

## Students' perceptions and effect of ChatGPT on research proposal quality across gender in Indonesia

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### Article Info

#### Article history:

Received Aug 16, 2024

Revised Jul 3, 2025

Accepted Aug 6, 2025

#### Keywords:

ChatGPT

Gender

Research proposal quality

Students' perceptions

University

### ABSTRACT

The use of ChatGPT in improving students' academic writing abilities has been extensively studied, but how students perceive the use of ChatGPT affecting the quality of thesis proposals remains unclear becomes the novelty of this research. To address this gap, this study examines final semester students (N=55) utilizing ChatGPT in preparing final assignments across universities in East Indonesia. Employing a mixed-methods research design, this study collected data through surveys and short essays. Descriptive statistics, bivariate correlations, independent t-tests, linear regression, and thematic analysis were used to analyze the data. Findings indicate that i) perceptions of ChatGPT positively correlate with the quality of students' proposals, ii) perceptions of ChatGPT use predict the quality of research proposals, iii) gender does not influence perceptions of ChatGPT use or the quality of students' proposals, and iv) ChatGPT has a positive impact as research reference model, source of ideas, framework reference, translation tool, and paraphraser, but it also has limitations, particularly in providing accurate responses and posing a risk of reducing critical thinking abilities. ChatGPT has proven effective in helping students prepare research proposals, developing ideas, and research frameworks. However, institutions must provide appropriate guidance to prevent the decrease of critical thinking abilities.

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## 1. INTRODUCTION

The use of AI tools in education particularly in scientific writing does not become a new issue. We have been familiar with Grammarly in improving grammar and Turnitin to check the similarity level of writing products. In recent years, the introduction of ChatGPT into the academic world has indeed sparked a highly debated topic. Its standout features, such as its effectiveness in delivering clear and pertinent written output in various writing styles, make it an intriguing tool for many researchers, students, and academic writers [1], [2]. Despite ChatGPT is regarded as highly debated topic, the studies exploring correlation of students' perception using ChatGPT and their quality of research proposal writing is relatively limited. The existing research results portrayed only on how ChatGPT provided the information for people from dataset of text, the feature named a chatbot processes language model and responds to the instructions based on the pre-trained dataset [3]–[5]. Introduced at the end of November 2022, ChatGPT, an OpenAI chatbot built on a large language model, has

garnered attention in the online sphere, particularly within scientific publishing, due to its capacity to produce content that closely resembles human-generated text [6]–[8].

In Indonesia, the increasing use of ChatGPT among students has been particularly notable [9]. For undergraduate students, completing a thesis is a major requirement for graduation, and a strong thesis proposal serves as the foundation for a successful final project [10]. Recently, ChatGPT has gained traction among students as a tool for drafting research proposals, with many turning to AI for assistance with structuring and generating text [11]. While some students find ChatGPT helpful for improving their writing and organizing ideas, educators have raised concerns about over-reliance on AI potentially impacting students' original thinking and research abilities [12]. Given these factors, it is essential to investigate how ChatGPT affects the quality of research proposals in Indonesia and to assess both its positive and negative impacts on academic integrity and skill development [13].

As ChatGPT becomes increasingly integrated into academic environments, it is essential to investigate how university students perceive its use, particularly in the context of research proposal writing. However, questions have been raised concerning the dependability and academic ethics of AI-generated content. Several studies have examined the limitations of relying exclusively on AI tools for producing academic work, underscoring the need for human oversight and critical assessment. In addition, these studies have explored ethical issues tied to AI usage in scholarly writing, stressing the importance of transparency, accountability, and responsible practices [14]–[19].

