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EXPLORING HOW CHATGPT SUPPORTS ACADEMIC SELF-EFFICACY: A FOCUS GROUP STUDY OF PREMIUM STUDENT USERS IN DENMARK

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ABSTRACT

The rapid growth of generative artificial intelligence has transformed how university students search for information, understand course materials, organize ideas, and complete academic tasks. Among these tools, ChatGPT has become increasingly prominent in higher education because it can provide instant explanations, interactive feedback, writing assistance, and brainstorming support. However, its educational value extends beyond efficiency and raises an important question about how AI-assisted learning may support students' academic self-efficacy. This study explores how ChatGPT supports academic self-efficacy among premium student users in Denmark. A qualitative descriptive design was employed through two focus group discussions involving 11 bachelor students who were premium ChatGPT users with experience using the platform for coursework, academic writing, idea development, and simple academic projects. The data were analyzed manually using thematic analysis. The findings show that ChatGPT was perceived as a supportive academic companion that helped participants clarify difficult concepts, initiate assignments, reduce uncertainty during early stages of academic work, refine ideas, and increase confidence in managing study tasks. Importantly, participants did not describe responsible AI use as continuous dependence on the technology. Instead, they emphasized selective use, iterative prompting, verification of generated information, and retention of human judgment over final academic decisions. At the same time, concerns were raised regarding overreliance, superficial understanding, inaccurate information, and reduced critical engagement. The study concludes that ChatGPT can support academic self-efficacy when it functions as a learning scaffold rather than a substitute for thinking. Its educational value depends not merely on access to AI, but on purposeful use, critical verification, academic ownership, and ethical responsibility. Higher education institutions should therefore strengthen AI literacy, responsible authorship, and self-regulated learning to ensure that generative AI supports rather than replaces students' active role in learning.

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I. INTRODUCTION

THE rapid growth of generative artificial intelligence (GenAI) has begun to reshape the landscape of higher education. University students increasingly use AI-powered tools not only to search for information, but also to explain difficult concepts, summarize readings, generate ideas, improve writing, and organize coursework. Among these tools, ChatGPT has become one of the most visible and widely used platforms because it offers immediate responses, conversational interaction, and adaptive assistance that can simulate a form of personalized academic support. In practice, ChatGPT is no longer used merely as a tool for quick answers; for

many students, it has started to function as a learning companion that helps them think through assignments, structure academic tasks, and navigate uncertainty during the learning process [5], [6], [9], [10], [11], [12].

This growing presence of ChatGPT in higher education has generated both optimism and concern. On the one hand, prior studies suggest that ChatGPT can support learning by accelerating access to explanations, assisting brainstorming, helping students improve writing, and providing feedback-like interaction that reduces the difficulty of starting assignments [5], [6], [7], [8], [9], [10], [11], [12]. In more applied learning settings, ChatGPT is also increasingly used in programming and implementation-related tasks, where students rely on it for code explanation, debugging, iterative experimentation, and feedback during task completion [26], [27], [28]. Such uses indicate that ChatGPT may contribute not only to task efficiency but also to students' sense of academic control and capability. On the other hand, scholars have raised important concerns regarding overdependence on AI, superficial understanding, reduced critical engagement, and the risk that students may rely on generated outputs without developing deeper conceptual mastery [5], [9], [10]. These debates suggest that the educational significance of ChatGPT cannot be understood solely through the lens of technological convenience. It must also be examined in relation to students' confidence, motivation, learning enthusiasm, and capacity to manage academic challenges.

One of the most relevant concepts for understanding this issue is academic self-efficacy. Rooted in Bandura's social cognitive theory, self-efficacy refers to an individual's belief in their capability to organize and execute actions required to achieve specific goals or manage demanding situations [1], [2]. In educational contexts, academic self-efficacy reflects students' confidence in understanding course materials, completing assignments, solving academic problems, and persisting when learning becomes difficult [3], [4]. Students with stronger academic self-efficacy are more likely to approach tasks proactively, regulate effort, persist through setbacks, and interpret challenges as manageable rather than threatening. In contrast, students with lower self-efficacy may hesitate to begin difficult tasks, experience greater anxiety, and become more vulnerable to disengagement. In this context, the rise of ChatGPT raises an important question: does AI merely make academic work easier, or can it also strengthen students' belief in their own academic ability?

