



An Explanatory-Sequential Analysis Of Students' Attitudes Towards Chatgpt, Epistemic Beliefs, And Academic Honesty For Segmenting AI Use

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Abstract

This study employs an explanatory-sequential mixed-methods design to explore the relationship between college students' attitudes toward ChatGPT, epistemological beliefs, and tendencies toward internet-triggered academic dishonesty. Grounded in the Theory of Planned Behavior, the study integrates quantitative and qualitative methods to provide a understanding of how students perceive and use ChatGPT in academic contexts. Quantitative data were gathered from 279 students through web-based survey followed by a k-means cluster analysis to segment students into profiles. Qualitative data from focus group discussions enriched these findings, generating themes explaining subjective norms and behavioral control. The cluster analysis revealed two distinct profiles: Cluster 1, characterized by mature epistemological beliefs, below average attitude towards ChatGPT, and minimal academic dishonesty, and Cluster 2, defined by pragmatic attitudes of ChatGPT, and higher dishonesty tendencies, and naïve epistemological belief. Mediation analysis found no significant indirect effect of epistemological beliefs between attitudes toward ChatGPT and academic dishonesty, although epistemological beliefs independently discouraged dishonest behaviors. Integration of quantitative and qualitative findings through cross-case quantization linked clusters with themes such as academic pressures and strategies, ethical concerns, and technological accessibility which highlighted varied motivations and contextual influences. Behavioral controls also differed between clusters. Cluster 1 exhibited balanced control through themes like knowledge and inspiration and collaborative roles, while Cluster 2 predominantly relied on utilitarian usage. The study's findings underscore the tension between students' ethical considerations and their pragmatic reliance on AI tools influenced by academic demands and social norms. These findings hold implications for policy and instructional strategies aimed at balancing AI's academic potential with its ethical challenges.

Keywords: ChatGPT, Artificial Intelligence, Epistemological Beliefs, Academic Dishonesty Attitude, Theory of Planned Behavior

Introduction

The integration of artificial intelligence (AI) into education represents a transformative leap in reshaping traditional learning paradigms, with tools like generative AI and large language models (LLMs) at the forefront of this evolution. Among these tools, ChatGPT has emerged as a pivotal resource due to its advanced capabilities in generating coherent and contextually relevant human-like text. Its applications extend across a spectrum of academic activities, from idea generation and summarization of educational materials to assisting in crafting assignments and solving complex problems. This adaptability and ease of use have positioned ChatGPT as both a boon and a subject of critical scrutiny within educational ecosystems (Wu, 2023; Al-Smadi, 2023).

Recent studies have explored the ABC model (Affective, Behavioral, Cognitive) to assess attitudes toward AI, finding that students generally exhibit positive inclinations towards utilizing AI-powered tools in education, despite some concerns about accuracy and reliability (Ajilouni et al., 2023; Yilmaz et al., 2013). The incorporation of AI tools like ChatGPT into educational contexts has

also raised new ethical considerations, particularly around academic integrity. AI-facilitated misconduct, characterized by actions such as unauthorized assistance and plagiarism, has highlighted the need for understanding student motivations and beliefs surrounding AI usage (Rane et al., 2024). Indeed, studies on academic dishonesty indicate that the accessibility and anonymity afforded by AI technologies may inadvertently encourage academic misconduct, necessitating preventative frameworks aligned with crime prevention principles (Gaumann & Veale, 2024; Birks & Clare, 2023).

Central to understanding ChatGPT's academic implications is the concept of epistemological beliefs—the frameworks individuals hold about the nature and acquisition of knowledge. These beliefs significantly influence learning behaviors and attitudes toward technology, as highlighted in foundational studies by Hofer and Pintrich (1997). Despite their recognized importance, the intersection of epistemological beliefs and AI use remains an underexplored domain. Zhou and Tan (2020) suggest that these beliefs shape not only how students engage with knowledge but also how they navigate ethical considerations in technology-mediated learning environments. Furthermore, the ethical and cognitive dimensions of ChatGPT use have not been brought to light in mixed-methods research which could shed light on the development of students' attitudes and behaviors in integrating AI into their learning routines.

This study therefore aims to describe the students' attitude towards ChatGPT, internet-triggered academic dishonesty, and epistemological beliefs. It also seeks to evaluate the mediating effect of students' epistemological beliefs on the relationship between attitude towards ChatGPT and internet-triggered academic dishonesty. In addition, the study intends to classify the respondents based on their attitude towards ChatGPT, internet-specific academic dishonesty, and epistemological beliefs. Finally, it aims to determine the areas of convergence, divergence, complementarity, and expansion between the quantitative and qualitative findings.

Ultimately, the outcomes of this study provide significant implications for educational policy, instructional design, and the ethical incorporation of AI tools in educational settings. This exploration of the relationship between epistemological views and AI utilization offers practical guidance for promoting ethical AI deployment and preserving academic integrity. The results can inform specific measures, such as ethical AI training and tests that foster critical thinking while limiting academic dishonesty. Additionally, the integration of cognitive, behavioral, and ethical dimensions advances theoretical discourse on technology acceptance, guiding the development of equitable and impactful AI applications in education.

Methodology

Research Design

This study adopts an explanatory sequential design MMR to explore the relationships among epistemological beliefs, attitudes towards ChatGPT, and academic honesty. The explanatory sequential design is a mixed-methods approach where quantitative data collection and analysis are conducted first, followed by qualitative data collection to explain and build upon the quantitative findings (Creswell & Clark, 2017). As shown in table 1, phase 1 of the study is quantitative followed by qualitative phase. The design was chosen to provide an understanding of students' behavior in using ChatGPT for academic purposes, addressing the interplay of these factors while leveraging the Theory of Planned Behavior (TPB) as a guiding framework.

Phase 1: Quantitative Data Collection and Analysis

The first phase involved collecting quantitative data through a web-based survey administered to 279 students from Cagayan State University. The survey instruments included the adapted instruments, Attitude Towards Using ChatGPT Scale, the Internet-Triggered Academic Dishonesty Scale (ITADS), and the Epistemological Beliefs Questionnaire (EBQ), adapted to the study context. Descriptive statistics summarized students' attitudes, epistemological beliefs, and academic dishonesty behaviors. Cluster analysis was performed to classify respondents into distinct groups based on their attitudes toward ChatGPT, epistemological beliefs, and tendencies for academic dishonesty. Moreover, mediation analysis explored whether epistemological beliefs mediated the relationship between attitudes and academic dishonesty.

