view of "attitudes toward Artificial Intelligence," making it quantifiable and useful for diagnosing how students perceive AI in educational settings. In their validation study, Suh and Ahn administered the scale to a sample of 305 K-12 students in South Korea, performing exploratory and confirmatory factor analyses to ensure the scale's reliability and validity.

The SATAI scale is structured to capture three interrelated dimensions: cognitive, emotional, and behavioral. The cognitive attitude items assess students' beliefs, perceptions, and understanding of AI (for example, whether they think AI is useful or important). Hence, this study is adopting the SATAI scale to measure and analyze the impact of AI tools usage towards the student's behavioral and skills. In this study, this cognitive dimension was measured on the first part of the questionnaire to gain prior information on how the students familiar with the use of AI and its frequency usage. The second dimension of emotional was divided into two variables which are the decision making and creative thinking. This is to measure on how the emotion might be influence by the AI usage when making decision and thinking process. Third dimension, behavioral attitude items explore students' responsibility in completing their assignments and projects and the possibilities of creating laziness impact by engaging the AI tools. These new sub-dimensions provide a more significant and comprehensive understanding of students' attitudes, behavioral and skills.

In usage and scoring, respondents indicate agreement with each of the 26 statements using a four-point Likert scale by Suyatmi and Wibowo (2016) with the range of 1 to 1.75 as very low, 1.76 to 2.50 as low, 2.51 to 3.25 as high and 3.26 to 4 as very high. The original study did not include reverse-scored items, so higher total scores (or higher subscale scores) consistently reflect more favourable attitudes toward AI. Because of its multidimensional structure and validated psychometric properties, the SATAI scale has since been adapted for other educational levels and cultural contexts, including use with university students, while maintaining its focus on schooling and future professional life aspects.

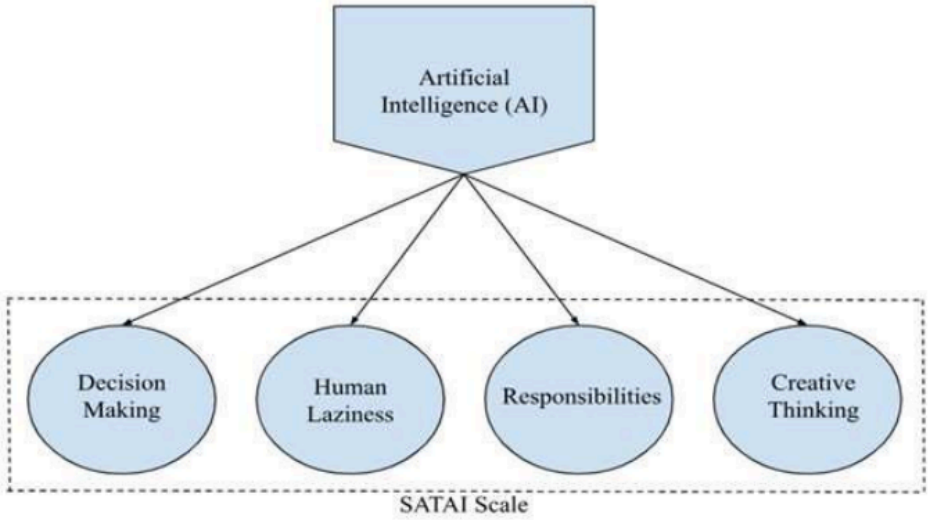


Figure 1. A Conceptual Framework on the Influence of AI Tools Usage on Student's Behaviour

Figure 1. shows the conceptual framework for this study which illustrates the hypothesized relationship between the independent and dependent variables. The independent variable (IV) is Artificial Intelligence (AI) usage, while the dependent variables (DVs) are Decision Making, Laziness, Responsibility, and Creative Thinking.

METHOD

This research utilized a quantitative research design using a structured survey through Google Form to measure how ChatGPT can influence student behaviour and skills. The survey content consisted of four key dependent variables: decision-making, human laziness, responsibility and critical thinking. Respondents were asked to self-assess these aspects on a Likert scale. The independent variable was the frequency of ChatGPT and Perplexity usage, categorized into three groups: frequent users, occasional users and non-users. The survey items were adapted to reflect the academic context of pre-university (IB) students.

