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ENHANCING ACADEMIC WRITING ACHIEVEMENT THROUGH STRUCTURED PEER FEEDBACK AND SELF-ESTEEM SUPPORT IN HYBRID EFL LEARNING

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ABSTRACT

Despite the increasing use of peer feedback to improve EFL students' academic writing, limited research has examined how self-esteem shapes students' engagement with feedback and writing achievement in hybrid learning environments. Existing studies have largely treated these variables separately, leaving a limited understanding of their integrated contribution to writing development. This study aims to examine the effects of structured peer feedback on EFL university students' academic writing achievement and to explore the relationship between self-esteem and engagement in peer feedback activities. Using a sequential explanatory mixed-method design, this study involved 64 undergraduate students at Universitas Ekasakti, Indonesia. Participants were assigned to an experimental group receiving structured peer feedback and a control group receiving conventional lecturer-centered feedback. Data were collected through an analytical writing rubric, the Rosenberg Self-Esteem Scale (RSES), peer feedback records, questionnaires, and semi-structured interviews. The findings revealed that the experimental group demonstrated significantly greater improvement in academic writing, particularly in content (Mean difference = 2.89, $p < 0.001$) and organization (Mean difference = 2.49, $p < 0.001$). Self-esteem was positively associated with final writing performance ($r = 0.54$), feedback quantity ($r = 0.47$), and feedback uptake ($r = 0.51$). Qualitative findings further showed that structured peer feedback promoted metacognitive reflection, collaboration, and writing confidence, although some students perceived online feedback interactions as emotionally distant. This study contributes to the literature on EFL writing and hybrid learning by demonstrating that peer feedback operates not only as a cognitive mechanism but also as a socio-emotional process shaped by students' affective readiness. The findings imply that attention to students' self-esteem and emotional readiness during feedback practices can strengthen student engagement and improve academic writing outcomes in technology-mediated learning environments.

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INTRODUCTION

Academic writing is a fundamental competency in higher education, requiring students to demonstrate not only linguistic proficiency but also the ability to develop logical, coherent, and evidence-based arguments. However, many EFL university students continue to experience difficulties in producing academic texts that meet academic expectations. These challenges extend beyond grammatical accuracy and include problems related to idea development, organization, revision practices, and emotional responses during the writing process. Such difficulties are often associated with limited understanding of academic conventions, insufficient revision strategies, and heightened self-evaluation during writing (Evans, 2013; Nicol & Macfarlane-Dick, 2006).

To address persistent challenges in academic writing, peer feedback has increasingly been adopted as a learner-centered strategy in EFL instruction. By engaging students in reviewing and responding to peers' writing, peer feedback promotes critical thinking, collaborative learning, and a deeper understanding of writing criteria. Previous studies have shown that participation in feedback processes, both as feedback providers and recipients, enables students to internalize assessment standards, improve revision practices, and strengthen conceptual understanding of writing (J. Topping, 2017; N.-F. Liu & Carless, 2006; Min, 2005). Additionally, peer feedback encourages learner autonomy, which is considered an essential component of effective higher education practices.

In hybrid and blended learning environments, feedback becomes increasingly important because it serves as a primary channel for sustaining social and academic interaction when teacher presence is reduced (Yang & Carless, 2013; Zhang & Hyland, 2018). Recent evidence further indicates that interaction through digitally supported writing environments enhances students' social engagement and strengthens social presence, which contributes to sustained writing effort and achievement (Peungcharoenkun & Waluyo, 2024). Beyond improving writing performance, peer feedback has also been associated with the development of rhetorical awareness and metacognitive skills (Hyland & Hyland, 2006; Lundstrom & Baker, 2009). Through evaluating peer texts, learners become more aware of issues related to organization, coherence, and audience positioning, which subsequently improves their own writing quality.

Recent studies further demonstrate that structured peer feedback supported by explicit evaluation criteria enhances writing performance and promotes feedback literacy (Ahmad et al., 2025). Evidence from various EFL contexts, including Indonesia and Saudi Arabia, suggests that peer feedback contributes to improvements in grammar, text organization, response quality, and higher-order thinking skills (Al-Samiri & Bukhari, 2025; Kurniawan et al., 2023; Muflihah & Authar, 2022). However, previous research has also identified challenges associated with peer feedback implementation, including feedback-related anxiety, low confidence, and difficulties in providing constructive comments (Tsui & Ng, 2000; Yang et al., 2006). More recently, technology-assisted and AI-supported peer feedback has shown potential to improve feedback accuracy and revision quality compared with conventional peer review approaches (Guo et al., 2024). Nevertheless, differences in students' responses to

feedback suggest that instructional design alone may not fully explain writing improvement and that learners' affective characteristics should also be considered.