Phase 2: Qualitative Data Collection and Analysis

To deepen the understanding of the clusters, qualitative data were gathered through focus group discussions (FGDs) with 12 purposefully selected participants (6 from each cluster). An interview

protocol was developed based on the findings of the quantitative phase. The responses were transcribed and analyzed using Braun and Clarke's (2006) thematic analysis. The process began with familiarization, where the researcher engaged in repeated reading of the transcripts to gain an in-depth understanding of the data. This step allowed the researcher to identify preliminary patterns and establish a foundation for the subsequent stages. Following familiarization, the data were systematically coded. This involved segmenting the transcripts into meaningful units and labeling them with concise, descriptive codes that encapsulated the essence of the content. The coding process was iterative and grounded in the data, ensuring that the codes reflected the participants' experiences and perspectives. Once the initial codes were developed, they were collated into potential themes. This involved grouping related codes to identify broader patterns that addressed the research objectives. The themes were then reviewed to ensure coherence and alignment with the data, refining their definitions and ensuring that they were distinct yet interconnected.

Table 1. Visual Model for Mixed-Methods Sequential Explanatory Design Procedure

Phase	Procedure	Product
Quantitative Data Collection	• Cross-sectional web-based survey ($n=279$) • ATUC (Aljouni et al, 2023) • ITADS (Akbulut et al, 2008) • EBQ (Zhou & Tan, 2020)	• Numeric data
Quantitative Data Analysis	• Data Screening • Frequencies • Mediation Analysis • RStudio • Jamovi Desktop v 2.6.17	• Stacked bar chart • Descriptive statistics • Path Diagram
Connecting Quantitative and Qualitative Phases	• Purposefully selecting participants for the FGD thru Cluster Analysis ($n=6$ for each cluster) • Developing Interview Questions	• Cases ($n=12$) • Interview protocol
Qualitative Data Collection	• Focus Group Discussions	• Text data (Transcripts)
Qualitative Data Analysis	• Coding and thematic analysis (Braun and Clarke, 2006) • DocTools • Across-case theme development	• Codes and themes • Visual models
Integration of Quantitative and Qualitative Results	• Cross-case <i>quantitization</i> • Joint display	• Visual model of cross-case comparison • Joint Display table • Discussion

Integration of Quantitative and Qualitative Findings

The final phase of the study focused on integrating the quantitative and qualitative findings to provide a holistic understanding of students' use of ChatGPT. This integration was achieved through multiple strategies. One approach involved incorporating verbatim statements from the focus group discussions to contextualize and explain key quantitative findings. These statements added depth to the numerical trends. Additionally, a joint display was created to summarize the meta-inferences derived from the integrated findings. The joint display identified areas of convergence, divergence, complementarity, and expansion, linking the quantitative data with the qualitative themes. This method provided a visual framework for understanding how the two strands of data interacted, highlighting shared patterns, differences, and the ways in which one dataset enriched or extended the other.

An effort for integration was also undertaken through cross-case quantization, where the themes generated from the qualitative analysis were quantitatively examined across the clusters identified in the earlier phase. This process involved mapping the prevalence of qualitative themes onto the quantitative cluster profiles, allowing for a comparison of how subjective norms and behavioral control mechanisms varied between the two groups.

Instrumentation

Attitude towards ChatGPT

To measure attitudes towards ChatGPT, this study adapted the Attitude Towards Using ChatGPT as a Learning Tool (ATUC) scale developed by Ajlouni et al. (2023). The ATUC scale is grounded in the ABC model of attitude, encompassing three core components: affective, cognitive, and behavioral. The adapted instrument included 22 items across these subscales, with each item rated on a 5-point Likert scale, ranging from 1 ("strongly disagree") to 5 ("strongly agree"). The affective subscale assessed participants' feelings towards using ChatGPT, such as comfort and enjoyment. The cognitive subscale explored beliefs about ChatGPT's utility in facilitating the learning process, supporting skill development, and enhancing engagement. Lastly, the behavioral subscale examined participants' intent to use ChatGPT in their academic pursuits, such as employing it for study preparation, summarization, and exercise.

Internet-Triggered Academic Dishonesty Scale (ITADS)

To assess internet-triggered academic dishonesty, this study utilized the Internet-Triggered Academic Dishonesty Scale (ITADS) developed by Akbulut et al. (2008). The ITADS measures the prevalence of internet-facilitated academic misconduct across five subscales: fraudulence, plagiarism, falsification, delinquency, and unauthorized help with responses on a 5-point Likert scale ranging from 1 ("never") to 5 ("always").

The fraudulence subscale captures behaviors related to data manipulation and misrepresentation, while the plagiarism subscale addresses the unauthorized use of others' intellectual property. Falsification focuses on altering information sources, and delinquency includes negligent behaviors, such as failing to cite sources correctly. Lastly, the unauthorized help subscale examines instances where students receive unapproved assistance on assignments.

Epistemological Beliefs

To assess students' epistemological beliefs, this study utilized an adapted version of the Chinese College Students' Epistemological Beliefs Questionnaire (EBQ) developed by Zhou and Tan (2020). The EBQ evaluates students' beliefs about knowledge and learning across six dimensions: certain knowledge, simple knowledge, acquisition of knowledge, speed of learning, ability to learn, and value of learning.

The certain knowledge dimension assesses beliefs about the stability and evolution of knowledge over time. The simple knowledge subscale measures the extent to which students view knowledge as interconnected versus isolated. Acquisition of knowledge focuses on self-driven learning and comprehension, while speed of learning examines perceptions of how quickly knowledge should be acquired. Ability to learn captures beliefs about whether learning capacity is innate or can be developed, and value of learning reflects attitudes towards the enjoyment and utility of learning activities. Each item is rated on a 5-point Likert scale from 1 ("strongly disagree") to 5 ("strongly agree").

Local and Participants of the Study

The study was conducted at a state university in Northern Philippines. A sample of 279 students was selected from a total population of 810, using convenience sampling to capture a cross-section of the student body. As Table 1 illustrates, the sample includes a near-equal distribution of male and female students. The table also reveals a significant disparity in access to technology, with only about a fifth of respondents reporting they have a computer at home. Regarding ChatGPT usage, the majority of students indicated occasional interaction with the tool. A small fraction reported very frequent use, while a considerable number rarely or never engaged with it, indicating varied levels of exposure and possible differences in their willingness or ability to incorporate AI into their studies. Additionally, the self-rated ICT competence levels among respondents provide further insight into how these students perceive their own digital skills in relation to AI. While most students rated their ICT abilities as moderate, a significant portion rated themselves as low or very low, pointing to a general sense of moderate to limited confidence in using digital tools.