The participants of this study were pre-university IB students enrolled at Kolej MARA Banting (KMB) with a total of 140 respondents, with a population of 180 students. The sampling procedure was determined according to the Krejcie and Morgan (1970) table to identify a representative sample size for the student population. However, the number of respondents were intentionally increased to enhance the representativeness of the sample. Participation was voluntary, and done anonymously to ensure honesty of the responses.

Data was collected as the Google Form survey was distributed during the academic semester. Students completed the questionnaire online, on their respective devices. Only fully completed responses were included in the analysis to ensure reliability. The study focused exclusively on quantitative data, aligning with the objective of testing statistically significant influence of GPT-4o, Gemini and Perplexity usage towards student behaviour.

The collected data were processed and analyzed by utilizing SPSS software. Descriptive statistics were first calculated to summarize the data and identify observable patterns. For hypothesis testing, Analysis of Variance (ANOVA) was applied, comparing the means of the dependent variables (decision-making, human laziness, responsibility, and critical thinking) across different AI usage groups. ANOVA was chosen because it allows for the examination of whether variations in student behaviour and skills can be attributed to differences in ChatGPT and Perplexity usage frequency rather than random chances.

RESULTS AND DISCUSSION

Results

This section will explain the result of the AI usage frequency among students in KMB. The descriptive statistic reveals a complex relationship between AI tool usage frequency and students in KMB.

Table 1. AI Usage Frequency

Variables	Frequency	Mean	Std. Deviation	N
Decision Making	1	2.9333	0.90185	3
	2	2.8444	0.45704	45
	3	3.0717	0.54315	92
	Total	2.9957	0.53130	140
Human Laziness	1	2.3333	1.04083	3
	2	2.3444	0.71368	45
	3	2.5571	0.77398	92
	Total	2.4839	0.76113	140
Responsibility	1	1.9167	0.87797	3
	2	2.6333	0.58290	45
	3	2.7011	0.59328	92
	Total	2.6625	0.60195	140
Creative Thinking	1	2.9333	0.50332	3

Variables	Frequency	Mean	Std. Deviation	N
	2	2.8400	0.39451	45
	3	2.8522	0.42645	92
	Total	2.8500	0.41492	140

The data indicates that students who engage in the frequent use of AI (Frequency = 1) exhibit the highest levels of Decision Making (mean: 3.0717) and also demonstrate the highest levels of Human Laziness (mean: 2.5571) suggests that while AI tools may expedite and enhance a student's ability to make decisions by providing quick access to information and analysis, they may also foster a dependency that leads to less personal effort and critical thought for research or assignment.

Conversely, the data for Creative Thinking (CT) presents a different picture. Students who never use AI (Frequency 3) have the highest mean for critical thinking (mean: 2.9333), whereas those who frequently use AI have a slightly lower mean (mean: 2.8522). This suggests a potential negative correlation, where the consistent use of AI tools may diminish a student's innate ability to think critically. An unexpected finding is observed in Responsibility, where students who never use AI have the lowest mean (mean: 1.9167). This is a puzzling result that could imply those who avoid AI tools may feel less accountable for their work. The idea represented by this group may not be as significant and thorough as those who used AI thus reducing their answer's credibility. Further qualitative research is needed to understand this relationship.

The data suggests that the influence of AI on students is not uniform. It appears to correlate positively with certain skills like decision-making while potentially hindering others, such as critical thinking, and introduces a complex relationship with a student's sense of skills and behaviour.

