EXPLORING THE INFLUENCE OF CHATGPT ON ESL WRITING BEHAVIOURS: A CASE STUDY IN A MALAYSIAN SECONDARY SCHOOL

Fredelina Franklin Frankey

Faculty of Education and Sports Studies, Universiti Malaysia Sabah
fredelina02@gmail.com
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Abstract

This qualitative case study examined how ten secondary school ESL students in Malaysia used ChatGPT when revising their writing. The study did not focus on writing scores. Instead, it looked at students' writing behaviours, the decisions they made when using ChatGPT, and the changes that appeared between their first and revised drafts. The students first wrote an essay on "Having a Balanced Diet" without using ChatGPT. After a short introduction to the tool, students revised the same essay with the help of ChatGPT. Data collection took place through writing samples from the students and semi-structured interviews. The interview data were analysed using thematic analysis, while the comparison between the first and the second drafts was conducted using document analysis. From the findings, it is clear that the students made use of ChatGPT to go through grammar, vocabulary, sentence structure, and content of their essays. Many improvements had been made in the revised drafts. Most of the students managed to fix grammar errors and use more suitable vocabulary, along with presenting new ideas in their work. Nonetheless, there are some flaws in the second drafts such as incorrect expressions, informal language and some incorrect ideas. The interviews also showed that the students did not accept the suggestions directly. The students chose those suggestions which were clear to them, appropriate to the task and related to their original meaning. Overall, the study shows that ChatGPT may be used to support ESL writing revision but students still need teacher guidance and their own judgement to use it critically and responsibly.

Keyword(s): *ChatGPT, ESL writing, writing behaviours, qualitative case study, secondary school*

INTRODUCTION

Writing remains a challenging skill for ESL learners because they are required to put their ideas in a clear and organised way in English language. In Malaysian secondary school, this difficulty is not only about grammar. The problem is that the learners may understand the topic but they struggle in putting their ideas in form of a sentence or paragraph. Problems could arise at various levels such as grammar, vocabulary, sentences formation, and idea arrangement. For instance, according to Wan Ibrahim and Othman (2021), Malaysian ESL students still face problems with

vocabulary, coherence, and grammatical accuracy. This shows that writing is more than just a simple activity among ESL students, especially those who are learning to use the language.

The application of AI in education has become more common. ChatGPT is one of the tools that students could employ when they need help with writing. It can correct grammar, suggest vocabulary, polish sentences, and generate ideas for content. According to Kohnke et al. (2023), ChatGPT is an example of a tool that could assist in language learning through immediate language feedback, while Mahapatra (2024) addresses its potential in ESL writing support. This kind of support might be beneficial for students who cannot always receive detailed and immediate feedback in the classroom.

Nevertheless, one must not consider ChatGPT only based on its advantages. If students employ the tool without understanding it well enough, they might just simply copy the suggestions or being dependent on it. While some of the suggestions might seem to be right, it might not suit the students' original context. Esmaeil et al. (2023) reported concerns about students copying AI-generated text too directly, which may affect their personal writing voice and critical thinking. Yan (2023) also warned that learners may become too dependent on AI feedback if they accept suggestions without deeper thinking. Due to this, ChatGPT should not be viewed as a perfect replacement for students' own thinking or teacher guidance. It is better understood as a support tool that students need to use carefully.

Most existing studies on ChatGPT and ESL writing focus on students' perceptions or writing performance. Less attention has been given to how secondary school students actually use ChatGPT during the writing process. There is also a need to understand how students decide which suggestions to accept, reject or revise. Javier & Moorhouse (2024) also highlighted the importance of helping secondary school learners use ChatGPT productively and critically. Therefore, this study focuses on students' writing behaviours and decisions when using ChatGPT as a writing support tool. This study is guided by the following research questions:

1. How do secondary school ESL students in Malaysia use ChatGPT to support their writing?
2. What are the students' perceptions of ChatGPT as a tool for improving their ESL writing skills?
3. In what ways does ChatGPT influence the writing behaviours and decision during the writing process?