Furthermore, the potential influence of gender in shaping students' perspectives and experiences, making it important to consider both male and female viewpoints. Attitudinal differences toward technology, varying levels of comfort with AI, and preferences in writing assistance could differ based on gender. Recognizing these distinctions can help create more customized strategies for effective integration and support that reflect the diversity of student populations. Rababah *et al.* [14] found that both male and female students generally responded positively to ChatGPT in terms of its usefulness, ease of use, efficiency, and ability to enhance writing quality. Nevertheless, the extent of agreement and the nature of concerns varied. Female students expressed greater optimism and agreement about ChatGPT's advantages, particularly regarding its user-friendliness and its positive impact on the writing process. Despite these distinctions, both groups held overall favorable attitudes toward using ChatGPT for thesis writing. This study highlights how gender may influence students' perceptions of ChatGPT and their proposal writing outcomes, reflecting ongoing gender-related disparities in technology adoption and usage.

In terms of positive and negative impact on the ChatGPT use, some people worry that this groundbreaking technology could have negative impacts in academia, others contend that the careful and accountable use of ChatGPT can support and elevate the quality of research work. Therefore, it also becomes crucial to thoroughly discuss and debate its value and implications to justify its use as despite various issues that need attention, ChatGPT has the potential to revolutionize research practices and the writing of research papers. We must embrace this new technology cautiously, prioritizing academic integrity, honesty, and transparency [18], [20]. In summary, this present study investigates mixed-data analysis on the following research objectives; i) to investigate the correlation of student's perception in using ChatGPT and research proposal quality, ii) to examine how students' perceptions of using ChatGPT serve as predictors of the quality of their research proposals, iii) to analyze the influence of gender on students' perceptions of ChatGPT usage and the quality of their research proposals, and iv) to figure out the student perceive the positive and negative effects of using ChatGPT for writing research proposal.

## 2. LITERATURE REVIEW

The advent of ChatGPT, capable of generating human-like, coherent, and informative responses, presents significant potential for enhancing academic writing in higher education. Research proposals play a crucial role in shaping the success of studies by outlining key elements such as the problem, objectives, and research methods. This study aims to examine how ChatGPT can improve the quality of students' thesis proposals, a relatively underexplored area with limited prior research.

Rababah *et al.* [14] concluded that ChatGPT aids in structuring academic papers and generating ideas, benefiting both novice and experienced writers. Their quantitative study revealed that students, regardless of gender, view ChatGPT as a tool that enhances writing speed and efficiency. Similarly, Mahapatra [21] found that ChatGPT positively influences various aspects of academic writing, including reducing students' anxiety and improving organization, vocabulary, and grammar accuracy.

Al-Marroof *et al.* [22] demonstrated that ChatGPT significantly enhances academic writing skills, particularly through paraphrasing, fostering creativity, and supporting the development of students' original ideas. However, Niloy *et al.* [23] found the use of ChatGPT was negatively associated with creative writing performance, thereby underlining the necessity for a well-balanced approach in integrating AI technologies

within educational contexts. Despite these advantages, careful implementation is required to mitigate potential drawbacks.

While previous studies have explored ChatGPT's impact on academic writing, gaps remain in understanding how students' perceptions of ChatGPT influence the quality of their thesis proposals. This research addresses this gap by focusing on the role of ChatGPT in enhancing proposal quality. This study adds to the existing literature by exploring the potential advantages and key considerations of using ChatGPT to support student proposal writing in higher education.

### 3. METHODS

#### 3.1. Research design

This study adopts a mixed-method approach that integrates both quantitative and qualitative data collection and analysis within a unified research framework [24] with the goal of investigating the use of ChatGPT in the development of student research proposals. More specifically, it utilizes a concurrent mixed-methods design, wherein quantitative and qualitative data are collected simultaneously and subsequently interpreted and synthesized to answer the research questions [25]. Through this approach, the study aims to capture students' perceptions informed by their experiences using ChatGPT in drafting research proposals and to examine the relationship between these variables and the quality of research proposals.

#### 3.2. Participants

Participants in this study were 55 students (20% male and 80% female), aged between 20 and 46 years (mean=23.07, standard deviation=4.44), from various study programs across several campuses in the eastern part of Indonesia. All participants had used ChatGPT intentionally in drafting their research proposals. Study programs included guidance and counseling, islamic economics, family law, library science, islamic education management, and others. The participants were selected through purposive sampling, focusing on individuals with direct experience in utilizing ChatGPT for academic writing. This method ensured that the sample was composed of students with relevant characteristics for the study's objectives.