However, the effectiveness of peer feedback is not experienced equally by all students. Emerging evidence suggests that affective factors, particularly self-esteem, influence how learners interpret, respond to, and benefit from feedback processes. Defined as an individual's overall evaluation of self-worth (Rosenberg, 1965), self-esteem has been associated with various academic behaviors and learning outcomes. In EFL writing contexts, students with higher self-esteem tend to participate more actively in feedback activities, demonstrate greater openness toward revision, and perceive feedback as an opportunity for improvement (Brown, 2001). In contrast, lower levels of self-esteem have been linked to feedback avoidance, reduced motivation, and negative self-evaluation.

Recent studies further indicate that self-esteem plays an important role in regulating emotional responses during language learning. For example, Song et al. (2023) found that writing anxiety among EFL students was negatively associated with self-esteem, suggesting that emotional regulation contributes to successful writing performance. Related constructs such as self-efficacy and self-perseverance have also been shown to influence writing achievement and broader academic outcomes (Chamorro-Premuzic & Furnham, 2003; Han & Hiver, 2018; Pajares et al., 1994). Beyond writing, research in language learning contexts has highlighted the importance of self-esteem in shaping learner engagement and performance across different language skills (Rahimi & Abedini, 2009).

Within peer feedback environments, self-esteem may function as an important mechanism that shapes students' willingness to take linguistic and interpersonal risks during evaluation and revision activities (Han & Hiver, 2018; Khansir & Abdolahi, 2014). Students with higher self-esteem are generally more likely to engage actively with peer comments and perceive feedback as valuable for improvement, whereas students with lower self-esteem may disengage from the feedback process (Bandura, 1997; Yu & Lee, 2015). Similarly, Lee (2017) argues that confidence influences learners' engagement and feedback responsiveness, while Setyowati et al. (2024) demonstrated a positive relationship between writing self-efficacy and writing quality among Indonesian EFL students. Despite these findings, limited attention has been given to understanding how self-esteem interacts with structured peer feedback, particularly within hybrid and technology-mediated writing environments.

Hybrid learning provides an important context for understanding how peer feedback and self-esteem interact in academic writing development. Defined as the integration of face-to-face and online learning experiences, hybrid learning creates opportunities for flexible, reflective, and collaborative learning while simultaneously requiring greater learner autonomy and self-directed engagement (Garrison & Vaughan, 2008). Digital platforms such as Google Docs and online discussion tools facilitate both synchronous and asynchronous peer interaction (J. Liu & Sadler, 2003; Sun & Yang, 2015). Although students often appreciate the accessibility and convenience of online feedback, they may also perceive comments as impersonal and emotionally distant (Zhang & Hyland, 2018). Recent developments suggest that AI-supported feedback environments may support more adaptive and emotionally responsive feedback interactions, thereby increasing engagement and empathy (Öztürk et al., 2025).

Collaboration through digital platforms has also been shown to strengthen writing awareness and learner participation in Indonesia and similar EFL contexts while revealing challenges related to digital literacy and emotional readiness (Anggrisia & Robah, 2023; Kurniawan et al., 2023). (Peungcharoenkun & Waluyo (2024) further argue that affective engagement in hybrid learning contributes not only to writing development but also to students' emotional resilience. These findings suggest that effective peer feedback in hybrid

environments requires attention not only to instructional design but also to students' emotional readiness and self-perceptions during feedback processes.

Although previous studies have demonstrated the benefits of peer feedback and highlighted the importance of self-esteem in language learning, these constructs have largely been examined independently. Existing research has provided valuable insights into peer feedback practices, including content development, structural revision, and learner interaction (Guardado & Shi, 2007; Tsui & Ng, 2000; Yang et al., 2006), while studies on self-esteem have primarily focused on broader motivational and emotional outcomes (Carless, 2019; Huisman et al., 2018). Limited attention has been given to understanding how self-esteem shapes students' engagement with structured peer feedback, particularly in hybrid EFL writing environments.