Recent studies have started to address this question, although the evidence remains emergent. Some findings suggest that ChatGPT may contribute to students' confidence, motivation, and self-efficacy by offering explanations in a less intimidating format, helping them test draft ideas, and reducing uncertainty when facing blank-page situations [7], [8], [21]. In more interactive learning contexts, students may also use ChatGPT to compare alternative solutions, refine prompts, test logic, and evaluate outputs before making their own final decisions [25], [26], [27], [28]. This suggests that ChatGPT may support academic self-efficacy not merely by supplying answers, but by helping students feel more capable of navigating complex tasks through guided experimentation and iterative problem solving. At the same time, the benefits of AI appear to depend strongly on how students use the tool, the extent to which they verify and reflect on AI-generated content, and whether institutions provide sufficient pedagogical guidance [6], [9], [10]. In other words, ChatGPT may function either as a confidence-building learning scaffold or as a shortcut that weakens independent thinking, depending on the context of use.

These tensions are especially relevant in contemporary Nordic and Danish higher education settings, where digital learning practices and AI governance are developing rapidly. Recent research across the Nordic countries and the United States shows that students' intention to use ChatGPT is influenced not only by perceived usefulness but also by broader educational and technological environments [23]. In Denmark specifically, emerging policy discussions indicate that universities are still negotiating how generative AI should be positioned in relation to assessment, academic integrity, responsibility, and sustainability [22]. Recent Danish studies also show that students are actively experimenting with ChatGPT as a feedback tool and as part of their broader learning strategies [21], [25]. This makes the Danish context particularly relevant for examining not only whether students use ChatGPT, but also how they interpret its role in their learning confidence and academic development.

Beyond these institutional and policy discussions, it is also important to recognize that students do not all engage with AI in the same way. Some may use ChatGPT occasionally for simple clarification, while others develop more strategic and sustained patterns of use, such as refining prompts, comparing multiple outputs, testing alternative solutions, and integrating AI support into longer-term academic tasks. This distinction matters because the educational impact of ChatGPT may differ depending on whether students use it passively as an answer generator or actively as a tool for reflection, experimentation, and self-regulated learning. Students who engage with ChatGPT more intensively may therefore offer deeper insight into how AI use intersects with confidence, academic ownership, and decision-making in real learning situations.

Despite the rapid growth of literature on ChatGPT in education, several gaps remain. First, much of the literature

still focuses on broad opportunities and risks of AI in teaching and learning rather than on students' lived experiences of how ChatGPT shapes academic self-efficacy. Second, many studies rely on surveys of general attitudes or adoption intentions, leaving a need for more qualitative insight into how students themselves describe the role of ChatGPT in their study routines. Third, limited attention has been given to students who use ChatGPT sustainedly and intentionally, particularly premium users who engage with the platform beyond casual experimentation and may develop more stable patterns of AI-assisted learning. Understanding this group is important because prolonged interaction with ChatGPT may influence not only task completion but also confidence, dependency, self-regulation, and perceptions of academic competence.

In addition to the broader international debate, recent educational and technology-related studies also suggest that AI-assisted learning should be understood as part of a wider transformation in digital academic support, student adaptation, and higher education innovation. Prior work in educational settings has shown that students' learning experiences are shaped not only by the availability of digital tools, but also by the quality of institutional support, learning environments, and the ways technology is integrated into academic routines [16], [17], [19]. Emerging studies further indicate that students' relationships with generative AI are not uniform; rather, they develop through repeated experimentation, feedback-seeking behavior, and evolving patterns of adoption across learning tasks [20], [24], [25]. This suggests that examining ChatGPT solely as a technical tool would be too narrow. It is equally important to explore how students interpret its role in confidence-building, self-regulation, and academic problem solving within their everyday learning practices.

This study addresses these gaps by exploring how ChatGPT supports academic self-efficacy among premium student users in Denmark. The study adopts a qualitative descriptive approach and draws on two focus group discussions involving 11 bachelor students, all of whom were premium ChatGPT users with experience using the platform for coursework, academic writing, idea development, and simple academic projects. Rather than asking whether students simply "like" ChatGPT, this study examines how they describe its role in helping them understand material, initiate tasks, manage uncertainty, refine prompts, and feel more capable in their academic work. At the same time, the study also explores concerns regarding overreliance, reduced critical thinking, and ethical boundaries in AI-assisted learning.

Accordingly, this paper aims to investigate how ChatGPT is perceived to support academic self-efficacy and what tensions accompany its use in higher education. The study is guided by two research questions: (1) How do premium student users perceive the role of ChatGPT in supporting their academic self-efficacy? and (2) What benefits and concerns do students identify when using ChatGPT for coursework and simple academic projects? By addressing these questions, the paper contributes to current discussions on generative AI in higher education by shifting attention from technological novelty alone toward the psychological and pedagogical dimensions of AI-assisted learning, particularly within digitally advanced learning environments such as Denmark.

II. METHOD

This study employed a qualitative descriptive approach to explore how ChatGPT supports academic self-efficacy among university students. A qualitative design was considered appropriate because the study aimed to capture students' experiences, perceptions, and reflections regarding their use of ChatGPT in academic contexts rather than to test causal relationships or measure statistical effects [13], [14], [15]. The focus of the study was to understand how students described the role of ChatGPT in helping them manage academic tasks, generate ideas, reduce uncertainty, and maintain confidence during the learning process.