Descriptive Analysis of the Variables

Table 2. Item Mean Analysis

	Variables	N	Mean	Std. Deviation
Artificial Intelligence (Understanding & Perception)	It is interesting to use AI.	140	3.6857	0.5637
	AI could make everything better.	140	3.2214	0.778
	AI is necessary for everyone.	140	3.0571	0.9117
	I think AI makes life more convenient.	140	3.5571	0.649
	AI helps me solve problems in real life.	140	3.2714	0.7379
	The process of looking for answer is easy.	140	3.2429	0.8035
Decision Making	I believe there is a good match between my decision and the decision support technology.	140	3.3586	0.7491
	I believe there is an excellent fit between my decision and the decision support technology	140	2.9714	0.7952
	I believe the decision support technology is well suited for my decision.	140	2.9786	0.744
	I believe there is a mismatch between the decision I've made and the decision to support technology.	140	2.7857	0.8959
Human Laziness	With the use of AI, I put aside my work / assignment and do what I like to do first (Games > Work)	140	2.1286	1.0025
	With the use of AI, I know what I should do but don't want to do it.	140	2.25	0.953
	With the use of AI, I postpone what should be done	140	2.3286	1.0957

Variables		N	Mean	Std. Deviation
	until the end.			
	With the use of AI, I consider AI tools as my assistant.	140	3.2286	0.7897
	With the use of AI, I put aside my work / assignment and do what I like to do first (Games > Work)	140	2.1286	1.0025
	I use AI Bots to fulfil my learning needs.	140	3.2929	0.7345
	I am responsible for completing my studies with the help of AI.	140	3.1143	0.8489
Responsibility	I always cite the usage of AI in my work	140	2.4714	1.0488
	I believe we can immediately copy and paste what the AI given	140	1.7714	1.006
	I use AI Bots to fulfil my learning needs.	140	3.2929	0.7345
	My creative potential skills changes after implementing ChatGPT into your daily study life?	140	2.9357	0.7793
	I think I am good at generating original idea without the help of ChatGPT.	140	2.8143	0.7451
Creative Thinking	I am confident in my ability to solve problems creatively.	140	3.0071	0.7727
	ChatGPT contribute to the negative development of my creative potential as a student (I need assistance of ChatGPT to generate idea)	140	2.8	0.9384

Table 2 shows that all mean scores for almost all items are relatively high which are greater than 2.50 (Suyatmi & Wibowo, 2016). The highest mean value is 3.3586 under the decision making for item "I believe there is a good match between my decision and the decision support technology". The lowest mean value is 1.7714 for item "I believe we can immediately copy and paste what the AI given" under the Responsibility dimension. As in overall, there is high mean scores for students understanding and perception towards the usage of AI usage.

Impact on Decision Making, Human Laziness. Responsibility and Creative Thinking

On this section, results show the impact of AI usage towards the Decision-Making, Human Laziness, Responsibilities, and Creative Thinking skills by the students.

Table 3. ANOVA Result on AI Usage Towards Students Decision Making, Human Laziness, Responsibility and Creative Thinking

Hypothesis		Mean of Squares	F	Sig.	Result
H1	AI usage has significance influence on student's decision-making processes in academics.	18.539	123.602	<0.001b	Supported
H2	AI usage has significance influence on students' human laziness in completing academic tasks.	3.719	6.682	0.011	Supported
H3	AI usage has significance influence on students' sense of responsibility in completing academic tasks.	13.753	51.837	<0.001	Supported

	Hypothesis	Mean of Squares	F	Sig.	Result
H4	AI usage has significance influence on students' creative thinking in learning academically.	0.370	2.166	0.143	Unsupported

Table 3 provides strong statistical evidence to support the claim of AI usage has a significant influence on students' Decision Making (DM). Above, the F-Statistic is very large with the number of 123.602. Apart from that, we also consider the p-value which happen to be less than 0.05. Results have shown that differences in the mean score for Decision Making across large group of students are not due to random chance. With the amount of p-value shown, it is proven that AI has statistically significant impact on students' decision-making skills. Students who use AI tool much more frequent over-reliance on it and adopt it as decision-making assistant thus impacting their skills to process information and evaluate options.

