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Original Research

From Digital Learning to Everyday Language Use: Mapping English Engagement and Proficiency Perceptions

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Abstract

English learning increasingly unfolds across classroom boundaries, yet the educational significance of students' overlapping engagement practices remains insufficiently differentiated. Previous studies have examined out-of-class learning, everyday English use, and digital learning largely within separate research traditions, leaving their unique associations with learner outcomes unclear. Addressing this gap, this cross-sectional correlational study investigated how three self-reported engagement-frequency indicators relate to English-learning motivation and self-perceived proficiency among 180 first-year non-English-major undergraduates at an Indonesian university. Data were obtained through an online questionnaire comprising three single-item engagement measures, a 15-item motivation index, and a six-item self-perceived proficiency scale. Spearman correlations and simultaneous multiple regressions were used to examine bivariate relationships and associations after accounting for overlap among indicators. Digital English learning was reported often or very often by 25.0% of participants, compared with 10.0% for out-of-class learning and 8.4% for everyday use. All three indicators correlated positively with both outcomes. However, digital learning retained a unique association with motivation ($\beta = .243$, $p = .003$), whereas out-of-class learning ($\beta = .295$, $p < .001$) and everyday use ($\beta = .248$, $p = .002$) showed unique associations with self-perceived proficiency. The out-of-class–motivation association varied across sensitivity analyses. Given the cross-sectional design and self-reported measures, these findings establish neither causality nor objective proficiency gains. By revealing outcome-specific patterns among overlapping practices, this study advances a differentiated understanding of English engagement and highlights the importance of supporting diverse learning opportunities rather than treating engagement modes as interchangeable.

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1. Introduction

University students engage with English not only through scheduled classes but also through independent study, everyday activities, and digitally mediated environments. Online resources and communication technologies have expanded opportunities to encounter, use, and learn English across formal and informal settings (Guo & Lee, 2023; Inayati et al., 2025; Reinders & Benson, 2017). These opportunities make English engagement beyond formal instruction an increasingly relevant part of contemporary EFL learning. This broader domain is not a single form of activity. Research distinguishes purposeful out-of-class language learning from English encountered or used through everyday and extramural activities, while digitally mediated practices may involve both intentional learning and routine

language use (Lai, et al., 2018; Lai & Wang, 2025; Sundqvist, 2024; Uztosun & Sundqvist, 2025). Out-of-class English learning, everyday English use, and digital English learning can therefore be operationally differentiated while remaining conceptually overlapping aspects of English engagement. Importantly, digitally mediated learning is not necessarily confined to activities outside formal instruction, and these categories should not be assumed to represent mutually exclusive experiences.

Research also links engagement beyond formal instruction with motivational, affective, and proficiency-related outcomes. Across Indonesian and other EFL contexts, informal digital English engagement has been associated with motivation, self-confidence, willingness to communicate, and foreign-language enjoyment (Lee & Drajati, 2019; Liu, Darvin, et al., 2024). Extramural-English research likewise reports associations with motivation, confidence, self-perceived abilities, and language-related outcomes, while indicating that these relationships may depend on the nature of learners' activities rather than frequency alone (Imsa-ard, 2025).

Further, scholarship on language learning beyond the classroom has expanded, particularly around digitally mediated informal English learning. Reviews show growing attention to IDLE and online informal language learning as digital resources have become more available beyond formal educational settings (Inayati et al., 2025; Liu, Soyoof et al., 2025; Soyoof et al., 2023). At the same time, the field includes partly overlapping traditions, including language learning beyond the classroom, extramural English, out-of-class learning, and informal digital learning, whose conceptual boundaries are not always clear (Guo & Lee, 2023; Kusyk et al., 2025).

When these forms overlap conceptually and empirically, examining them separately makes it difficult to determine whether each is associated with learner outcomes beyond what it shares with the others. Existing studies commonly focus on particular forms of engagement within specific research traditions, and recent work continues to note blurred boundaries between digitally mediated learning and broader extramural or out-of-class practices (Rezai et al., 2025; Zhang & Liu, 2024). These considerations highlight the need to examine out-of-class English learning, everyday English use, and digital English learning simultaneously to determine whether each retains an association with motivation and self-perceived English proficiency after accounting for the other indicators.

This question is particularly relevant for first-year non-English-major undergraduates in EFL contexts such as Indonesia, where English engagement beyond formal courses may provide additional opportunities for exposure and use. Recent Indonesian research has also documented generally positive perspectives toward English learning among non-English-major university students (Putra & Suparni, 2023). Indonesian tertiary students participate in varied autonomous and digitally mediated English activities outside the classroom, although participation and constraints differ across fields of study and learning contexts (Anggraini et al., 2022; Daflizar, 2020; Suherman, et al., 2026). Evidence from another Asian EFL context also suggests that non-English majors may have different beyond-classroom learning patterns from English majors (Nguyen et al., 2024). Examining first-year non-English-major students therefore provides a focused context for investigating how reported English engagement relates to motivation and perceived language ability during the early stage of university study.

The present study addresses this gap by treating out-of-class English learning, everyday English use, and digital English learning as overlapping but analytically differentiated single-item frequency indicators. The principal contribution of the study lies in examining these indicators simultaneously in relation to two learner outcomes, thereby distinguishing their bivariate associations from their unique associations after accounting for shared variance among the engagement indicators. This approach provides a comparison of observed association patterns without assuming that the indicators represent psychometrically distinct constructs or that their relationships with learner outcomes are causal. The study addresses the following research questions:

1) How frequently do first-year non-English-major undergraduates report out-of-class English learning, everyday English use, and digital English learning?
2) How are the three English engagement indicators associated with English-learning motivation and self-perceived English proficiency?
3) To what extent is each engagement indicator uniquely associated with English-learning motivation and self-perceived English proficiency when the three forms are considered simultaneously?

2. Literature Review

2.1. English Learning Beyond the Classroom

Language learning beyond the classroom represents a broad domain of second and foreign language learning that encompasses learners' experiences with the target language outside scheduled formal instruction. Rather than referring to a single type of learning activity, this domain involves multiple settings, processes, and forms of learner engagement (Reinders & Benson, 2017). Related research traditions include out-of-class learning, informal language learning, extramural English, and informal digital learning, although their conceptual boundaries partly overlap (Guo & Lee, 2023; Kusyk et al., 2025). Beyond-classroom English engagement can therefore be understood as a set of interconnected experiences through which learners encounter, use, and learn English outside formal instruction.

Within this broader domain, out-of-class English learning generally refers to learners' engagement with English beyond scheduled coursework through activities such as independent study, language practice, and the use of additional learning resources. Technology may support these activities, but technological mediation is not a defining feature of out-of-class learning. Research indicates considerable variation in the forms, motivations, and constraints associated with such engagement. Technology-supported out-of-class experiences, for example, may differ in learners' incentives as well as their behavioral and emotional characteristics (Lai, et al., 2018). Similar variation has been identified among Indonesian university students, whose autonomous English-learning practices and constraints differ according to their fields of study (Daflizar, 2020). These findings indicate that out-of-class learning encompasses diverse forms of engagement rather than a uniform set of activities.

A related perspective is provided by research on Extramural English, which concerns encounters with English outside formal educational settings. These encounters can include both digital and non-digital activities as well as intentional and incidental exposure to the language (Sundqvist, 2024). Research has further identified a range of extramural activities, including gaming, music, social interaction, reading and listening, writing, digital creativity, and online viewing (Uztosun & Sundqvist, 2025; Zhang et al., 2021). The purposes underlying such engagement also vary. Informal online English use may involve deliberate language learning, entertainment, information seeking, socialization, or other everyday activities, and these purposes are analytically distinguishable (Lai & Wang, 2025). Thus, extramural engagement reflects not only the contexts in which English is encountered but also the different purposes and degrees of intentionality associated with those encounters.