The study drew on two waves of focus group discussions (FGDs), conducted in November 2025 and May 2026, involving a total of 11 bachelor students in Denmark. The two waves provided a broader set of student reflections on the academic use of ChatGPT while maintaining the same overall focus on academic self-efficacy and responsible AI-assisted learning. Rather than being designed as a longitudinal assessment of individual change, the two-wave structure enabled the study to bring together relevant student perspectives collected at different periods for subsequent thematic analysis. The resulting insights also provide a foundation for continued academic reflection and future collaborative research on responsible AI-assisted learning across educational contexts.

Across both waves, the FGDs explored students' experiences of using ChatGPT as part of their academic routines. Discussion prompts addressed the reasons students used ChatGPT, the academic tasks for which it was most helpful, its perceived influence on confidence in completing assignments, the ways students developed and refined prompts, and the risks or limitations associated with AI use. Participants were also encouraged to explain whether ChatGPT functioned primarily as an answer provider, brainstorming partner, writing assistant, or problem-

solving companion. Particular attention was given to how students balanced AI assistance with their own judgment, creativity, verification practices, and responsibility for completing academic work.

The 11 participants represented a small but academically diverse group of bachelor students in Denmark. All participants were male students aged 21-26 years and were active premium ChatGPT users for academic purposes. They came from different study backgrounds and used ChatGPT in slightly different ways. Their reported uses included concept clarification, academic writing support, brainstorming, summarizing course materials, organizing assignments, and assisting with simple project-related tasks. This variation in use was considered useful for capturing a broader range of experiences regarding how ChatGPT may support academic self-efficacy across different academic routines.

Although the empirical data were collected exclusively from bachelor students in Denmark, the study was developed within a broader collaborative academic context involving Danish student participants and Indonesian academic collaborators. Denmark therefore constitutes the sole empirical setting of the present study, whereas Indonesia is considered only at the level of pedagogical reflection and potential transferability rather than as a second empirical site. No Indonesian student or lecturer data were included in the thematic analysis. This distinction is important because students' acceptance and use of generative AI may vary across institutional, pedagogical, and national environments [11], [23], [24].

The cross-country orientation was retained to consider how responsible AI-use practices identified among the Danish participants might inform broader discussions of AI-assisted learning. This orientation is particularly relevant because Danish higher education is already negotiating institutional expectations surrounding generative AI, academic integrity, responsibility, and sustainability [22], while international evidence indicates variation in students' perceptions, acceptance, and intended use of ChatGPT across educational settings [11], [23], [24]. Accordingly, the discussion of Indonesia later in this paper is treated as a transfer-oriented educational implication arising from the collaborative character of the study rather than as a direct empirical comparison between Danish and Indonesian students.

The data were analyzed manually using thematic analysis following Braun and Clarke [13]. No qualitative data-analysis software was employed. The researchers first familiarized themselves with the FGD material through repeated review of the discussion records. Meaningful segments related to AI-assisted learning, academic confidence, prompting practices, verification, human judgment, ethical concerns, and perceived risks were then coded manually. Related codes were compared and grouped into broader categories before being refined into the themes reported in the findings. The developing themes were reviewed against the research questions and participants' accounts to maintain analytical consistency. Interpretive differences were discussed within the research team during theme refinement. No statistical inter-coder agreement coefficient was calculated, as the analysis followed an interpretive thematic approach rather than a quantitative reliability-testing procedure. This iterative process is consistent with the interpretive character of thematic analysis [13] and with qualitative research approaches emphasizing systematic interpretation of participants' experiences [14], [15].

Ethical considerations were taken into account throughout the study. Participation in the FGDs was voluntary, and all participants were informed of the purpose of the discussions before the sessions began. Participants shared their experiences in a respectful academic setting with the understanding that their responses would be used only for research and scholarly writing purposes. To protect privacy, the findings are reported in a generalized and non-identifiable manner, emphasizing shared patterns of experience rather than personal identities. The study approached ChatGPT use as a topic of reflective educational inquiry rather than as an evaluation of individual academic performance, thereby minimizing the risk of judgment or discomfort during discussion.

To strengthen the credibility of the study, consistency was maintained between the research questions, discussion prompts, coding process, and thematic interpretation. The analysis paid particular attention to students' descriptions of agency, decision-making, verification, academic confidence, and ethical responsibility while interacting with AI. Rather than treating ChatGPT use as a purely technical matter, the researchers examined how the tool was incorporated into learning practices in ways that could either support or challenge academic self-efficacy.