Addressing this gap, the present study investigates the combined role of structured peer feedback and self-esteem in academic writing development in hybrid EFL contexts. By integrating cognitive and affective perspectives, this study contributes to the literature on writing pedagogy and offers practical implications for designing more responsive feedback practices in technology-mediated learning environments.

This study aims to: (1) examine the effect of structured peer feedback on EFL university students' academic writing achievement in a hybrid learning environment; (2) investigate the relationship between self-esteem and students' engagement in peer feedback activities; and (3) explore students' perceptions of peer feedback within a hybrid EFL writing context.

RESEARCH METHOD

Research Design

This study employed a sequential explanatory mixed-method design using a quasi-experimental approach. In this design, quantitative data were collected and analyzed first to examine the effects of structured peer feedback on students' academic writing achievement and to investigate the relationships among the study variables, particularly self-esteem and engagement in peer feedback activities. The quantitative findings then informed the qualitative phase, which was conducted to explain, contextualize, and enrich the statistical results through students' perceptions and emotional experiences during peer feedback activities.

Both quantitative and qualitative datasets were integrated during the interpretation stage to generate a more comprehensive and triangulated understanding of the research phenomenon. This design was considered appropriate because the study sought not only to measure writing outcomes but also to explore the affective dimensions underlying students' engagement with peer feedback in a hybrid learning environment.

Participants

This study involved 64 fifth-semester undergraduate students from the Department of English Education at Universitas Ekasakti Padang, Indonesia, during the 2024/2025 academic year. A sample of 64 participants was considered adequate for the planned quantitative analysis, including between-group comparisons and Pearson correlation, in accordance with recommendations for classroom-based mixed-method research (Cohen et al., 2018). All participants had completed prerequisite writing courses and demonstrated at least an intermediate level of English proficiency, verified through academic records.

Purposive sampling was employed to select participants who met the study's inclusion criteria, ensuring that all participants possessed sufficient academic writing experience and had direct involvement in peer feedback activities. This sampling approach supported the relevance and internal consistency of the sample in relation to the objectives of the study.

Following participant selection, students were assigned into two groups: an experimental group (n = 32), which received structured peer feedback, and a control group (n = 32), which received conventional lecturer-centered feedback. To minimize potential threats to internal validity and establish baseline equivalence, pre-test writing scores were analyzed using an independent-samples t-test prior to the intervention. The results indicated no statistically significant difference between the two groups ($p > 0.05$), suggesting comparable initial levels of writing proficiency. The distribution of participants across groups is presented in Table 1.

Table 1
Distribution of Participants

Group	Number of Students	Treatment
Experimental Group	32	Structured peer feedback
Control Group	32	Conventional lecturer-centered feedback

Instruments

Three instruments were employed to collect quantitative and qualitative data in this study.

First, students' academic writing achievement was assessed using the analytical writing rubric adapted from Ferris & Hedgcock (2023), which evaluates five dimensions of academic writing: content, organization, grammar, vocabulary, and mechanics. Composite writing scores were calculated by summing the scores across all five dimensions. To establish scoring consistency, inter-rater reliability was assessed by having two independent raters evaluate a randomly selected subsample of student essays (n = 20). The analysis yielded an inter-rater reliability coefficient of $r = 0.87$, indicating high agreement between raters.

Second, students' self-esteem was measured using the Rosenberg Self-Esteem Scale (RSES), a widely used 10-item instrument designed to assess individuals' overall evaluation of self-worth. Responses were recorded on a four-point Likert scale ranging from 1 (strongly disagree) to 4 (strongly agree), resulting in total scores ranging from 10 to 40, with higher scores indicating higher levels of self-esteem. The instrument demonstrated satisfactory internal consistency in the present study (Cronbach's $\alpha = 0.81$).

Third, peer feedback engagement data were collected through peer feedback logs generated during writing activities using Google Docs. Feedback comments were analyzed using a coding framework that classified comments into content-related and form-related categories and further subdivided them into suggestions, praise, and criticism. Two independent coders analyzed the feedback data, and inter-coder agreement was calculated using Cohen's kappa ($\kappa = 0.82$), indicating substantial coding reliability. Any discrepancies were resolved through discussion until a consensus was reached.

Data Analysis

Quantitative data were analyzed using paired-samples t-tests to examine differences between pre-test and post-test writing scores within the experimental group and Pearson correlation coefficients to investigate relationships between self-esteem and writing-related outcomes. Independent-samples t-tests were conducted to compare post-test writing performance between the experimental and control groups. Effect sizes (Cohen's d) were calculated for all statistically significant findings to determine the magnitude of observed effects. Prior to analysis, statistical assumptions including normality (Shapiro–Wilk test) and homogeneity of variance (Levene's test) were assessed and confirmed.