#### 3.3. Instrument and measure

The sequence of statements is used to measure the research variable as quantitative data, which is students' perception of using ChatGPT in preparing research proposals and the quality of research proposals. This research survey is divided into 2 items. The first item consists of 9 statements (Table 1) aimed at collecting data on students' perceptions based on their experience using ChatGPT in proposal writing. The statements in the first item refer to a questionnaire developed by Schreiner and Sjøberg [26]. The response options for this item consist of 5 gradations: 1 for "strongly disagree", 2 for "disagree", 3 for "neutral", 4 for "agree", and 5 for "strongly agree". Meanwhile, the second item consists of 5 statements (Table 2) presented in the form of a research rubric equipped with a scale aimed at gathering data on the quality of students' research proposals. The statements in the second item are derived from a rubric developed by Weigle [27] that comprises 5 categorical options.

The reliability of this research instrument was ensured through internal consistency using Cronbach's alpha value, specifically test-retest reliability. Based on the statistical reliability, the Cronbach's alpha values for each variable—students' perception of using ChatGPT in proposal preparation and the quality of research proposals—are 0.812 and 0.883, respectively. An instrument is considered reliable if the Cronbach's alpha value is  $>0.70$ , indicating that all test items are reliable. Additionally, a team of evaluators consisting of language experts as translators and assessment specialists verified the correctness and relevance of the instrument through content validity. The team was tasked with validating the content of the instrument, ensuring alignment with the research objectives, and verifying language clarity to confirm that all items are valid.

Qualitative data were gathered from short essay responses provided by students, which were based on a set of 11 questions. These questions were designed to explore both the perceived benefits and drawbacks of utilizing ChatGPT in the process of preparing research proposals. The essay questions were adapted from previous research by Alneyadi and Wardat [28] which focused on the use of ChatGPT in electronic magnetism learning, and then tailored to the context of this study—using ChatGPT in research proposal writing. Answers from the students were collected for thematic analysis, as described in the results section. To validate the interview questions, a team of experts was previously asked to review the questions and provide feedback, which was then used as material for revisions by the researchers.

Table 1. Percentage of student's questionnaire values on perceptions of ChatGPT usage (%)

No	Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	AI is important for society	0	4	24	63	9
2	AI can promote human well-being	0	9	38	42	11
3	A country needs to do research on AI to be developed	0	2	14	55	29
4	AI will make life more interesting	0	2	42	51	5
5	The benefits of ChatGPT are greater than the harmful effects it could have	0	2	42	45	11
6	I am hopeful about my future in a world where ChatGPT is commonly used	0	2	25	47	26
7	We should all learn to incorporate ChatGPT in our lives	0	9	33	47	11
8	We can use ChatGPT even we do not understand how it works	7	11	35	40	7
9	Using ChatGPT enables me to accomplish tasks more quickly	0	2	23	53	22

Table 2. Percentage of the student's research proposal quality

No	Statement	Information				
1	Systematic accuracy of writing research proposals	Not systematic	Less systematic	Quite systemic	Systematic	Very systematic
		0	2	44	45	9
2	Clarity of background of the problem, problem formulation, and research objectives	Unclear	Less clear	Quite clear	Clear	Very clear
		0	0	31	49	22
3	Development of theoretical studies	Incomplete	Less complete	Quite complete	Complete	Very complete
		0	5	38	42	15
4	The accuracy of the research methodology used	Inaccurate	Less accurate	Quite accurate	Accurate	Very accurate
		0	4	38	45	13
5	The use of good and right Indonesian language	So bad	Bad	Enough	Good	Better
		0	5	42	44	9

### 3.4. Data collection

Data collection took place over 3 months, from December 2023 to February 2024. Researchers distributed the questionnaire to students via Google forms for them to fill out. To determine participants, purposive sampling techniques were used based on several criteria [29]. Participants were required to meet the following criteria: i) have used ChatGPT in preparing research proposals, and ii) be willing to participate in the study.