Other than that, results indicate a statistically significant influence of AI usage towards human laziness. The F-statistic is 6.682 with a significance value (p-value) of 0.011. This statistical finding validates the patterns observed in the descriptive statistics Table 1. As previously noted, the mean for Human Laziness is highest for students with frequent AI user (mean = 2.5571) and lowest for those who never use AI (mean = 2.3333). The ANOVA confirms that this difference is not a coincidence but a statistically meaningful finding.

For responsibility, results show a highly statistically significant influence of AI usage towards student's sense of responsibility. The F-statistic is 51.837, and the significance value (p-value) is less than 0.001. This means the differences in the mean scores for responsibility across the three AI usage groups are not due to chance. This statistical finding validates the pattern seen in the descriptive statistics Table 1. The mean for Responsibility is lowest for students who never use AI (mean: 1.9167), and highest for those who use AI frequently (mean: 2.7011).

The ANOVA results for Creative Thinking however, shows no statistically significant influence of AI usage towards critical thinking skills. The F-statistic is 2.166, and the significance value (p-value) is 0.143 showing that the p-value is greater than the conventional alpha level of 0.05. This finding is a stark contrast to the analysis for Decision Making and Laziness, where a significant relationship was found. While the descriptive statistics showed a slightly higher mean for critical thinking among students who never use AI (mean: 2.9333), the ANOVA demonstrates that this difference is not statistically meaningful.

Discussion

The results of this study highlight the complex influence of AI tools (ChatGPT, Gemini and Perplexity) on IB students' academic behaviours at KMB. The significant positive association between frequent AI tools use, and decision-making suggests that students perceive the tool as enhancing their ability to process information and evaluate options. However, this finding shows the dependency of students on AI in the process of making decisions and thinking skills. This supports prior research showing that generative AI can function as a decision-support mechanism by simplifying access to knowledge and synthesizing information (Ameen et al., 2023; Dwivedi et al., 2023). If students are over-reliance on AI tools, there is a possibility of hindering their natural thinking abilities and skills. The results also shows that higher AI tools usage correlates with greater human laziness. This aligns with findings that heavy dependence on AI tools can reduce effort and foster academic complacency, as students tend to delegate intellectual tasks to AI rather than engage actively with the learning process (Chan, 2025; Kim et al., 2024; Kasneci et al., 2023). Besides, responsibility was also found to increase with AI usage, a result that contrasts with common assumptions that AI undermines accountability. One possible explanation is that students who use AI tools frequently may take responsibility for curating and editing AI outputs to fit academic standards, thereby engaging in a different form of responsibility. This nuance highlights that responsibility is not uniformly diminished but rather reshaped by AI use.

However, the absence of a statistically significant effect on creative thinking (CT) suggests that the usage of AI tools neither substantially boosts nor diminishes creativity in this context. Prior

studies have shown mixed results in this area: while generative AI can enhance idea fluency, it may also constrain originality by nudging users toward "average" or predictable outputs (Holzner, Maier, & Feuerriegel, 2025; O'Brien et al., 2024). The neutral finding in this study may therefore reflect a balance students may use these AI tools to support tasks but still rely on personal creative processes in their assignments that demand originality, such as the Extended Essay or TOK essay. This also aligns with students' International Baccalaureate Learner Profile where it advocates well rounded individuals who are thinkers, inquirers and principles global citizens.

Implications

The findings of this study have practical implications for educators, academic institutions, and curriculum developers, particularly within International Baccalaureate (IB) or pre-university environments. Since AI significantly influences decision-making, laziness, and responsibility, educational institutions like Kolej MARA Banting should not completely ban AI tools but rather implement structured frameworks for responsible AI integration. Guidelines should emphasize digital ethics, teaching students how to use AI as a decision-support and learning tool rather than a shortcut that induces academic complacency or over-reliance.

Research contribution

This study contributes to the expanding literature on Educational Technology and AI in Higher Education by exploring the "AI Paradox" specifically within a rigorous pre-university context (International Baccalaureate Diploma Programme). It provides empirical evidence using the SATAI scale on how generative AI tools (ChatGPT, Gemini, Perplexity) differentially affect psychological and behavioral dimensions demonstrating significant impacts on decision-making, laziness, and responsibility, while showing a neutral effect on creative thinking.