Table 1. Distribution of the respondents according to sex, presence of computer at home, ChatGPT use, and self-rated ICT Competence

Variable	Category	Frequency	Percentage
Sex	Male	128	45.90
	Female	151	54.10
Computer at home	With	60	21.50
	Without	219	78.50
ChatGPT Use	Very Often	8	2.90
	Often	24	8.60
	Sometimes	258	56.60
	Rarely	66	23.70
	Never	23	8.20
ICT Competence	Very High	10	3.60
	High	55	19.40
	Moderate	153	54.80
	Low	54	29.70
	Very Low	7	3.60
Total		279	100.00

Findings and Discussion

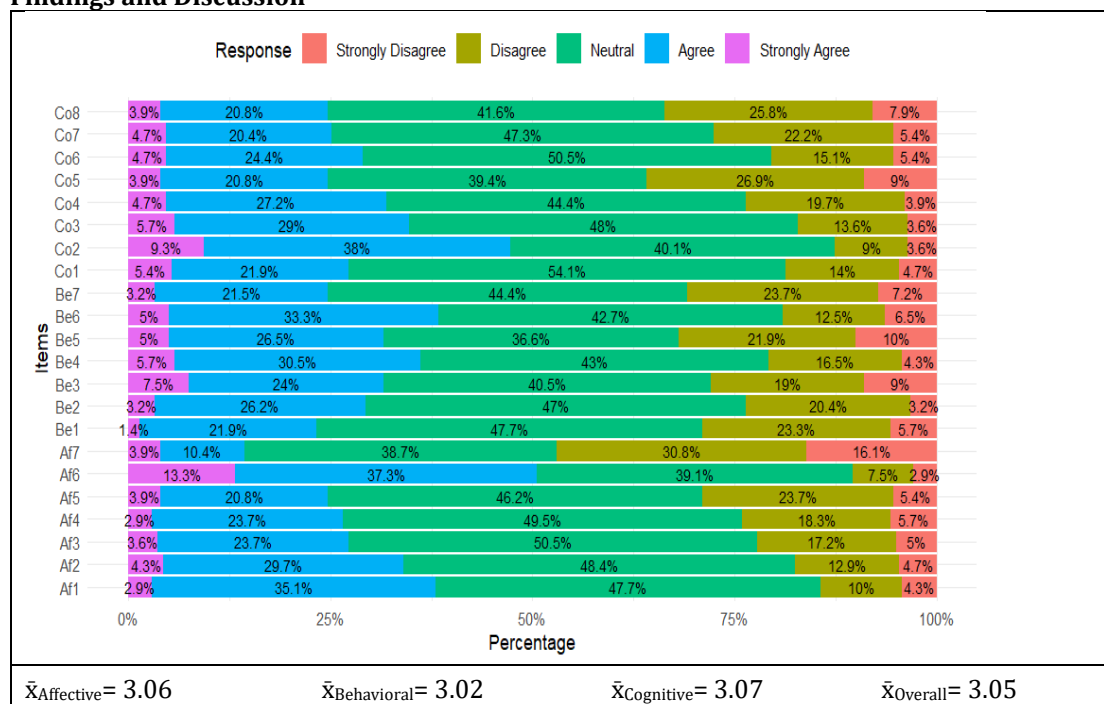


Figure 1. Response distribution of the attitude towards ChatGPT of the respondents

Attitude towards ChatGPT

Figure 1 illustrates the attitude of the students towards ChatGPT, segmented across affective, cognitive, and behavioral dimensions, with an aggregate mean of 3.05, indicating a moderately positive attitude on the tool. Cognitive attitudes emerged as the strongest component, with a mean of 3.07, closely followed by affective (3.06) and behavioral (3.02) attitudes.

In the affective domain, items such as "I enjoy using ChatGPT in the learning process" (Af2) and "I feel comfortable using ChatGPT" (Af3) reveal an overall positive emotional engagement with ChatGPT, which aligns with findings from Ajlouni et al. (2023) that reported high affective and behavioral components in student attitudes toward ChatGPT as a learning tool. The FGD confirmed this emotional connection. One respondent expressed,

"ChatGPT is very supportive in this present generation... nakakatulong sa access ng information. For example, in my homework... lesson plans... gives us a way to cope up in an easier pace po" [R1]
["ChatGPT is very supportive for this generation... it helps with accessing information. For example, in my homework... lesson plans... it allows us to cope at an easier pace."]

However, there is evidence of caution, as some students expressed concern about ChatGPT's potential inaccuracies (Af6) and the lack of human interaction (Af5), echoing similar concerns noted by Tlili et al. (2023), who identified apprehensions about the reliability and validity of AI-generated responses in educational settings. The FGD also revealed this emotional conflict. One respondent reflected,

"After using it, 'oo tapos mo nga, pero hindi naman lahat galing sayo'... may guilt" [R6]
["After using it, 'yes, you're done, but not everything came from you'... there's guilt."]

This duality was not fully captured in the quantitative phase, indicating that while students find ChatGPT emotionally engaging, they also grapple with feelings of guilt and self-doubt.

With regards the cognitive dimension, which includes statements such as "ChatGPT makes the learning process easier" (Co2) and "ChatGPT supports lifelong learning" (Co7), reflects students' perception of ChatGPT's academic utility. This is consistent with research indicating that students view AI tools as beneficial for fostering autonomy and critical thinking skills (Sallam, 2023). Additionally, the belief that ChatGPT "develops writing skills" (Co5) aligns with prior studies suggesting that AI can effectively support students' writing and analytical abilities (Bii, 2013). The FGD confirmed this perspective, with one participant stating,

"Yung topic ko po, sir, inilalagay ko sa ChatGPT, and then nagpapprovide ako ng pwedeng maging objectives... nire-rephrase ko" [R4]

["I input my topic into ChatGPT, and it provides possible objectives... I rephrase them."]

Another participant remarked,

"ChatGPT is there for you to assist, for you to search, and for you to find... nasa akin yung final say" [R6]

["ChatGPT is there for you to assist, to search, and to find... the final say is still mine."]

However, some reservations about its accuracy surfaced. One respondent said,

"Sometimes din hindi naman tama yung knowledge na... dapat i-check pa rin" [R3]

[Sometimes the knowledge isn't entirely correct... it should still be checked.]

These responses underline the importance of critical thinking when engaging with AI tools, echoing the findings of Sallam (2023) regarding the cognitive utility of ChatGPT. Behaviorally, students show a clear readiness to incorporate ChatGPT into their study routines, as seen in items like "I would use ChatGPT for exercising, practicing, and exam preparation" (Be5) and "I would use ChatGPT for summarizing and analyzing educational material" (Be6). This mirrors the findings of Ajlouni et al. (2023), where high behavioral intentions among students emphasized the growing acceptance of ChatGPT as a supplementary educational tool. The inclination to promote ChatGPT's benefits among peers (Be2) suggests a perceived value that could foster broader adoption, which resonates with existing literature on the influence of peer support in technology acceptance (Hussein, 2017). The FGD supported this, with participants frequently using ChatGPT for time-sensitive tasks. For instance,

"Kapag rush na po talaga, sir, talagang nakadepende na kami" [R4]

["When we're really rushed, we completely rely on it."]

Peer influence was also a significant driver of behavior, as one participant admitted,

"Kapag may assignment, sasabihin nalang ng mga kaibigan, 'iChatGPT mo nalang yan'" [R5]

["When there's an assignment, friends would just say, 'Just use ChatGPT for that.'"]

However, this convenience-driven behavior was tempered by a recognition of its drawbacks. One participant explained,
 “May mga times na kinokopya nalang namin lahat... parang nawawala na yung pagiging intelligent” [R5]
 [“Sometimes we just copy everything... it seems like we lose our intelligence.”]