For the qualitative strand, semi-structured interviews were conducted with a purposive subsample of 10 participants representing varying levels of writing proficiency (based on pre-test writing rubric scores) and self-esteem (based on RSES scores). Interviews were

conducted in Indonesian to facilitate full participant comprehension and were subsequently translated into English by the first researcher for analysis purposes.

Qualitative data consisted of interview transcripts, open-ended questionnaire responses, and revision logs extracted from Google Docs. These data were analyzed using thematic analysis following Braun & Clarke's (2006) six-phase framework: (1) familiarization with the data, (2) initial coding, (3) generating themes, (4) reviewing themes, (5) defining and naming themes, and (6) producing the final report. Coding was conducted manually and independently by two members of the research team. Analytical decisions were documented through an audit trail to enhance transparency and methodological rigor. To strengthen trustworthiness, member checking was conducted by sharing preliminary interpretations with selected participants, and peer debriefing was performed with an external colleague.

Finally, integration of quantitative and qualitative findings was conducted during the interpretation stage through explanatory triangulation. Qualitative themes were specifically used to explain, contextualize, and enrich the quantitative findings, thereby providing a deeper understanding of the mechanisms underlying the observed statistical relationships and writing outcomes.

RESEARCH FINDINGS AND DISCUSSION

Research Findings

Peer Feedback Impact and Writing Outcomes

Analysis of students' essays before and after the peer feedback intervention demonstrated improvement across all dimensions of academic writing. The most substantial gains were observed in content and organization. As presented in Table 2, the experimental group showed statistically significant improvements in all assessed domains following the intervention.

Table 2
Pre-feedback and post-feedback essay scores

Writing Domain	Pre-Feedback Mean (SD)	Post-Feedback Mean (SD)	Mean Difference	*t*	*p*
Content	19.14 (2.67)	22.03 (2.21)	+2.89	7.85	<0.001
Organization	17.72 (3.04)	20.21 (2.56)	+2.49	6.92	<0.001
Grammar	16.38 (3.45)	18.11 (3.10)	+1.73	4.12	<0.001
Vocabulary	16.97 (2.90)	18.23 (2.75)	+1.26	3.85	<0.001
Mechanics	15.56 (3.08)	17.02 (2.77)	+1.46	3.44	<0.001

Prior to statistical analysis, assumptions of normality and homogeneity were examined and satisfied. Results of the Shapiro–Wilk test indicated normal data distribution ($p > 0.05$), while Levene's test confirmed homogeneity of variances ($p > 0.05$). Effect size analysis revealed large practical significance for improvement in content ($d = 1.17$) and moderate-to-large effects for organization ($d = 0.87$). Independent samples t-test results further showed that students in the experimental group achieved significantly higher post-test writing scores than those in the control group across all writing dimensions ($p < 0.05$). These findings indicate that structured peer feedback integrated within hybrid learning contributed positively to students' academic writing achievement.

The largest improvements in content and organization suggest that students became more capable of developing ideas and organizing arguments during revision processes. The findings imply that peer feedback supported writing development not only through error correction but also through reflective engagement and collaborative revision practices.

Participation in Feedback Activities and Self-Esteem

Analysis of self-esteem measured through the Rosenberg Self-Esteem Scale (RSES) demonstrated significant positive associations with students' writing performance and engagement in feedback activities.

Table 3
Participation in feedback activities and self-esteem

Variables	*r*	*p*
Self-Esteem ↔ Final Essay Score	0.54	< 0.001
Self-Esteem ↔ Feedback Quantity	0.47	< 0.001
Self-Esteem ↔ Feedback Uptake	0.51	< 0.001

The correlation analysis revealed moderate positive relationships between self-esteem and final essay scores ($r = 0.54$), feedback quantity ($r = 0.47$), and feedback uptake ($r = 0.51$), all of which were statistically significant ($p < 0.001$). These findings indicate that students with higher levels of self-esteem tended to participate more actively in feedback activities and demonstrated greater engagement during revision.

Conversely, lower self-esteem appeared to be associated with more limited revision behavior and lower participation in peer feedback processes. These findings suggest that affective readiness may contribute to students' responsiveness to feedback in academic writing contexts.