LITERATURE REVIEW

ESL Writing and the Writing Process

ESL writing is not only about producing a final essay, but also about going through a process of planning, drafting, revising and editing. This view is important because students usually do not produce a good piece of writing in one attempt. They need time to organise their ideas, check their sentences and improve their language after writing the first draft. In the Malaysian ESL context, this process can be challenging because students often struggle with grammar, vocabulary, sentence construction and coherence at the same time. According to Wan Ibrahim and Othman (2021), problems in grammar and sentence writing persistently exist among Malaysian students in their writing. This problem was also identified by Ali et al. (2023) in the form of difficulties in paragraph writing, which hindered clear expression of thoughts by ESL learners.

These issues are relevant to the present study since the first draft done by the students had various recurring problems such as spelling mistakes, poor vocabulary, improper use of words and subject-verb agreements errors. This shows why feedback is an important component in writing process. The students will be able to identify their mistakes, rethink their sentences and improve their drafts through feedback. Written corrective feedback has also been shown to support Malaysian secondary students' writing performance Ganapathy et al. (2020). However, teachers may not always have enough time to give detailed feedback to every student in class. Hence, digital writing tools such as ChatGPT have become useful to explore as additional support in ESL writing.

ChatGPT as a Writing Support Tool

ChatGPT is often used by students as a writing support tool because it can respond quickly to writing-related prompts. Students can ask it to check grammar, suggest better words, rephrase sentences or give ideas for a topic. Kohnke et al. (2023) explained that ChatGPT can be useful in language teaching and learning because it gives learners opportunities to interact with language in flexible ways. This makes the tool attractive to ESL students who may need immediate help while writing.

Several studies have reported positive uses of ChatGPT in writing. For example, ChatGPT has been found to support ESL students' academic writing, especially when students use it for feedback and writing assistance Mahapatra (2024). Song & Song (2023) also reported that ChatGPT could help improve writing motivation and vocabulary learning. In another study, Deep et al. (2025) found that ChatGPT was linked to writing engagement among ESL learners in higher education. Although these studies are useful, many of them focused on older learners or writing outcomes. The present study focuses more closely on how secondary school students use ChatGPT during the writing process.

For this study, ChatGPT was utilized as a revision tool and not as a replacement of students' writing. Students needed to write a first draft by themselves before using ChatGPT. This was crucial as the goal of the study was to see how students reacted to suggestions for revision after they already had their own ideas on paper. Thus, attention was paid not only to whether the second drafts showed noticeable progress but also to what exactly students changed or left unchanged.

Learner Autonomy, Feedback And Responsible AI Use

The use of ChatGPT in writing is also linked to learner autonomy. While using the tool, learners do not only have to understand the answers; they should figure out which question to ask, which suggestion to follow and if the particular suggestion matches their own writing. This means that ChatGPT can be used for autonomous learning, as long as students use it with proper understanding. This is an important concern especially in ESL writing, since students might just follow suggestions simply because they seem right to them, without really comprehending the meaning behind them. Ibrahim and Kirkpatrick (2024) argued that the utilization of ChatGPT in ESL writing necessitates the creation of clear-cut instruction and ethics guidelines to help students utilize the technology in a responsible manner.

Feedback from ChatGPT can be helpful especially in situations where students need immediate help with their grammar, vocabulary usage or sentence construction. However, it cannot be used as substitute for teacher feedback. A teacher is in a better position than ChatGPT

to gauge how well the students understand, what they intend to convey and the classroom context. ChatGPT may come up with a sentence that seems okay but does not necessarily match the student's own abilities or meaning. This is why Steiss et al. (2024) noted that ChatGPT feedback may be helpful but it may not respond to the context in the same way that human feedback would. For ESL learners, this makes it important to read AI suggestions carefully before using them in their writing.

Another issue with regard to the ethical application of AI involves the risk of overreliance. Yan (2023) warned that learners could overemphasize AI feedback if they follow the suggestions offered by AI without proper critical evaluation. This problem is relevant to this study as well because some of the students stated that they should not over-rely on ChatGPT or copy the responses given by ChatGPT verbatim. Similarly, Javier & Moorhouse (2024) stressed that it was essential to ensure that secondary school students made proper use of ChatGPT in a constructive way. In the present study, responsible AI usage was defined as the use of ChatGPT as a guide while revising texts without losing students' own ideas and views.