These distinctions are particularly relevant for non-English-major students, whose curricular relationship with English differs from that of students specializing in the language. Evidence suggests that English majors and non-English majors may display different patterns of beyond-classroom engagement. In the context examined by Nguyen et al. (2024), non-English majors reported lower levels of engagement and less frequent use of English-only resources. Taken together, the literature suggests that out-of-class learning and everyday or extramural English use overlap but remain analytically distinguishable components of a broader beyond-classroom learning ecology. However, conceptual distinctions between these activities do not necessarily mean that they can be separated through broad frequency measures. Within this ecology, digitally mediated engagement represents an increasingly prominent form of English contact.

2.2. Digital English Engagement

Digital technologies have expanded the environments in which learners can encounter, use, and learn English beyond formal instruction. One strand of research has conceptualized informal digital spaces outside institutionally organized classroom activity as the digital wilds (Sauro & Zourou, 2019). Within this broader development, research on Informal Digital Learning of English has focused on learners' self-directed engagement with English through digital devices, online resources, and communication platforms outside formal educational settings. This perspective extends conventional accounts of English learning by recognizing informal digital environments as relevant contexts for language engagement (Lee & Lee, 2019). Empirical work further indicates that both the quantity and diversity of digital activities may be associated with language-related and affective outcomes (Lee, 2019; Lee & Dressman, 2018).

Digital English engagement is itself heterogeneous because learners use digital resources for different purposes and with different degrees of intentionality. Research has associated informal digital English experience with strategies relevant to cross-cultural communication (Lee, 2020), while other evidence

indicates that online activities undertaken for different purposes do not necessarily relate to language outcomes in the same way (Lai & Wang, 2025). Generative artificial intelligence has added another environment for autonomous informal English learning. University students have been shown to use generative AI as part of their informal English-learning practices (Liu, Darvin, et al., 2024), extending the range of digital resources through which such engagement can occur. These studies suggest that digital English engagement should be differentiated according to the ways and purposes for which learners interact with digital resources.

Evidence from Indonesia confirms the relevance of these digital environments for university EFL learners (Sujarwati & Aydawati, 2025). Students engage informally with English through resources such as YouTube, social media, online games, and smartphones (Anggraini et al., 2022; Baruti & Subekti, 2023). Such digital engagement has also been associated with affective variables and willingness to communicate (Lee & Drajati, 2019). Reviews of IDLE and online informal language learning similarly document substantial growth in this area while identifying conceptual overlap with related forms of beyond-classroom learning (Guo & Lee, 2023; Inayati et al., 2025; Liu, Soyoof et al., 2025; Soyoof et al., 2023). Digital engagement can therefore be viewed as a prominent but internally diverse component of the broader beyond-classroom ecology. Nevertheless, the digital English learning indicator used in the present study captures reported frequency of technology-mediated learning without establishing whether the activity was informal, self-directed, or conducted outside formal instruction. This distinction makes it important to consider not only how frequently learners engage with English digitally, but also how digital engagement relates to other forms of English use and to learner outcomes without equating the frequency indicator with the broader construct of IDLE.

2.3. English Engagement, Motivation, and Self-Perceived Proficiency

A substantial body of research has linked beyond-classroom English engagement with learners' motivational and affective characteristics. Within digital environments, informal English learning has been associated with motivation, self-confidence, anxiety, grit, and willingness to communicate among Indonesian university students (Lee & Drajati, 2019). More recent research has identified relationships between IDLE and specific motivational constructs, including the Ideal L2 Self and foreign-language enjoyment (Lee & Lee, 2021; Liu, Zhang et al., 2024). Similar relationships have been reported beyond specifically digital engagement, with out-of-class English-learning experiences associated with learners' motivational and affective processes (Zhang & Lai, 2024). Research on AI-mediated informal learning extends this pattern, showing associations between more frequent AI-mediated English engagement, clearer Ideal L2 Selves, and greater foreign-language enjoyment (Liu, Zou, et al., 2025). Positive relationships among motivation, self-confidence, and forms of informal out-of-class English engagement have also been reported in other contexts (Amengual-Pizarro, 2026). Collectively, these findings indicate that engagement with English beyond formal instruction is closely related to motivational and affective dimensions of language learning. However, the motivational constructs examined across these studies are not identical to the broad motivation index used in the present study, which combines motivational orientation and intensity.

Research has also examined relationships between beyond-classroom engagement and proficiency-related as well as motivational and affective outcomes (Wouters et al., 2024). Different forms of extramural activity have been associated differently with vocabulary knowledge, self-perceived ability, self-confidence, motivation, and grit (Imsa-ard, 2025), while patterns of extramural English engagement have also been linked with L2 proficiency (Uztosun & Sundqvist, 2025). Evidence concerning proficiency, however, is not uniform. Aung and Nikolov (2026) found a significant correlation between extramural engagement and self-perceived proficiency, although the direct relationship with proficiency was not significant in their structural model once task engagement was considered. Such findings make it important to distinguish self-perceived proficiency from objectively assessed language achievement. In the present study, self-perceived proficiency refers to learners' judgments of their own communicative or language ability rather than performance on an external proficiency measure.

The available evidence further suggests that the amount or frequency of engagement alone may not adequately account for learner outcomes (Bonilla et al., 2021; Lai & Wang, 2025). The purposes underlying informal online English engagement have been shown to matter for receptive vocabulary knowledge (Lai & Wang, 2025). Similarly, meaning-focused and form-focused IDLE have displayed different relationships with achievement and L2 confidence, with meaning-focused activities showing more favorable associations

in the context examined by Zou et al. (2026). Informal digital engagement has also been associated with strategic competence for cross-cultural communication (Lee, 2020). Together, these findings suggest that frequency, purpose, and quality of engagement represent related but non-interchangeable dimensions of beyond-classroom English experience. The present study focuses on frequency, and therefore cannot determine whether particular activities, purposes, or levels of engagement quality account for the observed associations.

Relationships between learner characteristics and English engagement may also vary across settings and educational stages (Lee et al., 2024). For example, associations among affective variables and willingness to communicate have been found to differ across in-class, out-of-class, and digital contexts (Lee & Hsieh, 2019). Such contextual variation suggests that findings associated with one form of engagement should not automatically be generalized to another. It is therefore useful to examine the three engagement indicators within the same group of learners while recognizing that their different statistical associations do not, by themselves, establish differences between underlying constructs.

2.4. Integrating Engagement Forms: Research Gap and Analytical Rationale

Despite substantial growth in research on English engagement beyond the classroom, the literature remains conceptually fragmented. Constructs such as extramural English, informal language learning, IDLE, online informal learning, and technology-mediated out-of-class learning share important features but have been defined and operationalized in partly different ways (Guo & Lee, 2023). Terminological and definitional variation has consequently made comparison and synthesis across studies more difficult (Kusyk et al., 2025). The central issue is therefore not an absence of research on English engagement outside formal instruction, but the difficulty of integrating findings produced within overlapping conceptual traditions.

This conceptual fragmentation is also reflected in empirical research. Boundaries between relatively structured forms of informal digital learning and less structured extramural practices are not always clear (Zhang & Liu, 2024). Related forms of IDLE, including extracurricular and extramural engagement, have also frequently been investigated separately, prompting research that directly compares these settings (Rezai et al., 2025). At the same time, relationships among learner variables have been shown to differ across in-class, out-of-class, and digital contexts (Lee & Hsieh, 2019). These findings indicate that related forms of English engagement overlap, but they should not necessarily be assumed to function in equivalent ways.