Table 2. Meta-Inferences on Students' Attitudes Toward ChatGPT: Areas of Convergence, Divergence, Complementarity, and Expansion

Overarching Theme	Quantitative findings (% Agreeableness)	Qualitative findings	Meta-inferences
Attitude towards ChatGPT	ChatGPT makes the learning process easier. (47.3%)	“ChatGPT is very supportive in this present generation... nakakatulong sa access ng information. For example, in my homework... lesson plans... gives us a way to cope up in an easier pace po” [R1]	Convergence Quantitative and qualitative data both reflect that students appreciate ChatGPT for its ability to simplify academic tasks and enhance learning efficiency
	ChatGPT improves higher-order skills, i.e. Evaluation and creativity (24.7%)		
	ChatGPT develops writing skills. (24.7%)		
		“May mga times na kinokopya nalang namin lahat... parang nawawala na yung pagiging intelligent” [R5]	Divergence While students acknowledge ChatGPT's benefits in learning efficiency, qualitative data highlights concerns about over-reliance and diminished intellectual effort
	I would use ChatGPT for summarizing and analyzing the educational material. (50.6%)	“Yung topic ko po, sir, inilalagay ko sa ChatGPT, and then nagpaprove ako ng pwedeng maging objectives... nire-rephrase ko” [R4]	Complementarity The qualitative data adds depth to the quantitative results by contextualizing why students use ChatGPT, particularly their emphasis on time-saving and workload management.
	I would follow the improvements in ChatGPT. (23.3%)		
	I feel concerned about using ChatGPT in doing schoolwork because it may generate inaccurate results. (50.6%)	“Sometimes din hindi naman tama yung knowledge na... dapat i-check pa rin” [R3]	
	I feel annoyed to use ChatGPT because there is no human interaction. (24.7%)	“hindi na natin marerefrain yung paggamit ng mga ChatGPT lalo na sa mga estudyante ngayon. Pero ang kailangan siguro ang human intervention” [R8]	Expansion Qualitative insights expand the quantitative findings by revealing affective concerns about ChatGPT's accuracy and lack of human interaction, beyond its cognitive utility.

Building upon the earlier discussion of students' attitudes toward ChatGPT, the meta-inferences presented in Table 2 further demonstrate the nature of these attitudes. The integration of

quantitative and qualitative findings reveals a shared understanding of ChatGPT's role as an academic aid, particularly in streamlining tasks and improving efficiency. This positive perception is evident in students' cognitive and behavioral interactions with the tool, as many acknowledge its contribution to supporting learning processes and coping with academic challenges. However, a point of divergence appears in qualitative data, where students express concerns about excessive dependence on ChatGPT and its potential to diminish deeper intellectual engagement. These concerns indicate a conflict between viewing the tool as an asset and the fear of it replacing critical thinking and academic effort.

Additionally, the qualitative data complements the quantitative findings by providing richer context to students' behavioral intentions. While the quantitative data reflects a willingness to use ChatGPT for academic purposes, the qualitative responses delve into the practical motivations behind this usage, such as the need to save time and handle heavy workloads. These explanations provide a more comprehensive understanding of students' behaviors. Beyond this, the qualitative findings broaden the discussion by uncovering affective concerns, such as mistrust in the accuracy of ChatGPT's outputs and dissatisfaction with its lack of human interaction. These emotional responses expand the interpretation of the data, moving beyond its functional benefits to include the relational and ethical implications of AI tools.

Taken together, these findings convey a layered relationship between students and ChatGPT, characterized by both an appreciation for its practical benefits and a cautious awareness of its limitations. These meta-inferences emphasize the importance of addressing the dual aspects of opportunity and risk associated with AI use in education.

Internet-triggered Academic Dishonesty

The analysis of internet-triggered academic dishonesty among college students, measured using the Internet-Triggered Academic Dishonesty Scale (ITADS), highlights distinct patterns across the dimensions of fraudulence, plagiarism, falsification, delinquency, and unauthorized help. The figure above indicates relatively low engagement in internet-triggered academic dishonesty as the overall mean is 2.08. The focus group discussion (FGD) provided further insights, revealing the underlying reasons for this phenomenon. The responses highlighted students' ethical awareness, personal experiences, and social and institutional influences as key factors contributing to the low engagement. For instance, one participant demonstrated a strong internal moral compass, which discouraged dishonest behavior. He emphasized the lasting influence of family values, stating: "Back when I was in elementary kasi sir, my dad hates when I copy in my classmates. My whole family kasi, sir, is a line of teachers... So, parang kapag kinokopya ko yung bagay, it feels like so mali" [R9]

[Back when I was in elementary, my dad hated it when I copied from classmates. My whole family is in teaching, so copying feels so wrong to me.]

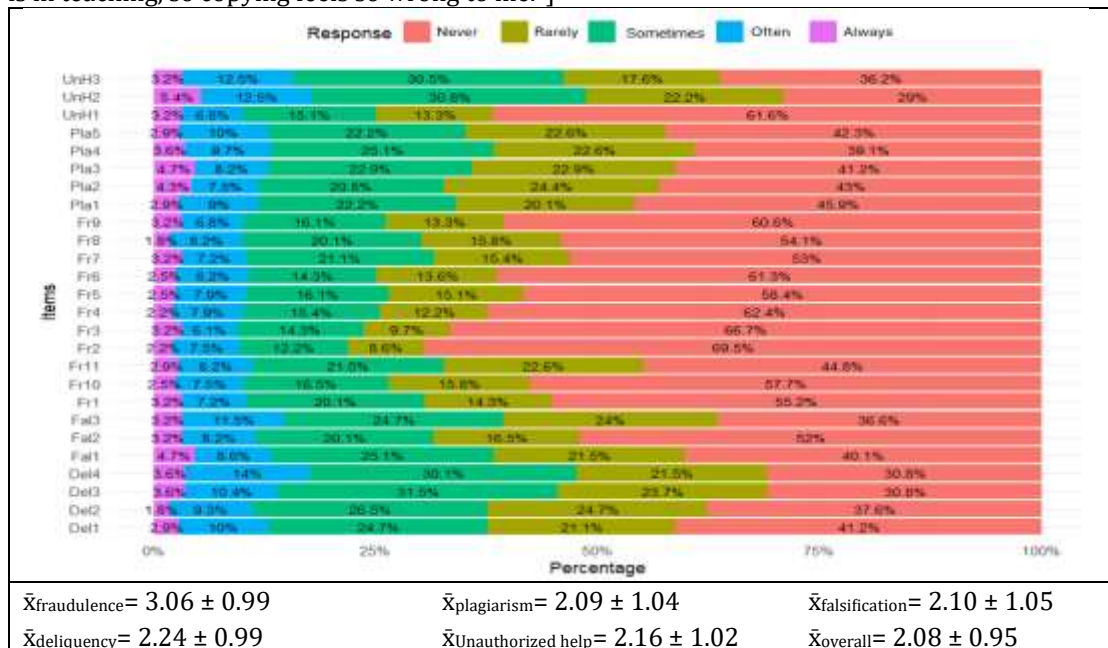


Figure 2. Response distribution as to internet-triggered academic dishonesty

This moral grounding created a personal aversion to practices that could be perceived as academically dishonest, which could explain the overall low engagement scores in the quantitative phase. Furthermore, a notable factor influencing behavior was students' skepticism about the reliability of AI tools like ChatGPT. One participant explained:

"I used ChatGPT as a guide lang po. Recently ko lang po nagagamit dahil hindi kopa po siya masyadong pinagkakatiwalan." [R7]

"I used ChatGPT as just a guide. I've only started using it recently because I don't fully trust it yet."