Research Gap and Conceptual Direction

Previous studies show that ChatGPT can contribute to ESL writing in different ways, such as grammar correction, vocabulary support, feedback, and writing motivation. However, a lot of research highlights either general views of students, writing achievements, or the context of higher education (Deep et al., 2025; Mahapatra, 2024). There is not enough research that investigates how secondary school ESL students really work with ChatGPT when revising their essays. In real-life situations, the students may not implement all suggestions generated by the tool; they can either adopt, refute or modify some of them to make sure that their final piece of writing represents their thoughts. In this regard, the current study makes use of both interviews and writing samples. Interviews help in understanding how students explain their ChatGPT usage, while the first draft and second draft reveal the actual changes made after using the tool.

The conceptual direction of this study is grounded in the concept that writing is a process and not only a product. In this regard, ChatGPT can be considered a support tool for the writing process, whereas the students can be regarded as active participants that make decisions during planning, drafting, checking, and revising. Therefore, the study not only focuses on how much the second draft improves from the first one but also on the challenges the students face while revising their papers and the way ChatGPT shaped their writing behaviours.

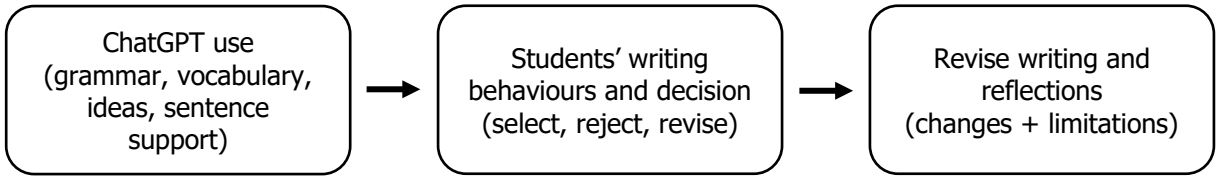

Figure 1: Conceptual framework of ChatGPT-assisted ESL writing behaviour

METHODOLOGY

The qualitative case study method was utilized, with Yin's (2018) case study design forming the basis of the research method. This approach suitable for this study since it looked at how students applied ChatGPT in actual ESL writing tasks and not under experimental or testing conditions. In this study, the current issue was the use of ChatGPT in ESL writing, while the real-life context was the students' actual writing and revision activity. This approach was considered suitable because the study did not aim to measure students' writing achievement through scores. Instead, it focused on how students used ChatGPT, how they responded to its suggestions and how their writing changed after using the tool.

The participants of the study were ten Form 3 ESL students aged 15 from SM St Peter Telipok, a secondary school located in Telipok, Kota Kinabalu, Sabah. The students had varied competence in English ranging from low to intermediate. They were selected through purposive sampling because they were directly involved in the writing activity and had the opportunity to use ChatGPT during the revision process. Since the study was small in scale, the aim was not to represent all secondary school students in Malaysia. The focus was to understand the experiences and writing behaviours of this particular group of students in more detail.

Two types of data were collected in this study, namely students' writing samples and semi-structured interviews. The writing samples were used to compare students' first draft and revised drafts. First, the students wrote an essay on the topic "Having a Balanced Diet" without using ChatGPT. After that, they were given a short introduction on how ChatGPT could be used to support writing, especially for checking grammar, improving vocabulary, restructuring sentences and developing ideas. The researcher also demonstrated how simple prompts could be used to ask ChatGPT for writing support. The students were also reminded not to copy everything directly from ChatGPT, but to read the suggestions carefully and decide whether the suggestions were suitable for their essays. During the revision process, the students used GPT-4o through the free version of ChatGPT on their own mobile phones. After using ChatGPT, the students revised the same essay and this became their second draft.

Semi-structured interviews were also conducted after the writing task. The purpose of the interviews was to understand the students' own experiences when using ChatGPT. The interview questions focused on how students used ChatGPT, which suggestions they accepted or rejected and the problems they faced and whether ChatGPT changed the way they revised their writing. The interviews were audio-recorded with the students' permission and were transcribed after the data collection process.

The interview data were analysed using thematic analysis, while the writing samples were analysed using document analysis. For the interview data, the transcribed materials were analysed several times to identify themes that emerged from the students' answers. The identified themes were then put into categories that included grammar and vocabulary support, idea development, selective use of suggestions, problems in understanding ChatGPT responses, and changes in revising behaviour. To check the identified themes, the researcher reread all ten interview transcripts and compared the themes with the students' original responses to ensure that they reflected the students' answers. As for the writing samples, the first and second drafts were compared based on grammar, vocabulary, sentence structure, content development, organisation and remaining limitations.