### 3.5. Data analysis

To answer the research questions quantitatively, several statistical analyses were employed in this study. First, descriptive statistics were used to provide an overview of the central tendencies and variability within the data, offering insights into how students generally view ChatGPT in the context of academic writing. Next, bivariate correlation analysis was applied to examine the relationship between students' perceptions of using ChatGPT and the quality of their research proposals. This method was chosen because it allows the assessment of the strength and direction of the association between two continuous variables. Following this, an independent t-test was selected as it compares the means between two independent groups (male and female students), determining whether any significant differences exist in their use of ChatGPT. Finally, linear regression analysis was employed because it not only examines the relationship between variables but also allows for predicting the dependent variable (proposal quality) based on the independent variable (perceptions of ChatGPT). Regression analysis provides a clearer understanding of how much variance in proposal quality can be explained by students' perceptions, making it suitable for understanding the predictive power of ChatGPT usage.

Meanwhile, the qualitative data were examined through thematic analysis, a technique designed to uncover, interpret, and articulate recurring patterns or themes within textual or verbal information. This analytical method comprises several critical stages: becoming thoroughly acquainted with the data, generating preliminary codes, identifying potential themes, refining and validating these themes, clearly defining and labeling them, and ultimately composing the final analysis report. Utilizing thematic analysis enabled the researchers to offer a comprehensive and in-depth understanding of students' perspectives and experiences related to the use of ChatGPT in improving the quality of their research proposals. This approach provided meaningful and detailed insights into the qualitative dimension of the study, shedding light on how students perceive the function of ChatGPT within their academic writing journey.

## 4. RESULTS

### 4.1. Quantitative results

#### 4.1.1. Description of the student's perception on using ChatGPT

The survey results regarding students' perceptions of using ChatGPT indicate a tendency towards agreement on all items, as demonstrated by the highest percentage of responses. The highest agreement percentages were observed for items 1 and 3, suggesting their support for AI utilization in contributing to daily life and advancing AI-related research. Meanwhile, a similar proportion of neutral and agreement responses were seen for items 2 and 4, indicating that many students have not firmly decided on their stance regarding the impact of AI on better and more enjoyable quality of life. Most students agree that ChatGPT continues to evolve and can be used globally (item 6). They also agree that everyone should learn how to use ChatGPT (item 7). Furthermore, the use of ChatGPT is considered helpful for completing tasks quickly (item 9). For items 5 and 8, the percentage of neutral responses was nearly the same as agreement, suggesting that many students do not have a clear stance on the impact of using ChatGPT and its utilization, even without understanding its sequential workflow. These findings still raise questions, and qualitative data may provide answers to these observations.

#### 4.1.2. Description of the student's research proposal quality

Referring to Table 2, based on the highest percentages, students perceive the quality of their thesis proposals as systematic (45%). They believe that the background of the problem, problem formulation, and research objectives in the proposal are clear (49%). Furthermore, most students consider the theories they have used to be detailed (42%). In terms of research methodology, they claim it to be accurate (45%). Lastly, the majority of students believe that their use of Indonesian and foreign languages is good and correct (44%).

#### 4.1.3. The correlation of students' perception in using ChatGPT and research proposal quality

Data in this study distributed normally and was tested using Kolmogorov-Smirnov test with Z value =0.063 and Z=0.154,  $p < 0.05$  to each the independent and dependent variable. In addition, to test the correlation of the students' perceptions in using ChatGPT and the research proposal quality, Pearson correlation test was applied. From statistical testing, it was obtained that r value=0.002,  $p < 0.05$  with the size medium effect (0,4) Cohen [30] which meant that the more positive the student's perceptions in using ChatGPT the better the quality of research proposal.