In the present study, the three indicators are distinguished by their primary referents. Out-of-class English learning concerns the reported frequency of learning outside university class activities, regardless of whether digital resources are used. Everyday English use concerns the frequency of using English in daily life, without specifying whether that use is intentional, digitally mediated, or undertaken for learning purposes. Digital English learning concerns the frequency of learning English through digital media or technology, without restricting the activity to a particular location or instructional context. Thus, the indicators emphasize context, language use, and technological mediation, respectively, but their wording does not establish mutually exclusive activities or separately measure learners' purposes and intentionality.

A similar pattern can be seen in the outcomes examined across these research traditions. Studies of IDLE have connected digital engagement with motivation and enjoyment (Liu, Zhang, & Zhang, 2024), research on out-of-class learning has examined motivational and affective processes (Zhang & Lai, 2024), and extramural-English research has considered motivation, self-perceived ability, confidence, and proficiency-related outcomes (Imsa-ard, 2025; Aung & Nikolov, 2026). Thus, the literature provides substantial evidence that different forms of beyond-classroom English engagement are related to learner outcomes. The remaining empirical question is whether the three operational indicators retain associations with the same learner outcomes when their shared variance is considered in a simultaneous model.

The present study addresses this question by examining the three engagement indicators in relation to English-learning motivation and self-perceived English proficiency among first-year Indonesian non-English-major undergraduates. Bivariate correlations are used to describe their pairwise associations, while simultaneous regression models estimate the association of each engagement indicator with each outcome after accounting for the other two indicators. This approach compares patterns of observed association without treating the indicators as validated independent constructs or establishing causal direction. Figure 1 summarizes the analytical framework.

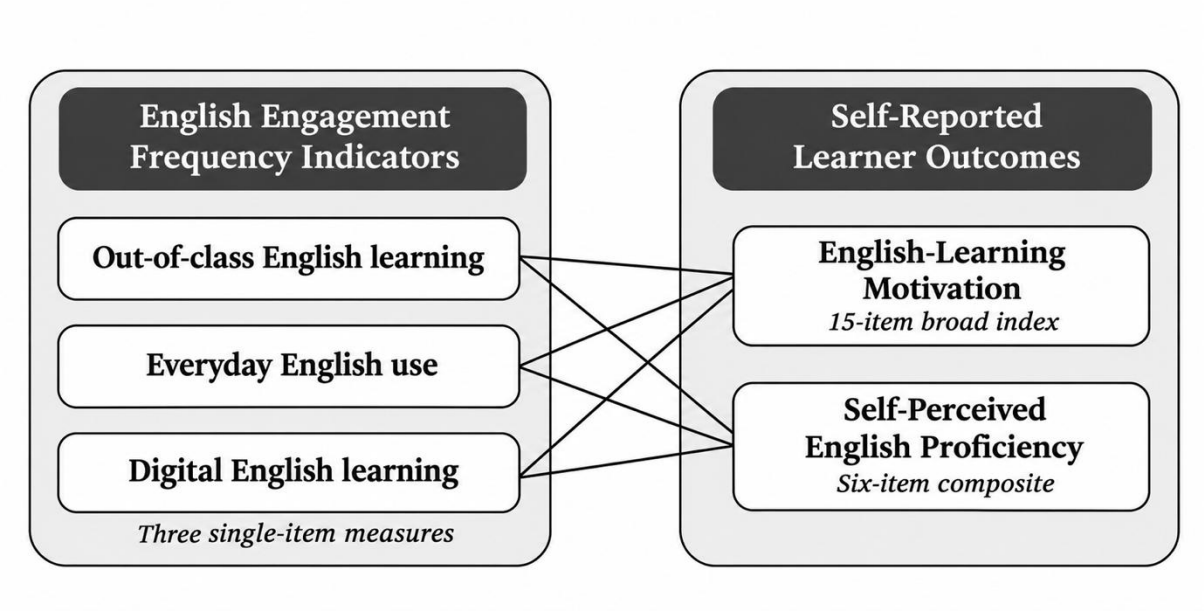


Figure 1. Analytical Framework of English Engagement Indicators and Learner Outcomes

Note. The three engagement variables are single-item frequency indicators that may capture overlapping activities. The lines represent associations examined through bivariate correlations and two separately estimated simultaneous regression models. They do not indicate causal relationships or psychometrically distinct constructs. Digital English learning was not restricted to activities outside formal instruction.

3. Method

3.1. Research Design and Context

This study employed a cross-sectional correlational survey design to examine patterns of English engagement beyond formal instruction and their associations with English-learning motivation and self-perceived English proficiency. The study involved non-English-major undergraduate students at Universitas Muhammadiyah Buton, Indonesia. This design allowed the study to describe students' reported English learning and use and to examine associations among naturally occurring variables without manipulating learning conditions or making causal claims.

Three forms of English engagement were examined: out-of-class English learning, everyday English use, and digital English learning. These engagement indicators were considered in relation to two learner outcomes, namely English-learning motivation and self-perceived English proficiency.

3.2. Participants, Sampling, and Data Preparation

The target population comprised first-year non-English-major undergraduate students enrolled at Universitas Muhammadiyah Buton, Indonesia. Participants were recruited using convenience sampling with voluntary participation. Eligible participants were first-year undergraduate students from non-English-major programs who were accessible through the communication channels used to distribute the online questionnaire. The focus on first-year students was informed by the curricular placement of English courses within the first two semesters in selected non-English-major programs at the institution. This curricular context made the first year a relevant stage for examining students' reported English engagement alongside opportunities for learning and using English beyond scheduled coursework. The inclusion of non-English-major students also allowed the study to examine these associations among learners whose primary academic specialization was not English.

The survey initially yielded 185 submissions. During data screening, five duplicate submissions were identified on the basis of matching respondent information recorded at the time of data collection. For each duplicate pair, the first submission was retained and the subsequent duplicate was removed. The resulting analytic sample consisted of 180 first-year non-English-major undergraduate students, including 65 males and 115 females. Direct personal identifiers were removed from the analytic dataset before statistical analysis. Participant characteristics are summarized in Table 1.

Table 1. Participant Characteristics

Characteristic	Description
Sample size	180 students
Study level	First-year undergraduate students
Academic status	Non-English-major students
Gender	Male: 65 (36.1%); Female: 115 (63.9%)
Age	17–32 years (*M* = 19.79, *SD* = 1.86; median = 19); 88.8% were aged 17–21 years
Stage when English learning began	Elementary school: 89 (49.4%); junior high school: 63 (35.0%); senior high/vocational school: 10 (5.6%); university: 14 (7.8%); other: 4 (2.2%)
Previous English course experience	Yes: 42 (23.3%); No: 137 (76.1%); uncertain response: 1 (0.6%)

Most participants were within the typical age range of first-year university students, with 88.8% aged between 17 and 21 years. Nearly half had begun learning English in elementary school, while a further 35.0% reported beginning in junior high school. Previous participation in an English course was reported by 23.3% of the sample. There were no missing values for the variables included in the present study. Accordingly, all 180 participants were included in the primary descriptive, correlational, and regression analyses.