Limitations

Several limitations should be considered when interpreting the results of this study. First, the research was conducted exclusively among pre-university students at Kolej MARA Banting, which limits the generalizability of the findings to other educational levels or diverse institutional settings. Second, the quantitative data relied on self-reported survey measures, which may be subject to response bias or social desirability bias, particularly regarding sensitive behaviors such as academic laziness and responsibility. Third, the study utilized a cross-sectional design, capturing student attitudes and behaviors at a single point in time rather than tracking long-term shifts.

Suggestions

To build upon the insights gained from this study, several recommendations are proposed for future research. Future inquiries should consider expanding the sample size and incorporating a broader range of academic institutions and disciplines beyond pre-university environments to enhance the generalizability of the findings. Additionally, adopting a mixed-methods approach that combines quantitative surveys with qualitative interviews or focus group discussions would offer a deeper, more nuanced understanding of how AI tools dynamically reshape students' sense of responsibility and academic habits. Finally, longitudinal studies are highly recommended to track the long-term cognitive and behavioral shifts in students as generative AI technologies continue to evolve and become further embedded in academic workflows.

CONCLUSION

This study's findings reveal a complex and deeply human relationship between IB students at Kolej MARA Banting and their use of ChatGPT, Gemini and Perplexity. It's clear that students aren't just using AI as a crutch; they're integrating it into their academic lives in multifaceted ways. It is observed that they value the tool for its ability to enhance decision-making, using it as a sophisticated second brain to sort through vast amounts of information, a task that, for a student, can often feel overwhelming. Yet, this convenience comes with a predictable, very human, challenge and a tendency toward laziness. The data suggests that when a powerful tool can do the heavy

lifting, the natural impulse is to delegate, potentially sidelining the active intellectual struggle that is so crucial for learning.

Interestingly, it is also uncovered a paradox regarding responsibility. Contrary to the fear that AI would strip away accountability, this research shows that students who use ChatGPT, Gemini and Perplexity frequently often develop a different kind of ownership. They become editors and curators, taking on the responsibility of refining and shaping AI-generated content to meet their academic standards. This isn't a loss of responsibility, but a reshaping of it. Similarly, the neutral effect on creative thinking points to a balanced coexistence; students seem to know when to lean on AI for support and when to rely on their own spark of originality for the truly personal and demanding assignments.

Ultimately, this research serves as a reminder that technology's impact is not predetermined. It's shaped by how we, as humans, choose to use it. Our findings underscore a critical need for educators to guide students in using AI with purpose and integrity, turning a potential shortcut into a powerful tool for intellectual growth.

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AUTHOR CONTRIBUTION STATEMENT

We are the author of this work and were responsible for all aspects of the study, including conception, design, data collection, analysis, and manuscript preparation.

REFERENCES

Ahmad, S. F., Han, H., Alam, M. M., Rehmat, M., Irshad, M., Arraño-Muñoz, M., & Ariza-Montes, A. (2023). Impact of Artificial Intelligence on Human Loss in Decision Making, Laziness and Safety in Education. *Humanities and Social Sciences Communications, 10*(1), 1–14. https://doi.org/10.1057/s41599-023-01787-8

Alrazaq, A., AlSaad, R., Alhuwail, D., Ahmed, A., Healy, P. M., Latifi, S., Aziz, S., Damseh, R., Alrazak, S. A., & Sheikh, J. (2023). Large Language Models in Medical Education: Opportunities, Challenges, and Future Directions. *JMIR Medical Education, 9*(1), e48291. https://doi.org/10.2196/48291

Amabile, Teresa & Collins, Mary & Conti, Regina & Phillips, Elise & Picariello, Martha & Ruscio, John & Whitney, Dean. (2018). Creativity in Context: Update to The Social Psychology of Creativity. https://doi.org/10.4324/9780429501234.