Another participant noted:

"Since nasanay po ako na ako lapa ang gumagawa ng activities ko po, ginagamit ko po yung Google or Google Scholar po. Dun po ako kumukuha ng mga infos" [R9]

"[Since I'm used to doing my activities on my own, I use Google or Google Scholar. That's where I get my information.]"

While the quantitative phase highlighted relatively low engagement in internet-triggered academic dishonesty overall, qualitative data suggested that certain dishonest practices were more prevalent and influenced by contextual and behavioral dynamics. These practices align with specific dimensions of internet-triggered academic dishonesty: fraudulence, plagiarism, falsification, delinquency, and unauthorized help.

Firstly, fraudulence, characterized by the fabrication or misrepresentation of information, emerged as a recurring theme in the discussions. Respondents described instances where ChatGPT was used to bypass personal effort, especially under time constraints or academic pressure. One participant admitted,

"Kapag nasa triggered point kami na, 'ah okay, gagawin ko na 'to para makapasa ako.'" [R6]

[When we're at the triggered point, we think, 'Okay, I'll do this just to pass.']"

This highlights a pragmatic yet ethically concerning mindset where the primary goal is to meet academic requirements, regardless of the means. The convenience and immediacy offered by ChatGPT exacerbate this issue, making it a tool of expedience rather than a supplementary aid. The discussions also revealed that such practices were not entirely deliberate acts of dishonesty but often responses to external pressures, including heavy workloads and limited time for reflection. This aligns with research suggesting that academic dishonesty is frequently a coping mechanism rather than an inherent ethical failing (Madara et al., 2016).

Plagiarism was another dimension that surfaced in the discussions, with students acknowledging their reliance on ChatGPT for direct outputs. Statements like, "May mga times na copy-paste nalang ginagawa natin" [R5] ["There are times when we just copy-paste."], underscore the normalization of using AI-generated content without proper attribution or adaptation. Interestingly, students also expressed a lack of critical engagement with the content provided by ChatGPT. For instance, one respondent noted, "Andiyan naman ang ChatGPT, so, bakit pa ako mag-iisip?" [R9] [With ChatGPT available, some think, 'Why should I even think?']. This attitude demonstrates how the ease of access to AI-generated content can erode the motivation to engage in deeper learning processes, reducing academic tasks to mere transactions rather than opportunities for intellectual growth.

It is also interesting to note that delinquency, characterized by the inappropriate reuse of prior work or reliance on tools to circumvent effort, was evident in the narratives. Respondents frequently cited the use of ChatGPT to streamline tasks, particularly when managing competing priorities. One noted, "Minamadali mong gumawa ng assignment mo through ChatGPT para makasama ka sa kanila" [R5] ["You rush your assignments using ChatGPT just to join your friends."]. This reveals a pragmatic use of AI tools driven by social and time-management pressures rather than deliberate academic dishonesty. Another participant reflected, "Kapag ginamit mo yung ChatGPT, nagrereally ka nalang sa ChatGPT, wala ka nang matututunan" [R10] ["When you use ChatGPT, you end up relying on it and stop learning anything.]. This behavior raises concerns about the erosion of independent critical thinking skills and the broader implications for academic integrity.

Table 3. Meta-Inferences on Academic Honesty: Areas of Convergence, Divergence, Complementarity, and Expansion

Overarching Theme	Quantitative findings (% Practice)	Qualitative findings	Meta-inferences
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Academic Honesty	Publishing other people's studies on the Internet without the author's permission (23.6%)	"I used ChatGPT as a guide lang po. Recently ko lang po nagagamit dahil hindi kopa po siya masyadong pinagkakatiwalan." [R7]	Convergence Quantitative and qualitative findings consistently indicate that academic dishonesty, such as using AI tools for doing friends' assignments, is often influenced by peer dynamics and the convenience these tools provide.
	Translating Internet resources and claiming personal authorship (31.5%)	"Kapag ginamit mo yung ChatGPT, nagrerey ka nalang sa ChatGPT, wala ka nang matututunan" [R10]	Divergence Quantitative findings show notable engagement in paraphrasing practices that harm the integrity of original work, while qualitative insights reveal conflicting feelings of guilt and internal moral struggle among students engaging in such practices.
	Using entire works from the Internet for personal assignments without acknowledging the author (38.6%)	"...gagawin nalang nila is to copy paste or either iparaphrase yung mga andun" [R8]	Complementarity The qualitative findings provide depth to the quantitative data by illustrating the practical motivations for engaging in academic dishonesty, particularly the pressures of academic workloads and time constraints.
	Paraphrasing an Internet resource in a way that harms the integrity of the original idea (39.4%)	"Kapag nasa triggered point kami na, 'ah okay, gagawin ko na 'to para makapasa ako.'" [R6]	
	Doing friends' assignments using the Internet (47.7%)	"My whole family kasi, sir, is a line of teachers... So, parang kapag kinokopya ko yung bagay, it feels like so mali" [R9]	
		"Andiyan naman ang ChatGPT, so, bakit pa ako mag-iisip?" [R9]	Expansion Qualitative insights expand the understanding of quantitative trends by emphasizing the role of personal values and ethical considerations, which often deter students
		"Minamadali mong gumawa ng assignment mo through ChatGPT para makasama ka sa kanila (kaibigan)" [R5]	

from more egregious
dishonest behaviors.

In summary, the meta-inferences in Table 3 emphasize how academic dishonesty practices are shaped by a mix of social, ethical, and practical considerations. Areas of convergence highlight the alignment between quantitative and qualitative findings, particularly in recognizing peer dynamics and the convenience of AI tools as key drivers of practices like doing friends' assignments. These findings resonate with the observations of Cheng et al. (2021), who identified that ethical attitudes and the surrounding ethical climate significantly influence academic dishonesty. A supportive ethical climate often acts as a deterrent to dishonest behaviors, whereas a permissive or ambiguous environment fosters such tendencies. Divergence, on the other hand, illustrates the internal moral struggle that students face, as qualitative findings reveal guilt and ethical awareness that are not fully captured in quantitative trends. This aligns with Cotton et al. (2023), who found that students frequently grapple with ethical dilemmas when balancing AI tool use and academic integrity. Despite recognizing the utility of AI, many students expressed unease over potential ethical breaches, reflecting a tension between practical needs and moral standards. Moreover, the complementarity of the data becomes evident as qualitative findings provide deeper insights into the motivations behind dishonest practices, such as time pressures and workload management. This supports findings from Hua (2023), who noted that AI tool dependence is often driven by academic pressures and a lack of ethical awareness, which exacerbate tendencies toward dishonesty (Hua, 2023). Additionally, LaDuke (2013) highlighted that dishonesty can stabilize into habitual behavior when rationalized under stressful conditions, reinforcing the role of environmental factors in shaping academic practices. Finally, the expansion of findings through qualitative data underscores the role of individual ethical frameworks and familial influences in deterring more egregious forms of dishonesty. This is consistent with Henning et al. (2013), who found that students from environments emphasizing ethical reasoning were less likely to engage in dishonest behaviors. Furthermore, these insights broaden the understanding of why certain practices are less frequent despite the accessibility of AI tools, reflecting the protective influence of internalized ethical values and external guidance.