#### 4.1.4. Prediction of students' perceptions of ChatGPT usage on research proposal quality

The variables in this study exhibit a linear relationship with an F-value of 0.661,  $p < 0.05$ . Simple linear regression analysis was used to predict the quality of research proposals based on students' perceptions of using ChatGPT. The data analysis results indicate that students' perceptions of using ChatGPT significantly predict the quality of their research proposals with an F-value of 0.002,  $p < 0.05$ . Specifically, perceptions of ChatGPT usage can explain 16% of the variance in research proposal quality ( $R^2=0.16$ ) with a large effect size ( $f=0.43$ ).

#### 4.1.5. The difference in students' perceptions of ChatGPT usage on research proposal quality based on gender

Based on gender, there is no significant difference in students' perceptions of ChatGPT usage with a t-value of 0.129,  $p > 0.05$ . Similarly, regarding the quality of students' thesis proposals, there is no significant difference between males and females with a t-value of 0.086,  $p > 0.05$ . This indicates that gender does not influence students' perceptions of utilizing ChatGPT or the quality of their thesis proposals.

### 4.2. Qualitative results

Students' responses to the short essays were interpreted using thematic analysis. Thematic analysis directs researchers to identify, analyze, and report patterns (themes) within data [31]. In this study, the verbal data collected was first coded, and then analyzed to identify themes relevant to the research objectives. The qualitative study in this research aimed to gain insights into how students perceive the usefulness of ChatGPT in preparing research proposals. Thematic analysis narrowed down to several themes that researchers classified as advantages (research reference model, source of research ideas, framework reference tool, translation tool, and paraphrasing) and disadvantages (less accurate responses and reduced critical thinking).

#### 4.2.1. Theme 1: reference model of research

The majority of students believe that ChatGPT serves as a research reference for them. Students seek relevant theories for their research topics and then delve deeper into books or journals. ChatGPT serves as an initial guide for students to further explore thesis references in the future. ChatGPT is

capable of providing options for relevant books related to students' research topics. Here are some representative responses:

"I use ChatGPT to search for theories. Once the theory is found, I will search for it in more accurate sources like books or journals."

"I open the ChatGPT website and start searching for the needed answers, such as providing reference sources and explanations of the material."

#### **4.2.2. Theme 2: source of research topic**

Most of the students use ChatGPT to find research inspiration. Some even search directly for suitable research titles and problems to study. ChatGPT is useful in providing suggestions or feedback on ideas for students' theses. Students believe that ChatGPT can offer specific research ideas based on their areas of expertise. Here are some student responses:

"I type in what I want to search for. Once I have enough ideas, I then structure the proposal using the language and theories I have searched for myself."

"When selecting a topic, I ask ChatGPT for suggestions on interesting topics relevant to my field of study or research interests."

#### **4.2.3. Theme 3: theoretical framework of research**

Students perceive that ChatGPT assists them in structuring paragraphs and frameworks. Once the research topic is determined, ChatGPT can provide an outline of the topic or case being studied, making the presentation of ideas more coherent. ChatGPT is considered capable of presenting several points that may need to be discussed in the thesis topic. Some students find ChatGPT beneficial in structuring the background of the research, which was previously considered difficult. Here are some responses from students:

"I ask how to structure the proposal to make it more connected and outline the main topics being studied."

"ChatGPT contributes to structuring the main framework of the proposal. I obtain ideas and suggestions, particularly on how to arrange sentences well for writing."

#### **4.2.4. Theme 4: translation and paraphrasing tool**

The students express that ChatGPT is useful for translating their proposals from Indonesian to English or Arabic. They also utilize ChatGPT to translate foreign-language references into Indonesian. Additionally, they use ChatGPT to translate foreign vocabulary encountered in their proposals that they do not understand. Moreover, students mention that ChatGPT is helpful in paraphrasing sentences or paragraphs in their research proposals. They find ChatGPT's ability to paraphrase very helpful as paraphrasing can be a challenging task. Here are some representative responses:

"I use ChatGPT by translating my research proposal from Indonesian to Arabic."