Beyond its immediate analytical purpose, the study was also situated within a broader academic collaboration intended to encourage continued exchange on digital learning, self-efficacy, and responsible AI use across educational contexts. However, this collaborative orientation did not alter the empirical boundaries of the study: all findings reported in the Results section are derived solely from the Danish student FGDs. Cross-country considerations are introduced only later as pedagogical implications and directions for future comparative research.

Fig. 1. Research framework and methodological steps of the qualitative study exploring how ChatGPT supports academic self-efficacy among university students in Denmark.

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III. RESULTS AND DISCUSSION

The thematic analysis generated five interrelated findings concerning how premium student users in Denmark perceived the role of ChatGPT in their academic lives. Overall, the findings suggest that ChatGPT was not experienced merely as a shortcut tool for generating quick answers, but as a flexible learning companion that could reduce uncertainty, support task initiation, strengthen confidence, and facilitate iterative academic problem solving. At the same time, the findings also reveal that the educational value of ChatGPT depended strongly on students' prompting skills, self-regulation, ethical awareness, and willingness to retain final academic judgment. Table 1 summarizes the main themes, illustrative student experiences, and their implications for academic self-efficacy.

TABLE 1.
SUMMARY OF MAIN THEMES, ILLUSTRATIVE STUDENT EXPERIENCES, AND IMPLICATIONS FOR ACADEMIC SELF-EFFICACY

Theme	Illustrative student experiences	Implications for academic self-efficacy
ChatGPT as a confidence-building academic companion	Students used ChatGPT to clarify difficult concepts, reduce hesitation, generate starting points for assignments, and organize ideas when they felt stuck or uncertain.	ChatGPT helped reduce blank-page anxiety, supported task initiation, and strengthened students' confidence in managing academic work independently.
Premium use, prompt refinement, and emerging AI learning loyalty	Premium users described ChatGPT as part of their regular study ecosystem. They refined prompts, compared outputs, and used the platform not only for coursework but also for idea development and simple project-related experimentation.	Repeated and intentional use of ChatGPT appeared to strengthen students' sense of control over learning tasks and encouraged active experimentation rather than passive dependence.
Human judgment remains central in AI-assisted learning	Students emphasized that ChatGPT outputs were not accepted automatically. They reviewed, adjusted, rejected, or rewrote outputs to fit course expectations and their own understanding.	Academic self-efficacy was reinforced when students remained cognitively present and treated ChatGPT as support for their own reasoning rather than as a substitute for thinking.
Risks of overreliance and ethical boundaries	Participants acknowledged that ChatGPT could become overly convenient, especially during deadline pressure, and that uncritical use might reduce deep understanding, verification habits, or reflective learning.	The benefits of ChatGPT depend on students' self-regulation, ethical awareness, and willingness to verify outputs critically. Without these, AI use may weaken rather than strengthen academic confidence.
Implications for AI-enabled higher education	Students' experiences suggest that ChatGPT can support writing, brainstorming, project work, and academic problem solving when used reflectively and ethically.	Higher education institutions can strengthen academic self-efficacy by integrating AI literacy, prompt skills, ethical guidance, and reflective learning practices into digital learning environments.

A. ChatGPT as a Confidence-Building Academic Companion

The findings indicate that ChatGPT was widely perceived by participants as a supportive academic companion rather than merely a tool for generating instant answers. Across the two FGDs, students described how ChatGPT helped them understand difficult concepts, initiate assignments, organize ideas, and reduce uncertainty when facing unfamiliar academic tasks. For several participants, the platform functioned as an accessible first-response learning partner that could explain concepts in simpler language, offer examples, and provide immediate guidance when lecturers, classmates, or formal resources were not instantly available. This type of interaction appeared to strengthen students' sense of academic control, especially when they were under time pressure or felt unsure about how to begin a task.

The role of ChatGPT in reducing "blank-page anxiety" emerged as a particularly strong theme. Participants explained that one of the most difficult moments in academic work was often the beginning of the task: identifying how to frame an answer, structure an argument, or transform scattered ideas into a coherent starting point. In these situations, ChatGPT was frequently used to generate preliminary structures, suggest possible directions, or clarify what an assignment might require. Students did not necessarily accept the outputs as final answers, but many reported that the tool helped them move from hesitation to action. In this sense, ChatGPT appeared to support academic self-efficacy by making the initial stage of academic work feel more manageable and less intimidating. This aligns with prior literature suggesting that AI tools may reduce task-related anxiety and provide scaffolding that encourages students to begin and persist in academic work [5], [6], [7], [9].

Several participants explicitly described ChatGPT as a confidence-building "first helper" during moments of uncertainty. R2 explained that when he faced a difficult assignment and did not know how to begin, ChatGPT helped him "break the task into smaller steps" and made the work feel less overwhelming. R5 similarly noted that he often used ChatGPT before turning to other resources because it could quickly explain a concept in simpler language and help him identify what to read next. For R8, the value of ChatGPT was not that it gave a perfect answer, but that it reduced hesitation and gave him enough direction to continue working independently. These accounts suggest that students did not merely use ChatGPT for convenience; they also used it to regain momentum, lower anxiety, and restore a sense of academic capability when facing complex tasks.