Epistemological Beliefs

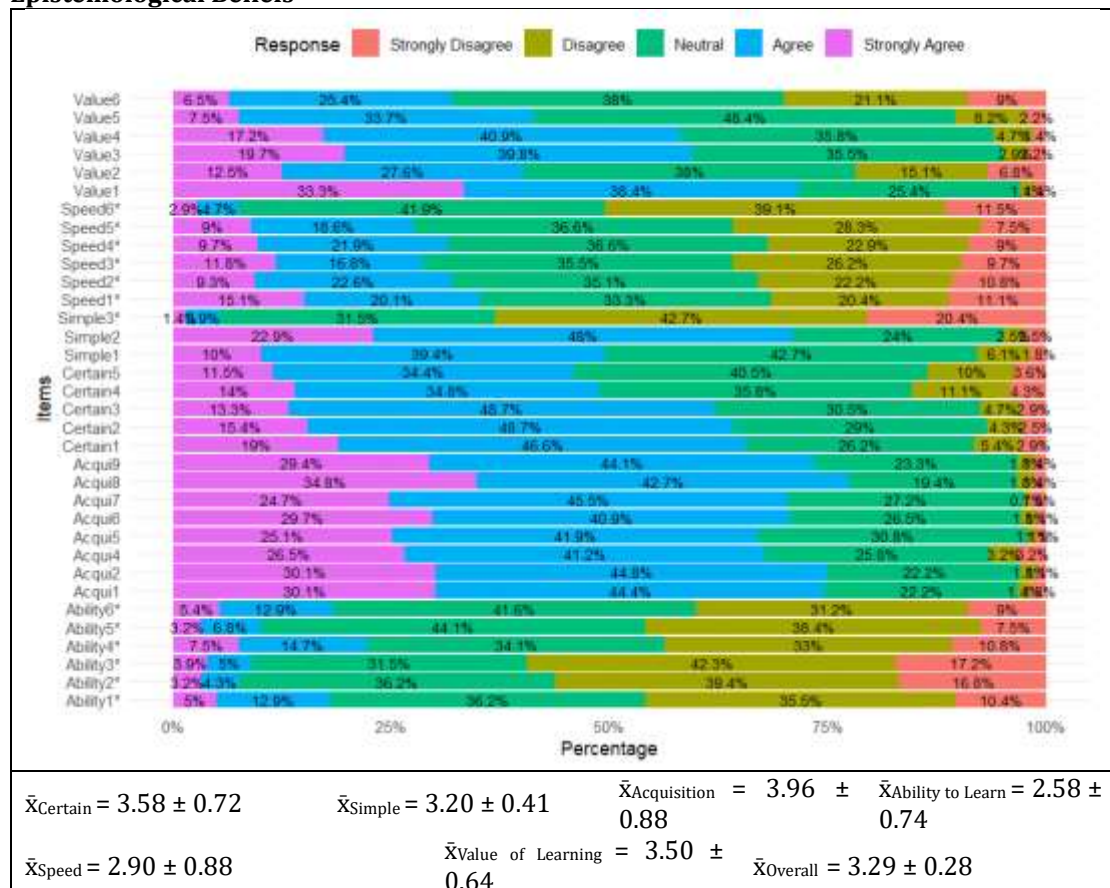


Figure 3. Response distribution of the respondents to epistemological beliefs

Moving on, Figure 3 revealed that students possess moderately mature epistemological beliefs, with an overall mean score of 3.29 (± 0.28). Dimensions such as the Acquisition of Knowledge (mean = 3.96) reflect a strong inclination toward self-directed learning, suggesting that students value active engagement in constructing their own understanding. This belief aligns with constructivist principles that emphasize the importance of individual agency in learning (Vygotsky, 1978). Conversely, the low mean in the Ability to Learn dimension (mean = 2.58) indicates a lingering uncertainty among some students about their capacity to improve and adapt, suggesting a tension between growth-oriented and fixed beliefs. The qualitative findings enriched these results by offering detailed insights into how students' epistemological beliefs influence and are influenced by their interactions with ChatGPT.

Some of the participants' responses revealed a clear preference for self-reliance, particularly in seeking and synthesizing information. For instance, one student shared, "Since nasanay po ako na ako lapa ang gumagawa ng activities ko po, ginagamit ko po yung Google or Google Scholar po. Dun po ako kumukuha ng mga infos" [R9] ("Since I'm used to doing my activities on my own, I use Google or Google Scholar. That's where I get my information."). This sentiment underscores the high scores in the Acquisition of Knowledge dimension and reflects a constructivist approach, where tools like ChatGPT are used as supplementary aids rather than crutches. However, other responses hinted at moments of dependency, particularly when external pressures mounted. One student admitted, "Kapag ginamit mo yung ChatGPT, nagrerely ka nalang sa ChatGPT, wala ka nang matututunan" [R10] ("When you use ChatGPT, you end up relying on it and stop learning."). Such moments of reliance illustrate how contextual factors, such as workload and time constraints, can temporarily undermine students' confidence in their own learning abilities, consistent with Dweck's (2006) theory of growth versus fixed mindsets.

Beliefs about the nature of knowledge also showcased a transitional phase, as students exhibited elements of both mature and naive perspectives. The quantitative data highlighted moderate agreement with statements about the evolving nature of knowledge (Certain Knowledge mean = 3.58). Yet, there were instances where students reverted to a compartmentalized view of knowledge, evident in their tendency to isolate disciplines or rely on simplified answers when under pressure. For example, one participant described their use of ChatGPT during time limitations: "Minamadali mong gumawa ng assignment mo through ChatGPT para makasama ka sa kanila" [R5] ["You rush your assignments using ChatGPT just to join your friends."]. These contrasting perspectives align with Schommer's (1990) observation that epistemological beliefs often develop asynchronously, with students holding sophisticated views in some areas while maintaining simplistic ones in others.