"ChatGPT helps me in translating and describing references related to my research proposal."

"ChatGPT is very helpful to me, especially in using it to paraphrase sentences."

#### **4.2.5. Theme 5: less accurate response**

A number of students perceive that the responses generated by ChatGPT often lack accuracy or do not fully meet their expectations. They perceive that ChatGPT's responses often do not match the expected answers when checked against other references. Here are some student responses:

"ChatGPT is only slightly helpful because not all answers from ChatGPT are correct and aligned with the reality in the field."

"One weakness of ChatGPT is that sometimes the results it provides are not very accurate."

#### **4.2.6. Theme 6: decreasing of critical thinking**

Students believe that ChatGPT diminishes their ability to think critically and find accurate solutions to the problems they face. They perceive that ChatGPT's frequent use can promote dependency on AI tools, which may negatively affect learners' ability to think critically and engage in self-directed learning. In the process of drafting proposals, many students seek instant answers and rely on ChatGPT, neglecting analytical skills. Here are some student responses:

"ChatGPT brings disadvantages because if we use it too often, we will become accustomed to instant solutions, and the sources it provides may not be valid or clear, resulting in students lacking critical thinking."

"ChatGPT also has negative impacts because it makes us lazy to think since this application provides all answers to our statements."

## 5. DISCUSSION

The main objective of this research is to examine the impact of ChatGPT usage on the quality of students' thesis proposals. The initial findings of the study indicate a positive correlation between ChatGPT usage and the quality of students' thesis proposals. This finding confirms previous research indicating that ChatGPT is a beneficial tool that can help improve the quality of students' thesis writing [14]. This means that students' high acceptance of AI and ChatGPT contributes positively to the development of well-crafted thesis proposals. Not surprisingly, a synthesis of 45,000 articles shows that when ChatGPT is used effectively, it can enhance efficiency and speed in several key and important aspects of proposal writing [32], [33]. The use of ChatGPT can impact the quality of research proposals due to its ability to generate text efficiently [34]. Despite offering benefits such as assisting in drafting, summarizing articles, and providing instant feedback, there are concerns about accuracy, reliability, and potential ethical issues [35].

Several factors may explain this based on qualitative findings regarding the positive contributions of ChatGPT that can be maximized by students in completing their proposals. Firstly, ChatGPT presents a form of the latest cutting-edge reference that can meet students' writing needs. Students consider ChatGPT as a credible source of research literature. This finding aligns with previous studies that describe the role of ChatGPT in providing information on various topics that are highly beneficial for students and researchers [36], [37]. Secondly, ChatGPT plays a role in providing information about research topics or issues. Many students who are new to the research world sometimes lack research ideas, thus often using ChatGPT as a source of research themes. This finding is consistent with the opportunities for researchers to adopt ChatGPT in completing their research, especially in generating ideas [38]. Thirdly, students perceive that ChatGPT can provide an appropriate framework for systematic proposal drafting. ChatGPT presents key points that are important to discuss in students' research proposals. This finding supports previous research [39]. Fourthly, students benefit from ChatGPT in translating their proposals or research references into English/Arabic and vice versa. This confirms and strengthens the view that ChatGPT has become a good translator [40]. ChatGPT also can paraphrase text as needed, even according to the user's desired style [41].

The second finding of this research informs us that the perception of using ChatGPT can predict the quality of research proposals. Previous studies on this finding are still very rare, which certainly invites further exploration and investigation. We acknowledge that students' perceptions of using ChatGPT do not always accurately predict the quality of thesis proposals. This study reveals that there may be several impacts caused by student abilities. It is reasonable to assume that student abilities influence the quality of their proposals because understanding good research methodology after attending lectures in the previous year affects the quality of their final assignments. Considering the importance of understanding research methodology to ensure the quality of the research process [42]–[44], it is crucial that despite the positive impact of utilizing ChatGPT in proposal drafting, it should be balanced with students' abilities and understanding in terms of research methodology.