Another important finding is that participants often associated ChatGPT use with a stronger feeling of independence rather than passivity. Instead of waiting for external academic support, they used the platform to test questions immediately, request simplified explanations, or explore different ways of understanding a topic. For some students, this created a sense of continuity in learning, particularly outside classroom hours. As a result, ChatGPT was not only perceived as a productivity tool but also as a confidence-building resource that helped students feel less stuck and more capable of navigating academic demands on their own. This supports Bandura's view that self-efficacy is strengthened when individuals experience manageable progress and perceive themselves as capable of handling challenges through their own effort and strategies [1], [2].

B. Premium Use, Prompt Refinement, and Emerging AI Learning Loyalty

A second major theme concerns the sustained and intentional way in which participants used ChatGPT as premium subscribers. The students in this study did not describe ChatGPT as a temporary novelty or a one-time shortcut. Rather, they portrayed it as an evolving part of their academic routines, particularly because premium access allowed them to interact more frequently, test more complex prompts, and rely on the platform for multiple forms of support across coursework, writing, idea development, and simple project-related tasks. In this sense, their continued subscription to ChatGPT Premium was not framed merely as a financial choice, but as an academic investment in a tool they considered useful for long-term learning, experimentation, and productivity.

Participants repeatedly emphasized that premium use was connected to depth rather than convenience alone. Several students explained that they had continued paying for premium access because they had begun to integrate ChatGPT into their daily academic workflow. R1 described ChatGPT as "part of my study ecosystem," explaining that he used it not only to clarify lecture content but also to brainstorm solutions for a local weather-information app developed as part of a community-oriented student project. R3 noted that premium access was worth maintaining because he could use ChatGPT repeatedly while refining ideas for a food-menu planning application intended to support elderly community members in his area. Similarly, R10 and R11 explained that they relied on ChatGPT while conceptualizing simple community-service-oriented digital ideas related to household cleanliness monitoring and homestay quality support in their local commune and library context. These examples suggest that ChatGPT was not used solely for assignment completion, but also as a practical partner in student-led experimentation, small-scale digital problem solving, and socially oriented project work.

Prompting also emerged as an active learning skill rather than a passive act of asking for answers. Participants consistently emphasized that useful outcomes did not come simply from typing a single question and accepting the first response. Instead, they described prompting as an iterative process that involved clarifying tasks, refining instructions, comparing outputs, and experimenting with alternative formulations until the response became more relevant to their needs. In this sense, effective ChatGPT use was closely connected to students' own agency, judgment, and willingness to engage actively with the tool.

This finding is particularly important because it shows that AI-assisted learning among premium users was not necessarily shortcut-oriented. Several participants explained that they had learned, through repeated use, how to write more specific prompts, request alternative explanations, ask for examples, or instruct ChatGPT to respond from different angles. Some used the platform to simulate tutor-like dialogue, while others used it to refine ideas for writing, summarize long materials, or test early-stage reasoning before developing their own final output. R6 noted that "the first answer is rarely the final answer," explaining that the real benefit came from pushing ChatGPT with better prompts until the output became more precise and useful. R7 similarly described prompting as "a skill in itself," because he had learned to ask follow-up questions, compare versions, and filter irrelevant outputs rather than accepting the first response automatically.

The participants' accounts also indicate that prompting was often tied to experimentation and project development. Rather than expecting ChatGPT to "know everything," students tended to treat it as a system that had to be guided carefully. They described moments in which the first answer was too general, inaccurate, or not aligned with the assignment, which required them to reformulate the prompt or request clarification. This process of refining interaction may contribute to academic self-efficacy because it positions students as active managers of the learning process rather than passive recipients of AI output. In other words, confidence did not come only from receiving answers, but from learning how to steer the tool effectively in support of one's own academic goals. Among these premium users, continued subscription appeared to be sustained not by dependency alone, but by the perception that ChatGPT remained useful as a flexible academic workspace for reflection, iteration, and experimentation.

Interestingly, participants' continued use of premium ChatGPT was not described merely as a matter of convenience or subscription status, but as part of a deeper learning relationship with the tool. Several students explained that they remained loyal to premium access because they perceived clear advantages in speed, response depth, continuity of interaction, and support for more demanding academic or project-based tasks. This pattern resonates with emerging studies showing that students' adoption of generative AI develops through repeated cycles of experimentation, comparison, and learning adaptation rather than one-time exposure alone [24], [25]. In this study, premium use appeared to be associated not only with frequency of access, but also with a stronger tendency to refine prompts, test alternative outputs, and integrate ChatGPT into ongoing academic workflows. In that sense, "premium use" may be interpreted less as a commercial label and more as a marker of sustained engagement in AI-assisted learning practice.