Perceptions toward Peer Feedback in Hybrid Learning Environments

To address the third research question, qualitative analysis of interview transcripts, open-ended questionnaire responses, and revision logs identified three themes: (1) collective empowerment through collaborative learning, (2) emotional vulnerability and confidence development, and (3) affordances and limitations of technology-mediated feedback.

Theme 1: Collective Empowerment through Collaborative Learning

Participants described peer feedback as a constructive and reflective learning process that improved awareness of writing quality and revision strategies.

> "I became more aware of what good writing looks like by reading my friends' essays. Sometimes their mistakes helped me reflect on my own." (Student 3)

These responses suggest that exposure to peers' writing supported students' understanding of academic conventions and encouraged reflective writing practices.

Theme 2: Emotional Vulnerability and Confidence Development

Several students initially reported anxiety when evaluating peers' work, but gradually developed greater confidence throughout the feedback process.

> "At first, I was nervous about correcting my friends. I assumed it might hurt them or they would take offense. But then I realized that it was part of the learning experience." (Student 7)

Participants further indicated that constructive and respectful feedback increased their willingness to revise.

> "Receiving suggestions, especially from friends who were specific and courteous, made it much easier to make revisions." (Student 9)

These findings highlight the importance of emotional safety and supportive communication during peer feedback activities.

Theme 3: Affordances and Limitations of Technology-Mediated Feedback

Students generally valued the flexibility and accessibility of digital feedback environments, but also reported challenges associated with emotional distance.

> "Commenting on documents in Google was beneficial because I had the freedom to revisit my work. Sometimes, I had trouble gauging the seriousness or friendliness of their comments." (Student 2)

These responses indicate that while technology facilitated collaboration and revision, it did not fully replace the interpersonal dimensions of face-to-face interaction.

Integration of Quantitative and Qualitative Data

The integration of quantitative and qualitative findings demonstrated that peer feedback functioned not only as a cognitive support mechanism but also as a socio-emotional process influenced by students' self-esteem and engagement. Quantitative results indicating positive relationships among structured peer feedback, self-esteem, and academic writing achievement were supported by qualitative evidence showing increased reflection, collaboration, and confidence during revision activities. These convergent findings suggest that effective peer feedback in hybrid EFL writing environments requires attention to both instructional structure and students' affective readiness. The combined evidence highlights the importance of fostering supportive feedback practices that enhance students' writing development while strengthening their confidence and active participation in the learning process.

Discussion

These findings highlight the role of structured peer feedback in supporting academic writing development among EFL students within hybrid learning environments. The observed improvement in content and organization supports previous research suggesting that peer review promotes deeper cognitive processing beyond surface-level correction (Hyland & Hyland, 2006; Min, 2005). Rather than merely identifying grammatical or mechanical errors, students engaged in evaluating arguments, clarifying meaning, and exercising higher-order thinking throughout the revision process. This finding supports the Vygotskian perspective that learning is socially situated and constructed through interaction (Vygotsky, 1978). In the present study, peer feedback served as a form of collaborative scaffolding that helped students internalize rhetorical conventions and strengthen academic writing performance.

However, these findings should be interpreted with nuance. Although substantial gains were observed in content and organization, improvements in grammar, vocabulary, and mechanics were comparatively smaller. This result aligns with (Tsui & Ng, 2000), who reported that peer feedback tends to emphasize higher-order concerns rather than surface-level language correction. Similarly, Hyland & Hyland (2006) argue that student reviewers often prioritize meaning construction over linguistic accuracy. Interestingly, unlike studies suggesting that peer feedback produces limited benefits for lower-proficiency learners (Yang et al., 2006), the present study demonstrated improvements across proficiency levels. One possible explanation is that students with higher levels of self-esteem were more willing to engage in feedback activities and revision processes.

Another important finding concerns the role of self-esteem in shaping students' engagement with peer feedback. The results indicate that self-esteem contributed not only to writing achievement but also to students' participation in feedback activities and their willingness to revise. Students with higher self-esteem appeared more active in feedback exchanges and demonstrated greater uptake of peer comments, resulting in more substantive revision practices. One possible interpretation is that higher self-esteem strengthened students' confidence to evaluate, accept, and act upon feedback, thereby reducing emotional resistance during revision.