3.3. Measures

a. English Engagement Indicators

Three single-item indicators were used to assess students' frequency of English learning and use. The exact Indonesian questions were: (1) "*Seberapa sering Anda belajar bahasa Inggris di luar kegiatan perkuliahan?*" (How often do you learn English outside university class activities?); (2) "*Seberapa sering Anda menggunakan bahasa Inggris dalam kehidupan sehari-hari?*" (How often do you use English in everyday life?); and (3) "*Seberapa sering Anda menggunakan media atau teknologi digital untuk belajar bahasa Inggris?*" (How often do you use digital media or technology to learn English?).

The first indicator explicitly referred to learning outside university class activities, the second to English use in everyday life, and the third to learning through digital media or technology. These indicators emphasized different aspects of engagement but were not assumed to represent mutually exclusive activities. In particular, the digital learning item did not specify whether the activity occurred within or outside formal instruction.

All three items were rated on the same five-point ordered frequency scale: 1 = never, 2 = rarely, 3 = sometimes, 4 = often, and 5 = very often. These variables were treated as individual frequency indicators rather than as items forming a common engagement scale. Consequently, no internal-consistency coefficient was calculated for the three engagement indicators. The items measured reported frequency and did not directly assess the duration, quality, or specific purposes of engagement. They were therefore interpreted as broad operational indicators rather than validated measures of distinct engagement constructs.

b. English-Learning Motivation

English-learning motivation was assessed using 16 items adapted from Nguyen and Habók (2021). The source instrument comprised two eight-item components: motivational orientation and motivational intensity. The motivational-orientation items addressed reasons for learning English, including personal interest, communication, future employment, academic success, examinations, course requirements, comparison with more proficient English users, and family expectations. The motivational-intensity items addressed learners' effort, willingness to use English, readiness to undertake additional learning activities, interest in communicating with international others, and intention to continue learning English beyond formal coursework. In the source study, the motivational-orientation component was represented by internal and external orientations, whereas motivational intensity was treated as a separate dimension. Because the present study examined English-learning motivation as a general learner outcome rather than comparing

specific motivational dimensions, these items were combined to provide a broad index of reported motivational orientation and intensity. This operational decision was intended to summarize related aspects of motivation without assuming that they represented a single, psychometrically validated factor.

The items were adapted into Bahasa Indonesia for use with Indonesian non-English-major undergraduates while retaining the substantive content of the source items. Before the main analysis, the adapted questionnaire was pilot tested with 29 respondents to examine item comprehensibility and preliminary internal consistency. Responses were recorded on a five-point agreement scale ranging from 1 (strongly disagree) to 5 (strongly agree). The final item was negatively worded and was therefore reverse scored during scale evaluation. The source instrument likewise employed five-point Likert responses for all 16 items. The original 16-item set, with the negatively worded item reverse scored, showed acceptable preliminary internal consistency (Cronbach's $\alpha = 0.818$). Given the relatively small pilot sample, the pilot was used primarily to assess the functioning and clarity of the adapted questionnaire rather than to establish its factorial structure. The pilot results provided preliminary reliability evidence but did not establish the dimensional structure or cross-cultural measurement equivalence of the adapted instrument. Accordingly, the adaptation and pilot testing were not treated as formal validation of the Indonesian version.

In the full analytic sample, the negatively worded item functioned inconsistently with the other motivation items despite reverse scoring, showing a negative item-rest relationship ($r = -0.059$). Internal consistency was $\alpha = 0.923$ for the 16-item set and increased to $\alpha = 0.942$ when this item was omitted. Because the item showed inconsistent functioning in the main sample and was the only negatively worded item, it was excluded from the composite used in the present analyses. This exclusion was a data-informed scoring decision made after examining the main dataset, rather than a prespecified item-removal criterion or evidence of formal scale revalidation. The final broad motivation index therefore consisted of 15 retained items: four internal motivational-orientation items, four external motivational-orientation items, and seven motivational-intensity items. These items are presented in Table 2. The final broad motivation index was calculated as the mean of the 15 retained items, with higher values indicating stronger reported English-learning motivation. The resulting 15-item index demonstrated high internal consistency (Cronbach's $\alpha = 0.942$). However, this coefficient was interpreted as evidence of internal consistency rather than confirmation of unidimensionality, given the different theoretical dimensions represented by the retained items. To examine the sensitivity of the findings to the data-informed item exclusion, the regression analysis was also repeated using the original 16-item composite, with the negatively worded item reverse scored. The comparison was treated as a scoring sensitivity analysis rather than a separate validation of the motivation measure.

Table 2. Items Comprising the Final 15-Item English-Learning Motivation Index

Code	Source dimension	Item used in the present study
IMO1	Internal motivational orientation	I learn English because I am genuinely interested in learning it.
IMO2	Internal motivational orientation	I learn English so that I can communicate with other people who use English.
IMO3	Internal motivational orientation	I learn English because English proficiency will be useful for my future employment.
IMO4	Internal motivational orientation	I learn English because it can support my academic success.
EMO1	External motivational orientation	I learn English mainly so that I can pass examinations or tests.
EMO2	External motivational orientation	I learn English because it is a required course at my university.
EMO3	External motivational orientation	Other people's English proficiency motivates me to improve my own English ability.

Code	Source dimension	Item used in the present study
EMO4	External motivational orientation	I learn English because I want to meet my family's expectations.
MI1	Motivational intensity	When working on English tasks, I try to understand the material rather than simply complete the task.
MI2	Motivational intensity	When I have opportunities to use English outside the classroom, I try to make use of them.
MI3	Motivational intensity	I am willing to undertake additional English assignments if my lecturer provides them.
MI4	Motivational intensity	I am interested in making friends and communicating in English with people from other countries.
MI5	Motivational intensity	Even if English is no longer taught at university, I will continue to look for other ways to learn it.
MI6	Motivational intensity	I would like English to be used more frequently during English classes.
MI7	Motivational intensity	I would be interested in joining an English club or community if my university provided one.

c. Self-Perceived English Proficiency

Self-perceived English proficiency was assessed using six self-report items covering listening, speaking, reading, writing, vocabulary use, and overall ability to use English for study and everyday communication. Responses were provided on a five-point scale ranging from 1 = very unable to 5 = very able. The six items were used to capture students' judgments of their English ability across several language domains and contexts of use, rather than to measure performance through standardized language assessment.

A composite self-perceived proficiency score was calculated as the mean of the six items, with higher scores representing higher perceived English ability. The six-item measure showed good internal consistency in the present sample (Cronbach's $\alpha = 0.871$). However, internal consistency was not interpreted as sufficient evidence of the measure's content or construct validity. The measure reflects students' perceptions of their own English proficiency and should therefore not be interpreted as an objective language-proficiency test. Because no independent proficiency assessment was used to corroborate these self-ratings, the resulting composite was treated as a study-specific indicator of perceived English ability, and its interpretation was limited accordingly.

3.4. Data Collection Procedure

Data were collected using an online questionnaire administered to non-English-major undergraduate students at Universitas Muhammadiyah Buton. The questionnaire collected demographic and English-learning background information and included three frequency indicators of English engagement, 16 adapted motivation items, and six items assessing self-perceived English proficiency. The questionnaire was presented in Bahasa Indonesia to facilitate participants' understanding of the items.

Institutional permission to conduct the study was granted by the Institute for Research and Community Service (Lembaga Penelitian dan Pengabdian kepada Masyarakat, LPPM) of Universitas Muhammadiyah Buton under Research Letter No. B/1032/UMB.3.2/PTh.01.04/2026, dated 13 May 2026.