Similarly, the Speed of Learning dimension revealed mixed beliefs, with some students equating quick comprehension with intelligence. This was reflected in statements like, "Kapag sobrang dami na ng activities, ginagamit ko ang ChatGPT para mas mabilis matapos" [R9] ["When there are too many activities, I use ChatGPT to finish faster."]. Such beliefs highlight the influence of external performance pressures, which can shift focus from deep, reflective learning to efficiency and task completion. Ryan and Deci's (2000) Self-Determination Theory explains this behavior, suggesting that intrinsic motivation—driven by the inherent value of learning—is often overshadowed by extrinsic factors like grades or deadlines. Another manifestation of this is using ChatGPT to impress peers. One participant shared: "...yung judgement ng mga kaibigan mo, yung expectations po nila. then through ChatGPT eh nakakaconstruct kayo ng understanding about Gen Ed, then hindi naman pala totoo... parang sinasabi nil ana "ayy, ang galing niya...ganun "[R2] ["...the judgment of your friends, their expectations. Then, through ChatGPT, you construct an understanding about Gen Ed, but it's not actually true... it's like they're saying, 'Wow, she is good...' like that"]. However, not all students succumbed to these pressures. One respondent articulated a more deliberate approach: "Andiyan naman ang ChatGPT, so, bakit pa ako mag-iisip? Pero iniisip din kung paano mo siya i-aapply sa iba't ibang subjects" [R4] ["ChatGPT is there, so why think? But I still consider how to apply it across subjects."].

These findings suggest that while many students exhibit beliefs aligned with constructivist and growth-oriented frameworks, their practices are often shaped by contextual pressures and transitional stages in epistemological development. Students with more mature beliefs tend to use AI tools like ChatGPT as scaffolds for deep, reflective learning, leveraging its potential to enhance their understanding. Conversely, those with less mature beliefs or heightened external pressures may resort to superficial interactions with AI, prioritizing speed and convenience over depth. The

interplay between these factors underscores the complexity of epistemological belief development and its implications for technology-mediated learning.

Mediation Analysis

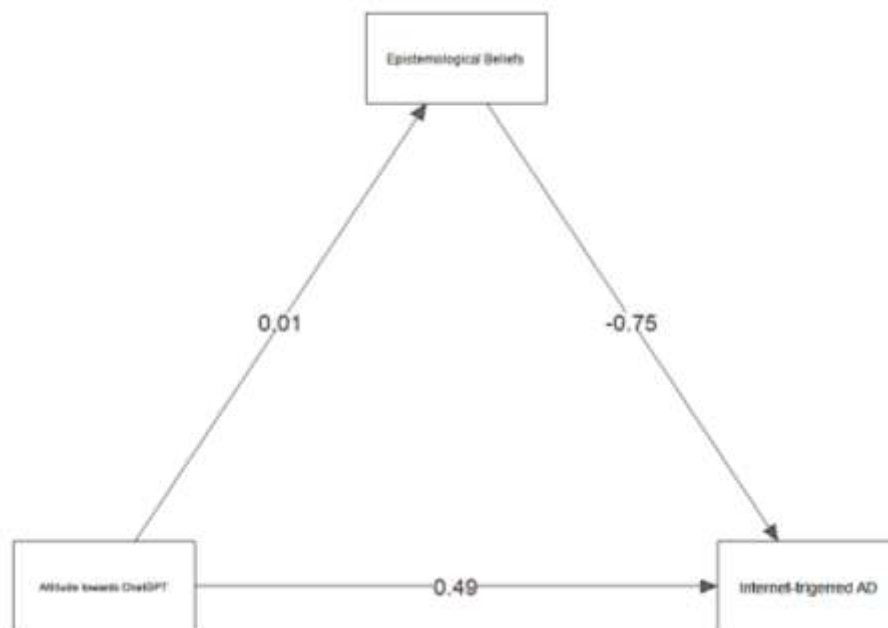


Figure 4. Path Diagram of the Mediation Analysis

The path diagram, as shown in Figure 4, examines whether students' epistemological beliefs mediate the relationship between their attitude towards ChatGPT and their tendencies to commit internet-triggered academic dishonesty. The findings indicated a significant direct effect of attitudes toward ChatGPT on academic dishonesty ($\beta = 0.49$, $p < .001$), suggesting that students with favorable attitudes toward ChatGPT are more likely to engage in dishonest practices. This finding is consistent with the Theory of Planned Behavior (Ajzen, 1991), which posits that attitudes strongly influence behavioral intentions. The positive association between attitudes and academic dishonesty may reflect students' perception of ChatGPT as a tool that facilitates academic shortcuts due to its efficiency and accessibility.

Table 4. Indirect and Direct Effects

Type	Effect	Estimate	SE	95% C.I. (a)		β	z	p
				Lower	Upper			
Indirect	Attitude towards ChatGPT $\Rightarrow$ Epistemological Beliefs $\Rightarrow$ Internet-triggered AD	-0.008	0.020	-0.047	0.031	-0.005	-0.401	0.688
	Attitude towards ChatGPT $\Rightarrow$ Epistemological Beliefs	0.011	0.026	-0.041	0.062	0.024	0.404	0.686
	Epistemological Beliefs $\Rightarrow$ Internet-triggered AD	-0.750	0.191	-1.125	-0.376	-0.217	-3.925	<.001
Direct	Attitude towards ChatGPT $\Rightarrow$ Internet-triggered AD	0.490	0.084	0.327	0.654	0.324	5.872	<.001
Total	Attitude towards ChatGPT $\Rightarrow$	0.482	0.086	0.314	0.650	0.319	5.616	<.001

Internet-triggered AD

Note. Confidence intervals computed with method: Standard (Delta method)

Note. Betas are completely standardized effect sizes

However, based on table 4, the analysis revealed that the indirect effect of attitudes toward ChatGPT on academic dishonesty, mediated by epistemological beliefs, was not significant ($\beta = -.008$, $p = 0.688$). This suggests that epistemological beliefs do not significantly moderate the relationship between attitudes toward ChatGPT and dishonest behavior. Although epistemological beliefs independently demonstrated a significant negative correlation with academic dishonesty ($\beta = -0.750$, $p < .001$), they were not strong enough to mediate the relationship. This result aligns with prior research (Hofer & Pintrich, 1997; Schommer, 1990), which highlights the complexity of integrating epistemological beliefs into behavioral outcomes, especially in practical contexts like AI use in education.