This finding supports previous studies indicating that self-esteem and related affective constructs influence persistence, willingness to take academic risks, and responsiveness to

evaluative input (Brown, 2001; Chamorro-Premuzic & Furnham, 2003; Han & Hiver, 2018; Khansir & Abdolahi, 2014). In contrast, students with lower self-esteem appeared more likely to avoid feedback engagement and perform minimal revisions. These findings suggest that writing development should not be viewed solely as a cognitive process but also as an affective experience shaped by learners' emotional readiness.

The hybrid learning setting further revealed both opportunities and challenges for implementing peer feedback. Digital platforms such as Google Docs enabled asynchronous review characterized by flexibility, transparency, and opportunities for repeated reflection. Students were able to revisit comments, compare multiple drafts, and engage more consciously in metacognitive and strategic writing processes. However, qualitative findings also revealed that technology-mediated feedback was sometimes perceived as emotionally distant. Several students reported difficulty interpreting tone and emotional intent in written comments due to the absence of non-verbal cues that typically soften criticism during face-to-face interaction. This observation supports Zhang & Hyland (2018), who noted that online feedback may generate perceptions of emotional distance and reduce learners' sense of interpersonal connection.

These findings indicate that writing improvement in hybrid environments cannot be explained solely by instructional design but also by learners' emotional readiness and their engagement with technology-mediated interaction. While technological affordances facilitated interaction and revision, students' emotional responses appeared to influence the extent to which feedback was accepted and implemented. This interpretation is further supported by findings from Indonesian EFL contexts showing that learners often experience challenges related to digital participation and collaborative engagement (Fitria et al., 2023; Kurniawan et al., 2023).

The findings contribute to a broader understanding of academic writing development in hybrid EFL environments by demonstrating that writing improvement emerges through the interaction of cognitive scaffolding provided through peer feedback, affective readiness represented by self-esteem, and the affordances of digital learning environments. While previous studies have frequently examined these dimensions separately, the present findings indicate that writing performance is shaped by their combined influence. Unlike earlier studies that tended to investigate peer feedback, self-esteem, and digital learning independently, this study demonstrates how these dimensions interact within hybrid EFL writing contexts to influence students' engagement and writing outcomes. This integrated perspective extends current understanding of EFL writing by positioning academic writing as a socio-cognitive, affective, and technology-mediated process.

CONCLUSION

This study demonstrates that structured peer feedback in a hybrid EFL writing context was associated with significant improvement in university students' academic writing achievement, particularly in content development and organizational quality. Beyond quantitative improvement, self-esteem emerged as an important affective factor influencing students' willingness to engage with peer feedback, implement revisions, and sustain participation throughout the writing process. Qualitative findings further revealed that peer feedback promoted metacognitive awareness, reflective learning, and collaborative confidence, while also highlighting emotional challenges associated with asynchronous text-based interaction. These findings suggest that the effectiveness of peer feedback extends beyond cognitive processes and is shaped by students' emotional readiness within technology-mediated learning environments.

This study contributes to the literature on EFL writing, feedback literacy, and hybrid learning by demonstrating that academic writing development is influenced by the interaction

of cognitive scaffolding, affective support, and digital learning affordances. Accordingly, peer feedback should be designed not only as an instructional strategy but also as a socio-emotional practice. From a pedagogical perspective, EFL lecturers are encouraged to incorporate reflective activities, constructive feedback routines, and positive reinforcement alongside structured peer feedback implementation to foster students' confidence, engagement, and academic writing development. Although the findings are limited to a single institutional context, they provide initial evidence for more integrated approaches to academic writing instruction. Future research is encouraged to examine these relationships across diverse EFL settings and through longitudinal designs to further extend and validate the present findings.

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INFORMED CONSENT STATEMENT
Participation in this study was voluntary. Prior to participation, all participants were provided with clear information regarding the study's objectives, procedures, potential risks, and anticipated benefits. Participants were assured of the confidentiality of their personal information and informed that all data collected would be used solely for research purposes. They were also informed of their right to withdraw from the study at any time without penalty. Informed consent was obtained from all participants prior to data collection.

DATA AVAILABILITY STATEMENT
The data generated and analyzed in this study are not publicly available because they contain information that could compromise participant privacy and confidentiality. Restricting public access ensures compliance with ethical research principles and applicable data protection regulations. Nevertheless, the dataset may be made available to qualified researchers upon reasonable request for verification or further analysis. Any such request will be reviewed on a case-by-case basis and will require prior approval from the appropriate institutional ethics authority.

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