A pilot administration of the questionnaire was conducted with 29 respondents to examine the clarity and preliminary reliability of the adapted items. The pilot version retained all 16 motivation items, including the negatively worded item. The pilot results indicated acceptable preliminary internal consistency for the motivation item set (Cronbach's $\alpha = 0.818$ after reverse scoring the negatively worded item). Following the pilot stage, the questionnaire was administered electronically through Google Forms for the main study. Participation was voluntary.

3.5. Data Analysis

The data were analyzed using JASP 0.97, with supplementary regression robustness analyses conducted independently. Analyses were organized according to the three research questions. For the first research question, the frequency of out-of-class English learning, everyday English use, and digital English learning was summarized using frequencies, percentages, and medians. Because these variables were single-item ordered frequency indicators, response distributions and medians were treated as the primary descriptive summaries. Means and standard deviations were also reported as numerical summaries of the 1-5 response codes.

For the second research question, Spearman's rank-order correlation analysis was employed to examine the associations among the three engagement indicators, motivation, and self-perceived English proficiency. This nonparametric procedure was considered appropriate because the engagement indicators were measured using ordered five-category response scales, making it unsuitable to assume that the response options represented strictly equal intervals. Spearman's correlation was therefore used to estimate the direction and strength of the relationships among the variables without requiring the interval-level and distributional assumptions associated with parametric correlation analysis. This approach also provided a more suitable basis for examining whether higher levels of engagement tended to be associated with stronger motivation and higher self-perceived English proficiency.

For the third research question, two simultaneous multiple linear regression models were estimated. Motivation was entered as the dependent variable in the first model and self-perceived English proficiency as the dependent variable in the second model. Out-of-class English learning, everyday English use, and digital English learning were entered simultaneously as predictors in both models. The simultaneous approach was used to estimate the unique association of each engagement indicator with the outcome while accounting for overlap with the other two indicators. For these regression analyses, the 1-5 engagement scores were treated pragmatically as numeric predictors, which assumes approximate equal spacing between adjacent response categories. Model diagnostics included residual plots, Q-Q plots, variance inflation factors, standardized residuals, and Cook's distance.

All 180 observations were retained in the primary analyses. Sensitivity analyses were conducted by temporarily excluding observations with absolute standardized residuals exceeding 3 to examine the stability of the regression findings. Robustness was further assessed using HC3 heteroskedasticity-consistent standard errors, 95% confidence intervals, and percentile bootstrap confidence intervals based on 4,000 resamples. The motivation regression was also repeated using the original 16-item composite, with the negatively worded item reverse scored, to assess sensitivity to the item-exclusion decision.

4. Results

All analyses were conducted using 180 complete cases. The 15-item motivation scale demonstrated excellent internal consistency, with a Cronbach's alpha of 0.942, while the six-item self-perceived English proficiency scale also showed good reliability, with an alpha of 0.871. No missing values were identified for any of the variables included in the analysis, allowing the full sample to be retained across all statistical procedures.

4.1. Patterns of English Engagement Beyond Formal Instruction

Table 3 presents the frequency distributions of out-of-class English learning, everyday English use, and digital English learning. Out-of-class English learning had a median of 3, corresponding to sometimes. Most students reported engaging in out-of-class English learning either sometimes (45.0%) or rarely (33.9%), whereas 10.0% reported doing so often or very often. Everyday English use had a median of 2, corresponding to rarely. A total of 36.1% of the students reported using English rarely in everyday life and 37.8% sometimes, while 8.4% reported using English often or very often.

Digital English learning showed a somewhat different pattern. Its median was 3, with 41.1% of the students reporting that they engaged in digital English learning sometimes. A further 20.6% reported doing so often and 4.4% very often. Thus, frequent or very frequent engagement was reported more often for digital English learning (25.0%) than for out-of-class English learning (10.0%) or everyday English use (8.4%). These figures represent descriptive comparisons rather than inferential differences among the three engagement indicators.

Table 3. Frequency Distribution of the Three English Engagement Indicators

Engagement indicator	Median	Never, n (%)	Rarely, n (%)	Sometimes, n (%)	Often, n (%)	Very often, n (%)
Out-of-class English learning	3	20 (11.1)	61 (33.9)	81 (45.0)	15 (8.3)	3 (1.7)
Everyday English use	2	32 (17.8)	65 (36.1)	68 (37.8)	12 (6.7)	3 (1.7)
Digital English learning	3	8 (4.4)	53 (29.4)	74 (41.1)	37 (20.6)	8 (4.4)

4.2. Associations among English Engagement, Motivation, and Self-Perceived Proficiency

Spearman correlation analysis was conducted to examine associations among the three engagement indicators, motivation, and self-perceived English proficiency. The three forms of engagement were positively interrelated. Out-of-class English learning was positively associated with everyday English use ($\rho = 0.485$, $p < 0.001$) and digital English learning ($\rho = 0.492$, $p < 0.001$). Everyday English use was also positively associated with digital English learning ($\rho = 0.331$, $p < 0.001$).

All three engagement indicators were positively associated with motivation. Out-of-class English learning was associated with motivation at $\rho = 0.347$ ($p < 0.001$), digital English learning at $\rho = 0.309$ ($p < 0.001$), and everyday English use at $\rho = 0.200$ ($p = 0.007$). Positive associations were also found with self-perceived English proficiency: $\rho = 0.443$ ($p < 0.001$) for out-of-class English learning, $\rho = 0.425$ ($p < 0.001$) for everyday English use, and $\rho = 0.280$ ($p < 0.001$) for digital English learning. Motivation was also positively associated with self-perceived proficiency ($\rho = 0.293$, $p < 0.001$). Overall, all three forms of engagement were positively related to both learner outcomes, although the magnitude of the associations varied across engagement indicators and outcomes.

Table 4. Descriptive Statistics and Spearman Correlations

Variable	M	SD	1	2	3	4	5
1. Out-of-class English learning	2.556	0.860	—				
2. Everyday English use	2.383	0.911	0.485***	—			
3. Digital English learning	2.911	0.923	0.492***	0.331***	—		
4. Motivation	3.870	0.620	0.347***	0.200**	0.309***	—	
5. Self-perceived English proficiency	3.020	0.608	0.443***	0.425***	0.280***	0.293***	—

4.3. Unique Associations with Motivation

A simultaneous multiple regression was conducted to examine the unique associations of the three engagement indicators with motivation. The overall model was statistically significant, $F(3, 176) = 8.55$, $p < 0.001$, with $R^2 = 0.127$ and adjusted $R^2 = 0.112$. Thus, the three engagement indicators jointly accounted for 12.7% of the sample variance in motivation.

As shown in Table 5, digital English learning showed a significant unique positive association with motivation ($B = 0.163$, $SE = 0.055$, $\beta = 0.243$, $t = 3.00$, $p = 0.003$). Out-of-class English learning did not reach statistical significance when the three engagement indicators were considered simultaneously ($B = 0.116$, $SE = 0.065$, $\beta = 0.162$, $t = 1.79$, $p = 0.076$). Everyday English use was also nonsignificant ($B = 0.006$, $SE = 0.057$, $\beta = 0.009$, $t = 0.11$, $p = 0.915$). The 95% confidence interval for digital English learning excluded zero, whereas those for out-of-class English learning and everyday English use included zero.