C. Human Judgment Remains Central in AI-Assisted Learning

Although participants acknowledged the usefulness of ChatGPT, they also repeatedly emphasized that final judgment remained in their own hands. Students did not describe ChatGPT as a substitute for thinking, but rather as a support system whose outputs still needed to be reviewed, selected, adjusted, and sometimes rejected. This finding is crucial because it challenges simplistic assumptions that AI use automatically erodes academic agency. Among the premium users in this study, ChatGPT was often used as a first layer of support, while the final academic decisions were still made by the students themselves.

Participants reported that they regularly evaluated whether the output was relevant, sufficiently accurate, and appropriate for the task at hand. In writing-related tasks, for example, students often used ChatGPT to generate a structure, clarify a concept, or propose examples, but they remained aware that the wording, argument selection, and final submission had to reflect their own understanding. In project-based or idea-development tasks, they described ChatGPT as useful for broadening perspective, but not for replacing personal judgment or creativity. R4 explained that even when ChatGPT offered "a very good structure," he still rewrote and adjusted the content so that it matched the course objective and his own interpretation. R9 similarly noted that he did not want to "sound like the machine," and therefore used ChatGPT mainly to open possibilities, not to determine the final answer.

From the perspective of self-efficacy, this theme is highly significant. Self-efficacy is not merely about feeling helped; it is about believing that one can act effectively and make meaningful decisions in demanding situations [1], [2]. The participants' narratives suggest that ChatGPT supported their confidence most strongly when it functioned as an aid to their own reasoning rather than as an automatic answer engine. In other words, the educational value of ChatGPT appeared to be highest when students remained cognitively present, evaluative, and responsible

for the final outcome. This finding also resonates with the broader argument that AI should be positioned as a learning scaffold rather than a replacement for academic ownership [5], [9], [10].

This pattern is particularly relevant in task environments that involve experimentation, modeling, coding, and iterative project development. Some participants described using ChatGPT not only for writing-related support, but also for clarifying procedural logic, testing early-stage technical ideas, and exploring possible solutions in simple project tasks. Such accounts are broadly consistent with recent studies showing that students increasingly use ChatGPT in modeling, programming, and implementation-related learning activities, where AI can support explanation, debugging, structured trial-and-error, and reflection on alternative solutions [20], [26], [27], [28]. However, the participants in this study also emphasized that the usefulness of such support depended on their willingness to evaluate outputs critically and retain final control over the academic or technical decision-making process.

D. Risks of Overreliance and Ethical Boundaries

Despite the many reported benefits, the FGDs also revealed important concerns about overreliance, shallow learning, and ethical boundaries. Several participants acknowledged that ChatGPT could become overly convenient, especially when deadlines were tight, energy was low, or motivation was unstable. In such situations, the temptation to accept quick outputs without deeper verification could increase. Students recognized that this pattern might weaken conceptual understanding over time if ChatGPT were used merely to speed up submission rather than to support genuine learning.

A related concern involved the possibility of reduced critical thinking. Participants noted that because ChatGPT often produces fluent, confident, and well-structured answers, it can create an illusion of correctness even when the content is incomplete, generic, or inaccurate. This means that students who rely on the tool uncritically may become less likely to cross-check sources, question assumptions, or engage deeply with the material. Some participants explicitly stated that ChatGPT was most beneficial only when they treated it as a starting point for reflection rather than as a final authority. R11 explained that premium access did not automatically mean "better learning," because the quality of learning still depended on whether the user checked the logic, verified the facts, and understood the output before using it. R8 similarly noted that when he was tired, the temptation to accept a quick answer was much higher, which made self-discipline an important part of responsible AI use. These concerns are consistent with wider debates in the literature regarding dependency, superficial understanding, and the weakening of reflective learning when AI is used without adequate pedagogical guidance [5], [9], [10].

Ethical boundaries also emerged as an important part of the discussion. Participants generally recognized that using ChatGPT responsibly required self-control, honesty, and awareness of academic integrity. While they appreciated the tool's efficiency, they also understood that there was a difference between receiving support and outsourcing intellectual responsibility. This distinction is especially important in higher education, where learning is expected to involve not only performance but also the development of judgment, independence, and ethical accountability. The findings therefore suggest that the question is not whether students should use ChatGPT at all, but how they can be guided to use it in ways that preserve academic ownership and long-term learning quality.