The third finding of this research explains that there is no difference in the perception of using ChatGPT and the quality of thesis proposals when examined by gender. Specifically, the absence of differences in the perception of ChatGPT usage between male and female students aligns with previous research that found no significant differences between genders in students' perspectives on ChatGPT [14], [45]. This implies that both male and female students have similar acceptance regarding the utilization of ChatGPT and can be concluded to have positive views on the effectiveness of ChatGPT. There should be no differential treatment between males and females in benefiting from the use of ChatGPT. Additionally, the quality of research proposals does not differ between male and female students. However, the number of studies related to proposal quality is currently limited. This may be due to the limited use of ChatGPT in academic writing, which is still relatively new in specific fields and subjects.

Similar important result from this study, students perceive that the use of ChatGPT has drawbacks in the drafting of research proposals. Firstly, ChatGPT generates responses that are still somewhat inaccurate compared to students' requests in proposal drafting. The accuracy of ChatGPT falls within a moderate to low level, indicating limitations in its ability to comprehend information accurately. Secondly, ChatGPT is considered to diminish students' critical thinking abilities. The ease of obtaining information offered by

ChatGPT can become complacent with the convenience provided by using it. ChatGPT can lead students to become dependent [46] thus making them lazy to analyze information.

The findings of this study have several implications for the potential utilization of ChatGPT in improving the quality of students' research proposals. Students need to be provided with training on how to effectively use ChatGPT in the drafting of research proposals. Universities may offer guidance on how to interpret the results provided by ChatGPT to minimize potential negative impacts. The positive support from students regarding the use of ChatGPT underscores the need for more attention to strategies for maximizing the use of ChatGPT as a supportive tool in research writing.

## 6. CONCLUSION

The findings of this study indicate a positive correlation between perceptions of ChatGPT and the quality of students' research proposals. Furthermore, the research suggests that perceptions of ChatGPT usage can predict the quality of research proposals. This study also justifies that there is no difference in perceptions of ChatGPT usage and the quality of research proposals based on gender. Additionally, the research reveals that using ChatGPT in research proposal writing provides various potentials that can be maximized, including as a research reference model, a source of research topic, a framework reference, a translation tool, and for paraphrasing. However, some challenges that need attention include inaccurate responses and the threat of decreasing critical thinking abilities. This research adds to the body of literature by offering valuable perspectives on the potential advantages and key considerations associated with integrating ChatGPT into the process of writing student proposals in higher education. Nevertheless, several limitations must be noted. Firstly, the study was carried out in a particular context with a relatively small and specific sample, including characteristics such as students' academic disciplines and age, which may limit the broader applicability of the findings. To enhance the robustness and generalizability of these outcomes, future studies should involve larger and more heterogeneous participant groups. Secondly, while this study examined students' perceptions of using ChatGPT, it did not assess the overall quality of their completed theses, focusing instead on thesis proposals. Hence, further investigations are encouraged to examine the role of ChatGPT in shaping the comprehensive quality of students' final theses.

## ACKNOWLEDGMENTS

The authors would like to sincerely thank the leaders of the Faculty of Tarbiyah and Teacher Training at IAIN Manado and the leaders of Universitas Negeri Gorontalo for their support and assistance during the research process. Their contributions were essential to the successful completion of this study.

## FUNDING INFORMATION

This research uses personal funds from each author.

## AUTHOR CONTRIBUTIONS STATEMENT

This journal uses the Contributor Roles Taxonomy (CRediT) to recognize individual author contributions, reduce authorship disputes, and facilitate collaboration.

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C : Conceptualization

M : Methodology

So : Software

Va : Validation

Fo : Formal analysis

I : Investigation

R : Resources

D : Data Curation

O : Writing - Original Draft

E : Writing - Review & Editing

Vi : Visualization

Su : Supervision

P : Project administration

Fu : Funding acquisition



## CONFLICT OF INTEREST STATEMENT

The authors state no conflict of interest.

## DATA AVAILABILITY

Derived data supporting the findings of this study are available from the corresponding author on request.





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