Table 5. Simultaneous Multiple Regression Predicting Motivation

Predictor	B	SE	β	t	p	95% CI for B	VIF
Intercept	3.082	0.167	—	18.43	< 0.001	[2.752, 3.412]	—
Out-of-class English learning	0.116	0.065	0.162	1.79	0.076	[-0.012, 0.245]	1.652
Everyday English use	0.006	0.057	0.009	0.11	0.915	[-0.106, 0.118]	1.409
Digital English learning	0.163	0.055	0.243	3.00	0.003	[0.056, 0.271]	1.331

Collinearity diagnostics indicated no serious multicollinearity, with VIF values ranging from 1.331 to 1.652. Residual diagnostics identified three observations—cases 29, 50, and 108—with standardized residuals exceeding |3| (− 3.881, − 5.056, and − 4.795, respectively). Their corresponding Cook's distances were 0.043, 0.055, and 0.123. These observations were checked against the original survey records, with no discrepancies identified between their recorded and analyzed responses. The Q–Q plot likewise showed marked deviations in the lower tail (Figure 2). The observations were retained in the primary model and excluded only temporarily for sensitivity analysis.

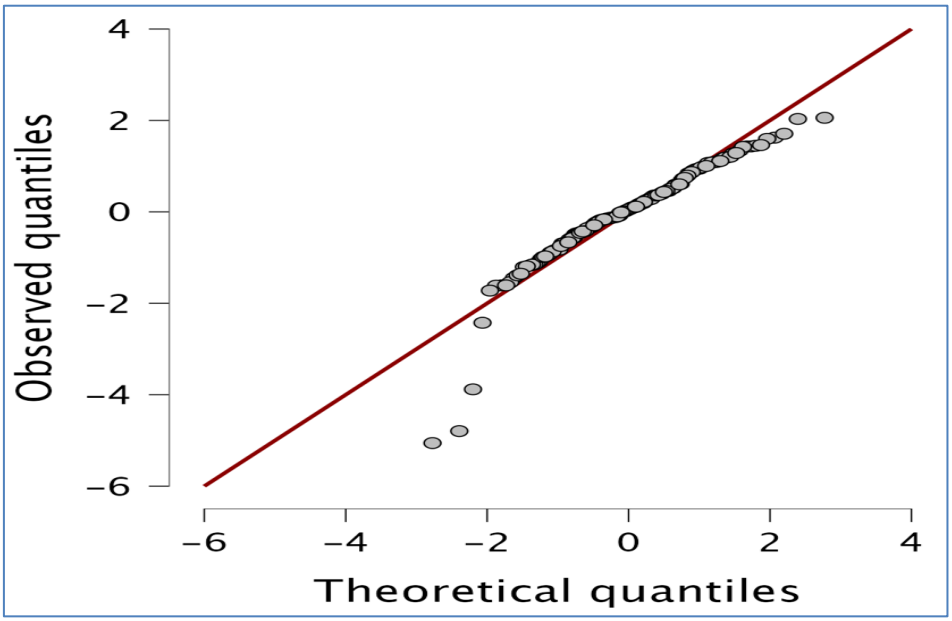


Figure 2. Q–Q Plot of Standardized Residuals for the Motivation Regression Model

The sensitivity model remained statistically significant, $F(3, 173) = 11.81$, $p < 0.001$, with $R^2 = 0.170$ and adjusted $R^2 = 0.156$. Digital English learning remained significantly associated with motivation ($B = 0.119$, $\beta = 0.216$, $p = 0.008$), whereas everyday English use remained nonsignificant ($B = 0.002$, $\beta = 0.004$, $p = 0.961$). In contrast, out-of-class English learning became statistically significant ($B = 0.152$, $\beta = 0.258$, $p = 0.004$). This change indicated that the estimated association between out-of-class English learning and motivation was sensitive to the treatment of extreme-residual observations.

Additional robustness analyses using HC3 standard errors supported the positive association between digital English learning and motivation (95% CI [0.044, 0.283], p = 0.008), while the confidence interval for out-of-class English learning included zero (95% CI [-0.015, 0.248], p = 0.083). The bootstrap confidence intervals showed a similar pattern.

A further sensitivity analysis using the original 16-item motivation composite showed that out-of-class English learning reached conventional statistical significance under ordinary least squares estimation (B = 0.122, p = 0.045). However, this association did not remain significant with HC3 standard errors (95% CI [-0.002, 0.247], p = 0.054), and its bootstrap confidence interval also included zero. Overall, digital English learning showed the more consistent positive association with motivation, whereas the association involving out-of-class English learning remained sensitive to analytical decisions.

4.4. Unique Associations with Self-Perceived English Proficiency

A second simultaneous multiple regression examined the unique associations of the three engagement indicators with self-perceived English proficiency. The overall model was statistically significant, $F(3, 176) = 19.93$, $p < 0.001$, with $R^2 = 0.254$ and adjusted $R^2 = 0.241$. Thus, the three engagement indicators jointly accounted for 25.4% of the sample variance in self-perceived English proficiency.

Out-of-class English learning showed a significant unique positive association with self-perceived proficiency ($B = 0.208$, $SE = 0.059$, $\beta = 0.295$, $t = 3.52$, $p < 0.001$). Everyday English use was also positively associated with self-perceived proficiency ($B = 0.165$, $SE = 0.052$, $\beta = 0.248$, $t = 3.20$, $p = 0.002$). In contrast, digital English learning did not show a significant unique association after the other engagement indicators were taken into account ($B = 0.036$, $SE = 0.050$, $\beta = 0.054$, $t = 0.72$, $p = 0.470$).

Table 6. Simultaneous Multiple Regression Predicting Self-Perceived English Proficiency

Predictor	B	SE	β	t	p	95% CI for B	VIF
Intercept	1.989	0.152	—	13.10	< 0.001	[1.690, 2.289]	—
Out-of-class English learning	0.208	0.059	0.295	3.52	< 0.001	[0.092, 0.325]	1.652
Everyday English use	0.165	0.052	0.248	3.20	0.002	[0.063, 0.267]	1.409
Digital English learning	0.036	0.050	0.054	0.72	0.470	[-0.062, 0.134]	1.331

Diagnostic inspection indicated no serious multicollinearity, with VIF values ranging from 1.331 to 1.652. The residuals-versus-predicted plot did not indicate a clear systematic pattern or pronounced funnel-shaped dispersion (Figure 3). However, two observations (cases 63 and 65) had standardized residuals exceeding |3| (4.493 and 4.107, respectively). The largest Cook's distance was 0.187 (case 70), indicating that potential influence warranted consideration, although no Cook's distance approached 1. All observations were retained in the primary model.

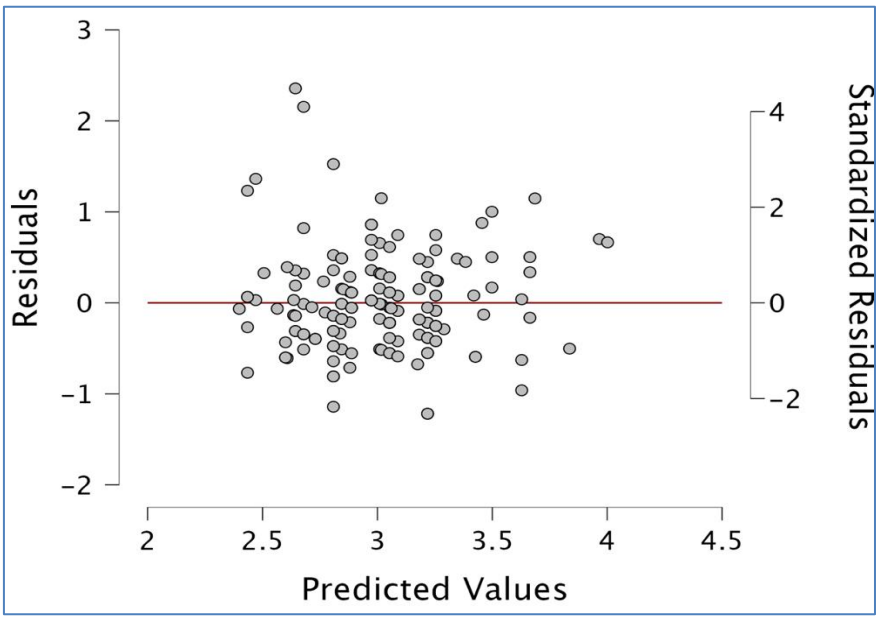


Figure 3. Residuals versus Predicted Values for the Self-Perceived English Proficiency Regression Model

A sensitivity analysis was conducted after temporarily excluding cases 63 and 65 ($N = 178$). The model remained statistically significant, $F(3, 174) = 30.00$, $p < 0.001$, with $R^2 = 0.341$. Out-of-class English learning ($B = 0.201$, $p < 0.001$) and everyday English use ($B = 0.212$, $p < 0.001$) remained positively associated with self-perceived proficiency, whereas digital English learning remained nonsignificant ($B = 0.037$, $p = 0.403$). Thus, the primary pattern of associations was retained in this sensitivity analysis.