Ameen, K., Ali, R. A., Abbas, M., & Xiang, Y. (2023). The Impact of Artificial Intelligence on Students' Academic Decision Making and Learning Behaviour: Evidence from Higher Education. *Frontiers in Psychology*, 14, 1182013. https://doi.org/10.3389/fpsyg.2023.1182013

Bearman, M., Ryan, J., & Ajjawi, R. (2023). Discourses of Artificial Intelligence in Higher Education: A Critical Literature Review. *Higher Education*, *86*(2), 369-385. https://doi.org/10.1007/s10734-022-00937-2

Bell, D. E., Raiffa, H., & Tversky, A. (1988). Decision making: Descriptive, Normative, and Prescriptive Interactions. *Cambridge University Press*. https://doi.org/10.1017/CBO9780511598951

Bittle, K., & El-Gayar, O. (2025). Generative AI and Academic Integrity in Higher Education: A Systematic Review and Research Agenda. *Information*, *16*(4), 296. https://doi.org/10.3390/info16040296

Cerratto-Pargman, T., McGrath, C., & Milrad, M. (2025). Towards Responsible AI in Education: Challenges and Implications for Research and Practice. *DIVA*. https://www.diva-portal.org/smash/record.jsf?pid=diva2:1948612

Chan, C. (2025). Understanding AI guilt: the development, pilot-testing, and validation of an instrument for students. *Education and Information Technologies*. 30. 21727-21746. 10.1007/s10639-025-13629-y.

Chan, C. K. Y., & Hu, X. (2023). AI-Assisted Learning and Student Responsibility: Opportunities and Challenges in Higher Education. *Education and Information Technologies*, 28, 14567–14583. https://doi.org/10.1007/s10639-023-12015-8

Chen, C., & Gong, Y. (2025). The Role of Al-Assisted Learning in Academic Writing: A Mixed-Methods Study on Chinese as a Second Language Students. *Education Sciences,* 15(2), 141. https://doi.org/10.3390/educsci15020141

Damnjanović, K., & Janković, I. (2014). Normative and Descriptive Theories of Decision Making Under Risk. *Theoria, Beograd, 57(4), 25–50.* https://doi.org/ 10.2298/THEO1404025D

De Angelis, L., Baglivo, F., Arzilli, G., Privitera, G. P., Ferragina, P., Tozzi, A. E., & Rizzo, C. (2023). Chatgpt and the Rise of Large Language Models: The New AI-Driven Infodemic Threat in Public Health. *Frontiers in Public Health, 11*, 1166120. https://doi.org/10.3389/fpubh.2023.1166120

Dehouche, N. (2021). Plagiarism in The Age Of Massive Generative Pre-Trained Transformers (GPT-3). *Ethics in Science and Environmental Politics*, 21: 17-23 https://doi.org/10.3354/esep00195

Dergaa, I., Chamari, K., Zmijewski, P., & Ben Saad, H. (2023). From Human Writing to Artificial Intelligence Generated Text: Examining the Prospects and Potential Threats of Chatgpt in Academic Writing. *Biology of sport*, *40*(2), 615–622. https://doi.org/10.5114/biolsport.2023.125623

Duhaylungsod, N. a. V., & Chavez, N. J. V. (2023). ChatGPT and Other AI Users: Innovative and Creative Utilitarian Value and Mindset Shift. *Journal of Namibian Studies History Politics Culture*, *33*. https://doi.org/10.59670/jns.v33i.2791

Dwivedi, Y. K., Hughes, L., Baabdullah, A. M., Ribeiro-Navarrete, S., Giannakis, M., Al-Debei, M. M., Dennehy, D., Metri, B., Buhalis, D., Cheung, C. M. K., Conboy, K., Dubey, R., Dutot, V., Felix, R., Janssen, M., Kim, Y., Lalicic, L., Marinakis, Y., Mogaji, E., … Wirtz, J. (2023). Reflecting on The Role of Generative Artificial Intelligence (AI) in Higher Education: Challenges, Opportunities, and Strategies. *The International Journal of Information Management,* 71, 102642. https://doi.org/10.1016/j.ijinfomgt.2023.102642