These concerns also resonate with broader observations from Indonesian higher education contexts, as reflected in informal insights from lecturer-informants familiar with students' AI-assisted assignment practices. According to these observations, many students still use ChatGPT and similar AI tools in highly unstructured ways, often relying on prompt formulas copied from social media or using AI responses with minimal reflection, verification, or revision. Lecturers expressed concern that some AI-assisted assignments are submitted without being carefully reread, without checking whether the cited references actually exist, and without verifying whether the content truly aligns with the course objective. In this sense, the ethical challenge of AI use is not limited to plagiarism in the narrow sense, but also includes superficial engagement, weak source verification, and the outsourcing of intellectual responsibility to a generative system. These concerns reinforce the importance of teaching students not only how to access AI tools, but also how to use them responsibly, critically, and transparently in academic work.
quality.

E. Implications for Danish Higher Education

The findings provide several implications for higher education in Denmark, which constitutes the empirical setting of this study. The participants described relatively deliberate patterns of ChatGPT use characterized by iterative prompting, evaluation of generated responses, selective use of AI support, and continued reliance on personal judgment. Such practices correspond with emerging evidence that students do not necessarily interact with generative AI in a uniform manner; instead, patterns of adoption and learning can develop through different forms of engagement with these technologies [25]. Danish students have also reported using ChatGPT as a feedback-related learning tool, illustrating its potential role beyond simple answer generation [21].

Importantly, sustained use of premium ChatGPT among the participants did not mean continuous or indiscriminate dependence on AI. The students described selecting situations in which the tool could contribute to concept clarification, brainstorming, coursework, programming, or project development while retaining responsibility for the final academic outcome. Similar studies in programming education have shown that ChatGPT can facilitate explanation, implementation, experimentation, and problem solving when students remain actively involved in the learning process [26], [27], [28]. From a self-efficacy perspective, such active engagement is particularly meaningful because confidence develops through individuals' perceptions of their capacity to organize and execute actions required to manage particular tasks [1], [2]. In educational settings, stronger self-efficacy is likewise associated with persistence, motivation, and more active engagement with learning challenges [3], [4].

These findings should therefore not be interpreted as evidence that premium access itself produces more responsible or academically effective AI use. Rather, all participants happened to be premium users, while the analytically important finding concerns how they used the technology. Their accounts suggest that educational value emerged when access was accompanied by prompt refinement, critical evaluation, selective use, and human decision-making. This distinction is important given existing concerns that generative AI may simultaneously provide valuable educational affordances and introduce risks related to dependency, inaccurate information, superficial learning, and academic integrity [5], [6], [9], [10], [11].

The Danish context is especially relevant because universities are already negotiating the institutional positioning of generative AI in relation to academic integrity, responsibility, assessment, and sustainability [22]. Consequently, responsible AI integration should not be understood simply as maximizing students' use of generative AI. Instead, universities may benefit from strengthening students' capacity to determine when AI assistance is appropriate, how outputs should be verified, and when independent reasoning should take precedence. In this sense, the participants illustrate a potentially productive form of AI-assisted learning in which technological support remains subordinate to academic ownership, ethical responsibility, and human judgment.

F. Transferable Implications for Indonesian Higher Education

Although Indonesia was not an empirical data-collection site in this study, the Danish findings provide a relevant point of pedagogical reflection for Indonesian higher education through the cross-country academic collaboration underlying the research. The implications presented here should therefore not be interpreted as evidence describing the behavior of Indonesian students or as a direct Denmark–Indonesia comparison. Rather, they concern the potential transferability of practices identified in the Danish FGDs, particularly purposeful AI use, iterative prompting, verification, human judgment, and academic ownership.

This distinction is important because the educational value of generative AI extends beyond efficiency. Existing research has shown that ChatGPT can support explanation, feedback, brainstorming, personalized assistance, and various forms of learning activity [5], [6], [9], [10], [11]. Research on students' acceptance and use further suggests that educational engagement with ChatGPT is shaped by users' perceptions and learning environments rather than by technological availability alone [23], [24]. The Danish participants in the present study similarly did not portray ChatGPT as something that should be used continuously for every academic activity. Instead, they described deliberate use according to the task, iterative refinement of prompts, evaluation of outputs, and retention of final decision-making.

These practices offer a useful pedagogical reference for Indonesian higher education, particularly as AI becomes increasingly embedded in digitally mediated learning and entrepreneurial education. Previous research involving Indonesian postgraduate students has shown the relevance of AI-based entrepreneurial education to learning experiences and entrepreneurial intention in the digital era [18]. The implication of the present findings is therefore not that Indonesian students should simply increase their use of ChatGPT or adopt premium subscriptions. Rather, universities may consider strengthening the competencies surrounding AI use: understanding the purpose and limitations of generative AI, developing prompts independently according to academic needs, checking factual claims and references, comparing AI-generated information with credible academic sources, complying with institutional and course-level requirements, and maintaining responsibility for final academic decisions.