Additional robustness analyses using HC3 standard errors supported the positive associations of out-of-class English learning (95% CI [0.101, 0.316], $p < 0.001$) and everyday English use (95% CI [0.049, 0.282], $p = 0.006$) with self-perceived proficiency. The confidence interval for digital English learning included zero (95% CI [-0.073, 0.145], $p = 0.518$). Bootstrap confidence intervals based on 4,000 resamples supported the same overall pattern. These findings concern students' self-perceived English ability rather than independently assessed language proficiency.

5. Discussion

5.1. Patterns of English Engagement Beyond Formal Instruction

Engagement beyond formal instruction was generally occasional rather than intensive in this sample. Most students reported out-of-class English learning and digital English learning at the sometimes level, whereas everyday English use was concentrated in the rarely and sometimes categories. Digital English learning was more visible at the higher frequency levels: 25.0% reported engaging often or very often, compared with 10.0% for out-of-class English learning and 8.4% for everyday English use. Because these comparisons were descriptive, they do not establish statistically significant differences among the three indicators. They do, however, indicate that digital English learning formed a comparatively visible part of students' English engagement beyond formal instruction.

This pattern is consistent with evidence that Indonesian university students use both digital resources and autonomous practices to engage with English beyond the classroom, while access and participation vary by academic field and learning context (Anggraini et al., 2022; Daflizar, 2020). Research in another Asian EFL context likewise suggests that non-English majors may engage differently from English majors and may use English-only resources less frequently (Nguyen et al., 2024). Taken together, this work places the present frequency pattern within a broader context in which beyond-classroom opportunities are available but unevenly taken up.

The relatively limited everyday English use is therefore notable. For non-English-major students in an EFL environment, digital access may provide frequent opportunities to encounter English without making English a routine language of daily communication or activity. The present pattern thus suggests that availability through digital media and routine everyday use should not be treated as equivalent. This interpretation is consistent with literature showing that out-of-class, extramural, and digital engagement overlap while differing in purpose, context, and mode of participation. The descriptive findings add to the Indonesian evidence by showing that these three forms coexist within the same learner population but have different frequency profiles.

5.2. English Engagement and Motivation

All three engagement indicators were positively associated with English-learning motivation at the bivariate level, although the magnitude differed across forms. This pattern is consistent with research that links engagement beyond formal instruction with motivational and affective processes, including motivation, self-confidence, willingness to communicate, the Ideal L2 Self, and foreign-language enjoyment (Lee & Drajati, 2019; Liu, Zhang, et al., 2024; Zhang & Lai, 2024; Amengual-Pizarro, 2026). The bivariate results therefore place each form of engagement within the broader motivational pattern reported in previous studies, while leaving open whether any form contributes information beyond the others.

The simultaneous model provides that distinction. After shared variance among the three indicators was taken into account, digital English learning was the only form with a statistically significant unique association with motivation in the primary model. This pattern is consistent with research linking digitally mediated English learning with motivation and related affective processes (Lee & Drajati, 2019; Liu, Zhang, et al., 2024; Liu, Zou, et al., 2025; Suherman et al., 2024). One possible interpretation is that some digitally mediated English-learning activities may align with learners' interests and learning goals. However, the digital engagement indicator measured frequency rather than activity type, learning purpose, self-direction, or engagement quality. Consequently, this explanation remains tentative rather than a mechanism established by the present findings.

The out-of-class English learning result was less stable. It was positively correlated with motivation, and its regression coefficient remained positive in the primary model, but the unique association did not reach statistical significance with all 180 cases. After three observations with extreme standardized residuals were

temporarily excluded, the association became statistically significant, while digital English learning remained significant in both models. Further robustness analyses reinforced this uncertainty, as the HC3 and bootstrap confidence intervals for out-of-class English learning included zero in the full-sample model. A separate sensitivity analysis using the original 16-item motivation index produced a significant coefficient under conventional regression estimation, but the corresponding HC3 and bootstrap confidence intervals still included zero. These findings indicate that the unique association between out-of-class English learning and motivation was sensitive to both the treatment of extreme-residual observations and the scoring of the motivation index. This result warrants further examination with larger samples and more detailed measures rather than either dismissing the association or treating the sensitivity model as definitive.

Everyday English use showed a different pattern. Its bivariate association with motivation was positive, but its regression coefficient was near zero once out-of-class English learning and digital English learning were included. In these data, therefore, everyday English use contributed little unique variance in motivation beyond the variance it shared with the other forms of engagement. The intercorrelations among the indicators make shared variance plausible, but the analysis does not identify the mechanism.

Directionality also remains unresolved. More motivated learners may seek out digital and out-of-class English activities, and such engagement may also provide experiences that help sustain motivation. The cross-sectional design cannot distinguish these possibilities. The findings therefore indicate association rather than a one-way causal process, with digital English learning showing the most consistent unique association with motivation in this sample. These findings concern a broad self-reported motivation index combining motivational orientation and intensity; they do not establish whether the observed associations differ across specific motivational dimensions.

5.3. English Engagement and Self-Perceived English Proficiency

All three engagement indicators were positively correlated with self-perceived English proficiency, with stronger bivariate associations for out-of-class English learning and everyday English use than for digital English learning. In the simultaneous model, out-of-class English learning and everyday English use retained unique positive associations, whereas digital English learning did not. Together, the three indicators accounted for 25.4% of the sample variance in self-perceived English proficiency. These associations remained consistent in the case-exclusion sensitivity analysis and were supported by HC3 robust and bootstrap confidence intervals. The results therefore indicate different association patterns across the measured indicators rather than demonstrating that the underlying forms of engagement are psychometrically distinct.

This pattern is consistent with research linking extramural English engagement with proficiency-related outcomes, self-perceived ability, confidence, and task engagement (Uztosun & Sundqvist, 2025; Imsa-ard, 2025; Aung & Nikolov, 2026). Such research suggests that engagement beyond formal instruction may relate to different learner outcomes depending on the nature of the activities and the characteristics of learners. However, the present findings concern students' perceptions of their English proficiency rather than independently assessed language performance.

The positive association between everyday English use and self-perceived proficiency may reflect the relevance of English encounters beyond deliberate study. Everyday use can potentially involve communication, information access, entertainment, and other routine activities. However, the present indicator measured only the reported frequency of English use and did not identify the specific activities undertaken by participants. Repeated use in such contexts may help learners experience English as a communicative resource rather than only as an academic subject. This remains a possible interpretation rather than an explanation demonstrated by the data, as the study did not directly measure communicative experiences, familiarity, or confidence.