Ethical considerations were also considered. The students' real names were not used in the study. In the analysis file, students were labelled as Student 1 to Student 10. For the purpose of article writing, these labels were shortened to S1 to S10 in case of quotes from interviews. The numbers were used consistently in order to preserve the connection between interview and analysis of writing sample without revealing students' real names. Interview recordings and

writing samples were kept only for research purposes and all responses were considered confidential.

FINDINGS & DISCUSSION

This section contains the findings from the analysis of the interview transcripts and writing samples of the students. The interviews explain the experiences of the students while using ChatGPT, and the writing samples show the differences between the first draft and the second draft. The findings are divided according to the three research questions to make the discussion clearer. Codes S1-S10 have been used to cite the data obtained from interviews for maintaining anonymity of the students.

Table 1: Summary of main findings from interviews and writing samples

Research Question	Main Finding	Supporting Data
RQ1: How do students use ChatGPT to support their writing?	Students mostly used ChatGPT for grammar correction, vocabulary improvement, sentence support and idea development.	Interview responses and writing sample changes
RQ2: What are students' perceptions of ChatGPT?	Students found ChatGPT useful but they also face difficult vocabulary and uncertainty about suitability.	Interview quotations
RQ3: How does ChatGPT influence writing behaviours and decisions?	Students became more careful in revising and selected suggestions based on understanding, suitability and original meaning	Interview responses and comparison of Draft 1 and Draft 2

Findings 1: Students used ChatGPT mainly for language support and idea development

The first finding is related to the ways in which the students used ChatGPT in the process of completing their essays. According to the interviews, all ten students used ChatGPT to address language-related issues in their essays, while five students also mentioned asking for additional ideas. In other words, such operations as grammar verification, vocabulary improvement, sentences structuring, and idea generation were some of the tasks performed by the students using the tool. Therefore, apart from solving the task in a shorter period of time, the tool helped the students address the flaws in their writing. These can be seen in the following responses:

> *"I pasted my essay into ChatGPT to check my grammar and get better vocabulary." (S1)*
> *"ChatGPT helped me with my vocabulary and sentence structure." (S6)*
> *"I asked ChatGPT to suggest better vocabulary and more ideas because I felt my essay was too short." (S10)*

It is evident from these responses that the use of ChatGPT by the students varied from one student to another. For instance, S1 focused on grammatical accuracy and vocabulary,

whereas student S6 thought that the use of ChatGPT will help in improving vocabulary and sentence structures. On the other hand, S10 used ChatGPT for the development of ideas in addition to language skills.

The writing samples also proved this trend. After using ChatGPT, there were students who were able to correct spelling and grammar errors in the revised writing sample. The samples included "balance diet," "vagetable," "reduse," "to much," and "minirel" which have been corrected in the second drafts. Another improvement made by the students in their writing sample was the usage of appropriate vocabulary such as "nutritious," "consume," "hydrated," "negative effects," and "in moderation." This shows that ChatGPT played an important role in helping the students improve the surface features of writing.

Besides improving language precision, there have been many indications of improvement in content development. Quite a few of the students added more examples, explanation, and conclusion after working with ChatGPT. This shows that the improvements were not limited to error correction alone. In some cases, ChatGPT helped to develop the ideas further, producing more comprehensive essays. The above results correlate with previous studies that have shown how ChatGPT could help in writing by providing feedback on language, assisting with vocabulary, and developing ideas (Kohnke et al., 2023; Mahapatra, 2024).

Findings 2: Students viewed ChatGPT as helpful but not always easy to use

The second finding is based on the views of the students about the use of ChatGPT in the process of essay revision. All ten students described at least one way in which ChatGPT was helpful. The instantaneous suggestion enabled the students who had problems with grammar to detect errors that they could not have detected themselves. These views are reflected in the following examples:

> *"ChatGPT was helpful because it could tell my grammar mistakes and vocabulary suggestions immediately after I asked for it." (S3)*
> *"I can know where my mistakes are when writing an essay and I can also learn new vocabulary from ChatGPT." (S8)*

These answers show that the effectiveness of the usage of ChatGPT relied on the speed and availability of the tool. Students could receive recommendations without waiting for direct teacher feedback which made the revision process feel easier. In this study, the help received was beneficial since many initial drafts contained problems with grammar, spelling, and vocabulary. Thus, ChatGPT was not considered as an alternative to students' writing, but rather as a source of reference.