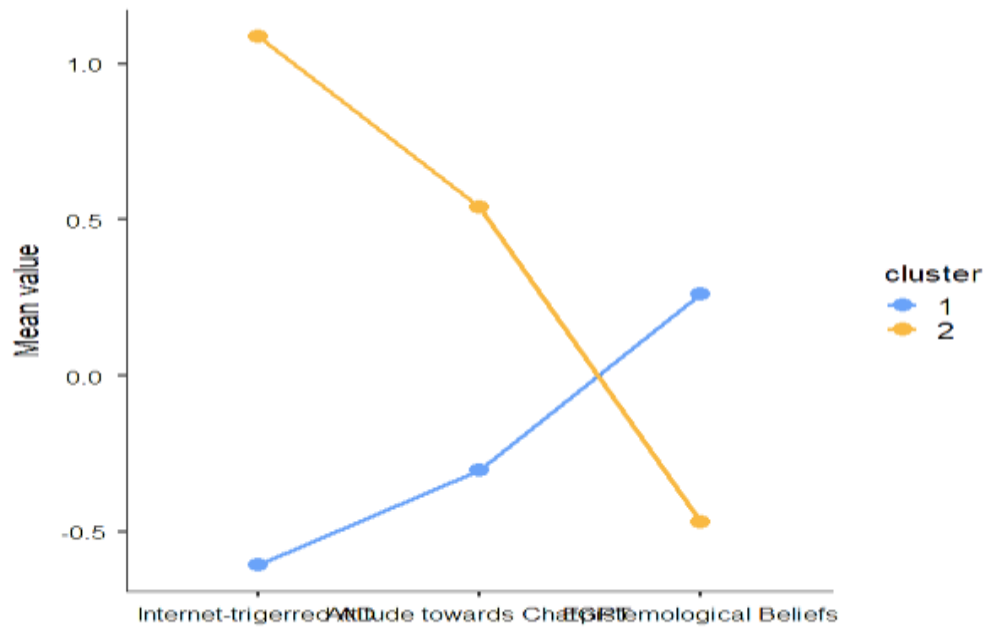
The direct relationship between attitudes toward ChatGPT and academic dishonesty reflects the role of environmental and behavioral factors. Students may compartmentalize their beliefs about knowledge from their practical use of AI tools, particularly when they view these tools primarily as instruments for achieving immediate academic goals. This perspective aligns with Social Cognitive Theory (Bandura, 1989), which emphasizes the interplay between personal cognition, environmental factors, and behavior. The convenience of AI tools like ChatGPT might override reflective decision-making processes, particularly under time pressure or academic workload. Earlier findings on students' epistemological beliefs and attitudes toward ChatGPT provide additional context for understanding these results. The high scores in the Acquisition of Knowledge dimension suggested that students value active engagement and self-directed learning. One student remarked, "Since nasanay po ako na ako lapa ang gumagawa ng activities ko po, ginagamit ko po yung Google or Google Scholar po" [R9] ["Since I'm used to doing my activities on my own, I use Google or Google Scholar."]. However, such beliefs did not always translate into practice, particularly when external pressures arose. The same participant shared, "Kapag sobrang dami na ng activities, ginagamit ko ang ChatGPT para mas mabilis matapos" [R9] ["When there are too many activities, I use ChatGPT to finish faster."]. These examples illustrate how students navigate the tension between intrinsic values and extrinsic demands.

The lack of significant mediation by epistemological beliefs also aligns with the Dual-Process Theory (Evans, 2017), which distinguishes between intuitive and analytical cognitive processes. Students prone to academic dishonesty may rely on intuitive thinking when using ChatGPT, prioritizing immediate benefits over reflective considerations. This reliance on rapid decision-making may explain why epistemological beliefs, which involve slower, analytical processes, exert limited influence in this context. Additionally, it reinforces the idea that students view AI tools pragmatically. As noted in previous analyses, students often perceive ChatGPT as a functional aid rather than an extension of their learning processes. This pragmatic approach may dilute the potential impact of epistemological beliefs on shaping ethical behaviors, particularly when students adopt a goal-oriented mindset.

In conclusion, the mediation analysis underscores the importance of considering both individual cognitive frameworks and contextual influences when addressing academic dishonesty in AI-driven learning environments.

Cluster Analysis

The k-means cluster analysis performed on the three main variables—attitude towards ChatGPT, internet-triggered academic dishonesty, and epistemological beliefs—aims to segment the sample into distinct groups, providing targeted cases for the qualitative phase of the study. This clustering allows for an in-depth examination of specific profiles of students, capturing variations in how they perceive, engage with, and behave in relation to AI tools within academic contexts. Based on the analysis shown in cluster plot, two clusters emerged with differing characteristics.



	Count	Internet-triggered AD	Attitude towards ChatGPT	Epistemological Beliefs
1	179	-0.607	-0.302	0.262
2	100	1.087	0.540	-0.469

Figure 5. Plot of means across clusters

Cluster 1, consisting of 179 students, exhibits lower tendencies toward internet-triggered academic dishonesty and maintains a moderate-to-positive attitude towards ChatGPT. These students display sophisticated epistemological beliefs, reflecting an understanding of knowledge as complex and evolving, which aligns with findings that such beliefs positively correlate with critical thinking and academic performance (Amiri, 2018). Their reflective use of ChatGPT suggests they value the tool as a learning enhancer rather than a shortcut, indicative of a strong ethical framework in digital learning environments. This cluster's profile mirrors conclusions from studies that emphasize the link between sophisticated epistemological beliefs and ethical academic behavior. For example, students with matured views on knowledge exhibit higher academic engagement and self-efficacy, reducing reliance on dishonest shortcuts (Rezaei & Bahadorikhosroshahi, 2019). These traits make them ideal candidates for qualitative studies to explore intrinsic motivators for ethical AI use, as well as strategies for fostering critical evaluation of AI outputs.

On the other hand, Cluster 2 is comprised of 100 students, demonstrates higher levels of internet-triggered academic dishonesty alongside a strongly positive attitude toward ChatGPT. This group's behavior suggests they view AI tools primarily as shortcuts to ease workload pressures, a perspective correlated with less mature epistemological beliefs, as documented in research linking "naïve" beliefs about quick knowledge acquisition with lower academic performance (Ali et al., 2021). Such attitudes resonate with the Theory of Planned Behavior, which posits that positive attitudes toward a tool, combined with lower self-regulation, can predict unethical behavior (Sallaberry et al., 2023). The increased use of ChatGPT for dishonest purposes in this cluster underscores the role of external academic pressures and weaker intrinsic motivations. These students are pivotal for understanding the psychological and situational factors driving AI-enabled dishonesty, as well as identifying potential interventions to enhance ethical reasoning.

Conclusion

This study reveals the dual role of ChatGPT as both a facilitator of learning and a potential enabler of academic dishonesty. While students recognize its benefits in reducing workload, generating ideas, and enhancing efficiency, the study also underscores concerns about over-reliance, ethical dilemmas, and diminished critical thinking. This is reinforced by the cluster analysis which identified two distinct profiles: students with mature epistemological beliefs and a cautious

approach to ChatGPT use, and those with pragmatic attitudes and higher tendencies toward dishonest practices. Notably, epistemological beliefs independently discourage academic dishonesty but do not mediate the relationship between attitudes toward ChatGPT and dishonest behavior. Looking from the lens of the Theory of Planned Behavior, social influences, including peer and familial expectations, play a critical role, alongside individual ethical frameworks and contextual pressures, such as academic workload and technological accessibility.

These findings have significant implications for educational policies and instructional strategies. Institutions must balance the academic potential of AI tools like ChatGPT with their ethical challenges by fostering critical engagement, providing ethical training, and integrating reflective practices into curricula. Promoting a culture of integrity and equipping students with skills to use AI responsibly can help mitigate the risks of academic dishonesty while enhancing the educational benefits of emerging technologies.

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