Digital English learning, by contrast, was positively associated with self-perceived English proficiency at the bivariate level but contributed little unique variance once the other two indicators were included. This does not mean that digital English learning was unrelated to self-perceived English proficiency. Rather, its bivariate association may partly reflect experiences also captured by out-of-class English learning and everyday English use. However, the extent of this overlap cannot be determined from the single-item measures. Digital learning may occur during formal coursework, independent learning, or everyday activities, and the questionnaire did not distinguish among these contexts.

Previous research further suggests that outcomes of digital engagement depend on what learners do and why they do it, not only on how often they engage. Different purposes for informal online English engagement have been associated differently with receptive vocabulary knowledge, and meaning-focused and form-focused IDLE have shown contrasting relationships with achievement and L2 confidence (Lai & Wang, 2025; Zou et al., 2026). A single frequency item may therefore be too coarse to capture the aspects of digital English learning most closely associated with self-perceived English proficiency. Accordingly, the nonsignificant regression coefficient should not be interpreted as evidence that digital English learning has no relationship with language development or perceived ability.

An important qualification is that the outcome was self-perceived English proficiency, not objectively assessed proficiency. The findings concern students' perceptions of their English ability rather than performance on an independent language test. They should therefore not be interpreted as evidence that out-of-class English learning or everyday English use objectively improves proficiency. The direct result is that these forms showed unique positive associations with students' self-perceived English proficiency. Furthermore, the cross-sectional and self-report design does not establish whether engagement shapes perceived ability, whether students with higher perceived ability engage more frequently, or whether both are associated with other learner characteristics.

5.4. Differentiated Associations Across Engagement Forms

Taken together, the findings indicate that the measured indicators of out-of-class English learning, everyday English use, and digital English learning were positively interrelated but showed different patterns of association across the two learner outcomes. Their intercorrelations indicate empirical overlap, whereas the simultaneous regression models showed that the unique association of each indicator varied according to the outcome considered. These results therefore support differentiation at the level of the operational indicators and their association patterns, rather than establishing that the underlying engagement constructs are psychometrically distinct. Moreover, the three indicators were not necessarily mutually exclusive, and the digital English learning item did not explicitly distinguish activities conducted within or outside formal instruction.

For motivation, digital English learning showed the most consistent unique association; the out-of-class English learning association was sensitivity-dependent, and everyday English use contributed little unique variance. For self-perceived English proficiency, out-of-class English learning and everyday English use retained unique positive associations, whereas digital English learning did not. These contrasting patterns illustrate why bivariate and simultaneous analyses answer different questions: each indicator was related to both outcomes when examined separately, but not each retained a unique association after shared variance among the three indicators was taken into account. However, these contrasts describe patterns across two regression models and should not be interpreted as formal statistical evidence that the strength of an association differs between the two outcomes.

This interpretation aligns with research identifying conceptual overlap and blurred boundaries among informal digital learning, extramural English, and other forms of beyond-classroom learning, while recent work has also compared these settings more directly (Guo & Lee, 2023; Zhang & Liu, 2024; Rezai et al., 2025). By examining three related engagement indicators against the same two learner outcomes, the present study contributes to that comparative direction without assuming that the indicators represent fully separate domains.

The results also qualify the general proposition that greater English engagement is uniformly associated with desirable learner outcomes. In this study, the pattern depended on both the form of engagement and the outcome considered. This is consistent with evidence that associations differ across in-class, out-of-class, and digital contexts and that the purpose and type of digital activity are related to different outcomes (Lee & Hsieh, 2019; Lai & Wang, 2025; Zou et al., 2026). However, the present study did not assess the specific purposes or types of engagement that might explain these patterns. Accounts of beyond-classroom learning may therefore be more informative when they retain information about context and purpose rather than reducing diverse activities to a single measure of exposure.

From a pedagogical perspective, the findings suggest caution in assuming that one mode of engagement is equally relevant to all learner outcomes. For non-English-major students, higher education programs could consider providing varied opportunities for digital learning, out-of-class practice, and everyday English use while evaluating how students engage with these opportunities. Digital English learning was more

consistently associated with motivation in this sample, whereas out-of-class English learning and everyday English use showed unique associations with self-perceived English proficiency. For non-English-major students, program design could therefore consider varied opportunities for purposeful digital learning, independent out-of-class practice, and meaningful everyday English use rather than relying on a single type of extracurricular engagement. These are implications for program design and evaluation, not causal effects demonstrated by the study.

Several methodological limitations constrain the interpretation and generalizability of these findings. The three engagement variables were single-item ordinal frequency indicators, so they captured how often students engaged but not what they did, why they did it, how long engagement lasted, or how meaningful it was. The regression models also treated the 1–5 response categories as approximately equally spaced. The broad motivation index combined theoretically different dimensions of motivational orientation and intensity without establishing a single-factor structure in the present sample. Furthermore, the exclusion of one negatively worded item was based on its functioning in the main dataset rather than on a prespecified scoring rule. In addition, motivation and self-perceived English proficiency were self-reported, and all predictors and outcomes were collected through the same questionnaire at a single time point, leaving the observed associations potentially susceptible to common-method variance. Self-perceived proficiency was not corroborated through an independent assessment of English performance. The study was also conducted at a single Indonesian university using convenience sampling with voluntary participation, and all participants were first-year non-English-major undergraduates. These features limit the extent to which the findings can be generalized to students from other universities, academic stages, or institutional contexts. Finally, the cross-sectional design does not establish temporal or causal direction. Future research using activity-specific measures, indicators of purpose and quality, probability or broader multi-site sampling, longitudinal designs, and objective proficiency assessments could test these patterns more directly.

6. Conclusion

This study examined out-of-class English learning, everyday English use, and digital English learning among first-year Indonesian non-English-major undergraduates and their associations with English-learning motivation and self-perceived English proficiency. Students generally reported occasional engagement beyond formal instruction, with digital English learning more frequently represented in the higher response categories. All three engagement indicators were positively associated with both outcomes at the bivariate level, but the simultaneous models showed different unique patterns. Digital English learning had the most consistent unique association with motivation, while the out-of-class English learning association was sensitive to the treatment of extreme-residual observations and the scoring of the motivation index. Everyday English use contributed little unique variance in motivation. For self-perceived English proficiency, out-of-class English learning and everyday English use retained unique positive associations, whereas digital English learning did not show a statistically significant unique association after accounting for the other two indicators.

These findings suggest that beyond-classroom English engagement can be examined through overlapping but analytically differentiated indicators, without assuming that they represent psychometrically distinct constructs. The observed association patterns differed according to the learner outcome considered, although differences between the two outcome models were not formally tested. This distinction supports examining multiple forms within the same analytical framework and retaining information about how and where students engage with English. For higher education settings serving non-English-major students, the findings also suggest considering varied opportunities for purposeful digital learning, independent out-of-class practice, and everyday English use, while recognizing that the observed associations do not establish the effectiveness of these activities.

Interpretation should remain limited by the single-item ordinal measures of engagement, the use of self-report outcomes, the cross-sectional design, and convenience sampling at a single institution. The broad motivation index combined theoretically different dimensions, and its factor structure was not independently established in the present sample. The engagement indicators did not capture specific activities, purposes, duration, or quality, and self-perceived English proficiency should not be treated as equivalent to objectively assessed proficiency. Future research could use multidimensional engagement measures, independent proficiency assessments, longitudinal designs, and larger, more diverse samples to examine these relationships more precisely.

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