Nevertheless, eight of the ten students reported at least one difficulty when using ChatGPT. There were suggestions that the students could not understand since the language used in the suggestions was unfamiliar to them. Furthermore, there were moments where the students were uncertain about the suitability of the suggestions in their essays. Consequently, even though ChatGPT provides quick suggestions, the students took time understanding them. The following are the answers:

> *"Sometimes, I do not understand the suggestions given by ChatGPT and sometimes I do not know if the suggestions will be appropriate or not in my essay so I have to read carefully." (S8)*

"There are some suggestions that I do not understand because ChatGPT uses difficult vocabulary." (S6)

These responses are significant since they show the feedback from artificial intelligence is indeed both useful and challenging. Even though ChatGPT could assist students in identifying their errors, it may also confuse them with complicated wording or suggestions which do not correspond with the original meaning of the sentences. This is supported by the findings of Steiss et al. (2024), who noted that ChatGPT feedback may turn out irrelevant when compared to human feedback due to lack of proper context for writing. Thus, students should be advised to treat suggestions offered by ChatGPT as option to consider and not just accept them blindly.

Findings 3: ChatGPT encouraged more careful and selective revision

The third finding is associated to the way students revise their essays after using ChatGPT. According to interview results, six of the ten students have stopped following the old practice of only writing one draft and making very few corrections to it. After the use of ChatGPT, they spend more time on revising their essays, especially grammar and vocabulary revision and adding more details. These responses show this change clearly:

"Normally, I just write one draft but with ChatGPT, I spent more time checking my grammar, improving my vocabulary and adding more details." (S1)
"Yes, normally I only write one draft and make a few corrections. When I used ChatGPT, I spent more time checking my grammar, improving my vocabulary, and adding more details." (S2)

S1's response shows that ChatGPT changed the way the essay was revised. Before using ChatGPT, the student usually stopped after writing one draft. With ChatGPT, the student went back to the essay and checked the grammar, vocabulary and details again. This demonstrated that the revision process became more active. The student was not only correcting mistakes but also trying to make the essay clearer and more complete before submitting the final draft. This links with the process view of writing, where writing improves through drafting, checking and revising.

From the interviews, it is clear that all ten students were careful when selecting suggestions from ChatGPT. The students did not blindly follow every suggestion that was provided by the tool but rather selected those that they understood and still related to their essays. This is evident in the following responses:

"I chose suggestions that were simple, easy for me to understand and maintained my original ideas." (S1)
"Honestly, I did not use all the suggestions. I only used better vocabulary and suggestions that were suitable for my essay." (S4)
"I chose suggestions that were easy to understand and matched my original ideas. I wanted my final essay to still sound like my own work." (S9)

The writing samples also supported this finding because they showed why students still needed to use their own judgement. Despite most of the revisions become better with the help of ChatGPT, they were not completely error-free. For instance, in S5's revised draft, the revision

made the text lengthier but it included informal expressions such as "Might need to hit the gym" and "You know". Moreover, S10's revised draft also included wrong idea like "fast food keeps you healthy". Thus, from the example, it is evident that even though ChatGPT helped students revise their work, they still needed to check whether the suggestions were accurate, suitable and appropriate for the task.

The analysis of the data obtained from the interviews and writing samples shows that ChatGPT influenced the writing process of students in regard to the revised drafts as well as revision techniques. Mostly, the students used the tool mainly to correct grammatical errors, vocabulary, sentence structures, and content which aligns with previous findings on the role of ChatGPT in supporting language accuracy and idea generation in L2 writing (Kohnke et al., 2023; Mahapatra, 2024; Song & Song, 2023). At the same time, the results of the interviews showed that students were not always accepting all the suggestions they received. In some cases, students applied some of the suggestions, rejected others, and even made use of the simpler ones but agreed with their original meaning. It clearly shows that ChatGPT helped in revising the essay while students still remained at the centre of the decision-making process, reflecting the importance of learner agency and critical engagement with AI-generated feedback (Javier & Moorhouse, 2024; Yan, 2023).