Fan, L., Deng, K., & Liu, F. (2025). Educational impacts of generative artificial intelligence on learning and performance of engineering students in China. *Scientific Reports*, *15*(1). https://doi.org/10.1038/s41598-025-06930-w

Floridi, L., Cowls, J. (2021). A Unified Framework of Five Principles for AI in Society. In: Floridi, L. (eds) Ethics, Governance, and Policies in Artificial Intelligence. *Philosophical Studies Series*, vol 144. Springer, Cham. https://doi.org/10.1007/978-3-030-81907-1_2

Greenfield, G. (2021). Artificial Life and Artificial Intelligence Advances in The Visual Arts. *Computational synthesis and creative systems* (pp. 3–26). https://doi.org/10.1007/978-3-030-59475-6_1

Grinschgl, S., & Neubauer, A. C. (2022). Supporting Cognition with Modern Technology: Distributed Cognition Today and in an AI-Enhanced Future. *Frontiers in Artificial Intelligence, 5*, 908261. https://doi.org/10.3389/frai.2022.908261

Gsenger, R., & Strle, T. (2021). Trust, Automation Bias and Aversion: Algorithmic Decision-Making in The Context of Credit Scoring. *Interdisciplinary Description of Complex Systems: INDECS, 19*(4), 540–558. https://doi.org/10.7906/indecs.19.4.4

Herman B., Marzuki, Wiwik P., Bambang P., & Ahsani M. (2025) Exploring Long-Term Impact of AI Writing Tools on Independent Writing Skills: A Case Study of Indonesian Language Education Students. https://doi.org/10.18178/ijiet.2025.15.5.2306

Holmes, W., & Tuomi, I. (2022). State of the art and practice in AI in education. *European Journal of Education*, *57*(4), 542–570. https://doi.org/10.1111/ejed.12533

Holzner, N., Maier, S., & Feuerriegel, S. (2025). Generative AI and Creativity: A Systematic Literature Review and Meta-analysis. *arXiv*.https://doi.org/10.48550/arXiv.2505.17241

Ihekweazu, C., Zhou, B., Adelowo, E.A., (2024). Ethics-Driven Education: Integrating AI Responsibly for Academic Excellence. *Information Systems Education Journal,* 22(3), pp.36-46. https://doi.org/10.62273/JWXX9525

Ismail, A. R. (2023). Will Artificial Intelligence Lead to Genuine Stupidity? A Food for Thought. *SSRN Journal.* https://doi.org/10.2139/ssrn.4566781

Johnston, H. & Wells, Rebecca & Shanks, Elizabeth & Boey, Timothy & Parsons, B. (2024). Student perspectives on the use of generative artificial intelligence technologies in higher education. *International Journal for Educational Integrity*. 20. 10.1007/s40979-024-00149-4.

Kadhim, Dena & Khmas, Bushra. (2025). AI-Generated Content and Academic Integrity in Higher Education: Challenges and Solutions. *Journal of Teaching Innovation and Reform*. 1. 37-47. 10.65638/2978-5634.2025.01.04.

Kasneci, E., Sessler, K., Küchenhoff, H., Bannert, M., Dementieva, D., Fischer, F., Gasser, U., Groh, G., Günnemann, S., Hüllermeier, E., Krusche, S., Kutyniok, G., Michaeli, T., Nerdel, C., Peifer, N., Peters, S., Renz, A., Röhrig, R., Rudolph, J., Kasneci, G. (2023). ChatGPT for good? On opportunities and challenges of large language models for education. Learning and Individual Differences, 103, 102274. https://doi.org/10.1016/j.lindif.2023.102274

Kim, S., Kim, J., & Park, J. (2024). Exploring University Students' Dependence on Artificial Intelligence Tools For Learning: Benefits and Risks. *International Journal of Educational Technology in Higher Education*, 21(1), 28. https://doi.org/10.1186/s41239-024-00467-0