Such an approach is particularly important because fluent AI-generated responses can create an impression of authority even when information requires further verification, an issue repeatedly identified in the broader literature on generative AI in education [5], [9], [10]. Students should therefore be encouraged not to treat ready-made prompts, social-media content, or influencer recommendations as substitutes for institutional guidance, scholarly sources, or their own critical reasoning. AI literacy should involve knowing not only how to prompt, but also when not to use AI, what to verify, and what intellectual responsibilities must remain with the learner. This position is consistent with the broader emphasis on student agency and self-efficacy: technological support becomes educationally meaningful when learners remain capable of regulating their actions and exercising judgment over their own learning processes [1], [2], [3], [4].

Accordingly, the Danish experience documented in this study is not proposed as a model to be copied mechanically in Indonesia. It is better understood as a small empirical illustration of how generative AI can coexist with selective use, critical verification, academic ownership, and human judgment. Cross-national research already demonstrates that students' relationships with ChatGPT vary across educational and cultural environments [23], while Danish policy research further shows that responsible AI integration remains an evolving institutional challenge even within a highly digitalized educational setting [22]. The transferable lesson is therefore not "use more AI," but use AI more purposefully, critically, ethically, and transparently.

IV. CONCLUSION

This study explored how ChatGPT supports academic self-efficacy among 11 premium student users in Denmark through two focus group discussions. The findings indicate that ChatGPT was perceived not merely as an answer-generating tool, but as an academic companion that helped participants clarify concepts, initiate tasks, reduce uncertainty, refine ideas, and engage in iterative problem solving. These experiences are consistent with the conceptualization of self-efficacy as individuals' beliefs in their capacity to organize and execute actions necessary to manage particular situations [1], [2], as well as educational research linking self-efficacy with motivation, persistence, and active engagement in learning [3], [4].

More importantly, the educational value identified in this study did not arise from AI access alone. Participants emphasized iterative prompting, critical evaluation of generated responses, selective use of ChatGPT, and retention of human judgment over final academic decisions. Their experiences therefore support a view of generative AI as a learning scaffold rather than a substitute for thinking. This interpretation is consistent with literature identifying both the educational affordances of ChatGPT and the risks of inaccurate information, dependency, superficial engagement, and weakened critical learning when generative AI is used without sufficient reflection [5], [6], [9], [10], [11]. The findings should also not be interpreted as evidence that paid or premium access itself produces more responsible AI behavior; premium use was a defining characteristic of the participant group rather than a tested explanatory factor.

While Denmark remains the sole empirical context of this study, the findings also offer transferable pedagogical implications for Indonesian higher education through the cross-country collaborative orientation of the research. These implications do not constitute empirical evidence about Indonesian students. Rather, they suggest that purposeful prompting, source verification, selective AI use, academic ownership, adherence to institutional expectations, and sustained human judgment may provide useful principles for responsible AI-assisted learning in other higher education contexts. This is particularly relevant as AI-supported education continues to develop across different national and institutional environments [18], [22], [23], [24].

The study is limited by its small and relatively homogeneous participant group, 11 male bachelor students aged 21-26 in Denmark, and by its specific focus on premium ChatGPT users. The findings therefore cannot be generalized to Danish university students as a whole, to female students, to other educational levels, or to non-premium users. Future research should include more diverse participants, compare premium and non-premium patterns of use, examine disciplinary and gender differences, and conduct explicitly designed cross-country studies involving empirical participants from both Denmark and Indonesia. Longitudinal research may also investigate whether reflective AI use contributes to sustained academic self-efficacy, ethical AI literacy, resilience, and innovation over time.

Overall, this study suggests that the central educational question is not simply whether students use generative AI, but whether they can use it with purpose while remaining critical, ethical, self-efficacious, and responsible for their own academic decisions. The transferable lesson is therefore not to use more AI, but to use AI more purposefully, critically, ethically, and transparently.

APPENDIX

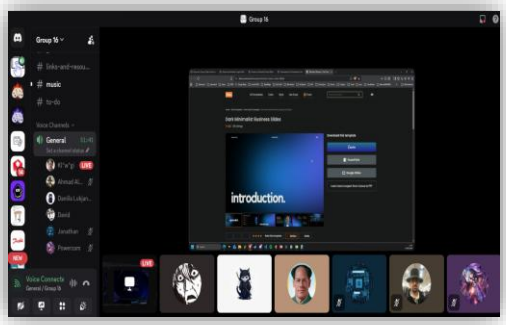
Appendixes, Appendix A.
Illustrative setting of the focus group discussion: five premium student users discussing ChatGPT-supported academic work in a round-table setting in Denmark.

Appendix B.

Screenshot from one of the online focus group discussion sessions with premium student users in Denmark, illustrating the digital discussion environment used in this qualitative study.



A



B

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