This finding supports the process-oriented approach to writing applied in this study. Improvements made to essays did not happen solely on the basis of the suggestions offered by ChatGPT. In fact, students first wrote an essay, reviewed suggestions of ChatGPT, compared it to their own essay and made decisions regarding what changes should be made. Consistent with research highlighting the value of structured feedback during drafting and revising (Ganapathy et al., 2020; Mahapatra, 2024), ChatGPT served as a part of the revision process, while students were still required to make decisions before making changes to their drafts.

The writing samples also showed that ChatGPT did not make the revised essays flawless. Some of the drafts still contain awkward phrasing, informal expression, and wrong ideas. This indicates that although ChatGPT cannot completely replace student's own judgement even though it can help students in identifying their mistakes. As prior studies on AI-assisted feedback have noted, automated suggestions may appear surface-level accurate yet fail to capture intended meaning, contextual appropriateness, or the depth of human evaluation (Ibrahim & Kirkpatrick, 2024; Steiss et al., 2024). A suggested idea might look correct but it may not always fit the student's meaning, writing proficiency or original voice. Therefore, ChatGPT is more suitable as a writing support tool and not a complete solution for ESL writing (Deep et al., 2025; Esmaeil et al., 2023).

Implications for ESL Writing Instruction

From the findings, it can be seen that the ChatGPT tool can act as an additional support tool in Malaysian secondary ESL classrooms, especially for those who need help with grammatical structures, vocabulary, and idea development during writing; areas consistently identified as persistent challenges among Malaysian ESL learners (Ali et al., 2023; Wan Ibrahim & Othman, 2021). Nonetheless, the incorporation of the ChatGPT tool needs to be done in a controlled manner (Ibrahim & Kirkpatrick, 2024; Javier & Moorhouse, 2024). The students need to start by writing their own first draft on their own before using ChatGPT. This helps students understand that ChatGPT is meant to support revision and not take over the writing task.

Teachers should also pay attention to how students interpret and evaluate ChatGPT's suggestions (Javier & Moorhouse, 2024). After receiving a suggested sentence, students can

compare it with their original sentence and check whether the meaning is still the same. They should also be encouraged to leave out words that they cannot understand, even if it sounds more advanced. A difficult vocabulary may make the essay look stronger at first, but it may also make the writing sound less natural or less suitable for the student's level or original intent (Deep et al., 2025; Esmaeil et al., 2023).

When used in the ESL class, ChatGPT can be introduced after students have produced their drafts independently as part of a guided revision process (Mahapatra, 2024). Students can compare its suggestions with their original sentences, check unclear parts, and improve word choice. However, the final decisions concerning revision will belong to the students with teacher's assistance if required (Ganapathy et al., 2020; Steiss et al., 2024). This kind of exercise will assist students to conduct revision attentively and independently at the same time.

CONCLUSION

This study examined how ChatGPT influenced the ESL writing behaviours of ten secondary school students in Malaysia. Through the interviews and writing samples collected from the students, it was noted that the majority of the students used ChatGPT to help them improve their grammar, vocabulary, sentence structures, and ideas. It was evident through the analysis of the first and revised drafts that some students improved their writing after using the application. This is because there were some improvements in terms of correct spelling and grammar, appropriate words and explanations in the revised drafts.

However, from the analysis of the findings, it is clear that ChatGPT was not able to address all of the problems in writing. In some cases, the revisions contained awkward wording, informal language, and some inaccurate ideas. From the interviews, it is evident that there were some instances when students faced challenges due to advanced vocabulary or could not be sure if the suggestions would fit into their essays. Moreover, the majority of students did not adopt all the suggestions; they only chose the options that were understandable and appropriate in the context of their own ideas.

Overall, ChatGPT can be helpful in ESL writing when used as a support tool but not as a replacement for students' own thinking. It may help students to detect mistakes in their writing and revise their essays more carefully; yet the teacher's guidance is required to avoid overdependence on the tool, inaccurate ideas, and incorrect language usage. Since this study has only been conducted among ten students from one school, the findings should be understood within this small-scale case study context. Future studies may involve more participants, different proficiency levels or a longer writing intervention to understand how students' use of ChatGPT develops over time.

Conflict of Interest

The authors declare no conflict of interest.

Author Contribution

The sole author conducted the fieldwork, prepared the literature review and methodology, organized and coded the qualitative data, conducted the thematic analysis, and interpreted the findings.

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Ethics Statement

This study was conducted following ethical guidelines. Informed consent was obtained from all participants and their parents.

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