Kim, S., Kim, J., & Park, J. (2024). Exploring University Students' Dependence on Artificial Intelligence Tools for Learning: Benefits and Risks. *International Journal of Educational Technology in Higher Education*, 21, 28. https://doi.org/10.1186/s41239-024-00467-0

Lee, H., & Lee, J. (2024). Do You Have AI Dependency? The Roles of Academic Self-Efficacy, Academic Stress, and Performance Expectations on Problematic AI Usage Behavior. *International Journal of Educational Technology in Higher Education*, 21, Article 20. https://doi.org/10.1186/s41239-024-00467-0

Li, J., Chen, X., & Wang, Y. (2024). Understanding the Long-Term Impact of AI Use in Education: A Mixed-Methods Longitudinal Study. *Computers & Education*, 205, 104935. https://doi.org/10.1016/j.compedu.2024.104935

Luckin, R., Cukurova, M., Kent, C., & Du Boulay, B. (2022). Empowering Educators to Be AI-Ready. *Computers and Education Artificial Intelligence*, *3*, 100076. https://doi.org/10.1016/j.caeai.2022.100076

Marzuki, & Widiati, Utami & Rusdin, Diyenti & Darwin, & Indrawati, Inda. (2023). The Impact of AI Writing Tools on The Content and Organization Of Students' Writing: EFL Teachers' Perspective. *Cogent Education*. https://doi.org/10.10.1080/2331186X.2023.2236469.

McKnight, K., O'malley, K., Ruzic, R., Horsley, M., Franey, J. J. & Bassett, K., Teaching in A Digital Age: How Educators Use Technology to Improve Student Learning. *Journal Of Research on Technology in Education*, 2016, *48*(3), 194–211 https://doi.org/10.1080/15391523.2016.1175856

Merino-Campos, C. (2025). The Impact of Artificial Intelligence on Personalized Learning in Higher Education: A Systematic Review. *Trends in Higher Education*, 4(2), 17. https://doi.org/10.3390/higheredu4020017

O'Brien, T., Ruan, Y., & Yang, S. (2024). Generative AI and Human Creativity: A Double-Edged Sword in Education. *British Journal of Educational Technology*, 55(5), 1452–1469. https://doi.org/10.1111/bjet.13312

Rahman, G., Almutairi, E. A. A., Almutairi, M., & Mudhsh, B. A. (2025). The impact of AI-powered text generation tools on the critical thinking skills of undergraduate students. *Journal of University Teaching and Learning Practice*, 21(6). https://doi.org/10.53761/srkt0510

Schunk, D. H. (2014). Learning Theories: An Educational Perspective (6th ed.). *Upper Saddle River: Pearson Prentice Hall.*

Suh, W., & Ahn, S. (2022). Development and Validation of a Scale Measuring Student Attitudes Toward Artificial Intelligence. *SAGE Open*, *12*(2). https://doi.org/10.1177/21582440221100463

Suyatmi, S. & Wibowo, F. (2016). Research instrument testing for strategies management of information technology Private University of XYZ. 19. 4025-4032.

University of Leeds 2025. Learning With AI. *A student edited collection. University of Leeds*. https://doi.org/10.63560/lwai99015

Vieriu, A. M., & Petrea, G. (2025). The Impact of Artificial Intelligence (AI) on Students' Academic Development. *Education Sciences*, *15*(3), 343. https://doi.org/10.3390/educsci15030343

Wang, J., & Zhao, L. (2025). Exploring Students' Perceptions of Artificial Intelligence Tools in Higher Education: Efficiency, Accessibility, And Ethical Considerations. *Education Sciences*, *15*(3), 343. https://doi.org/10.3390/educsci15030343

Zhai, C., Wibowo, S. & Li, L.D. The Effects of Over-Reliance on AI Dialogue Systems on Students' Cognitive Abilities: A Systematic Review. *Smart Learning Environments*. 11. 10.1186/s40561-024-00316-7.

Zhou, Y., Chen, H., & Li, X. (2024). Generative AI in Education: Students' Perceptions, Opportunities, and Challenges. *Systems,* 12(10), 385. https://doi.org/10.3390/systems12100385

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