RESEARCH ARTICLE

Extramural English activities and their relationship with L2 English proficiency at a Turkish university context

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Abstract

Although Extramural English (EE) has been widely studied in various international contexts, research in Türkiye remains limited, particularly regarding the relationship between EE engagement and English language proficiency. This study aims to address this gap by profiling Turkish university students' engagement in EE activities and examining whether the frequency of such engagement correlates with English proficiency. Data were collected from 59 English-major students (average age = 19.74) at a university in Istanbul. Participants reported their weekly engagement in six EE activities via a questionnaire and submitted scores from an English proficiency exam comprising reading/listening, speaking, and writing components. Descriptive statistics and Spearman's rank-order correlations were used for analysis. Results showed that participants spent the most time on EE listening and EE watching activities. Four EE activities—listening, watching, spoken interaction, and writing—correlated positively with overall proficiency and reading/listening scores. EE reading/listening, and writing were also related to speaking scores, but no EE activity correlated with writing proficiency. EE gaming showed no significant relationships with any proficiency measure. While the popularity of EE activities in Türkiye aligns with international findings, the skill-specific correlations show a more complex picture. Implications for language learning and directions for future research are discussed.

https://doi.org/10.47216/literacytrek.1691753

Keywords

English language learning in Türkiye, Informal language learning, Extramural English, L2 English proficiency.

Submission date

05.05.2025

Acceptance date

14.06.2025

Introduction

In the past, foreign/second/additional language (L2) learning environments were primarily confined to formal classroom instruction where teachers designed learning based on a curriculum. However, increasing digitalisation has reshaped the concept of L2 learning environments, as learners now encounter multiple languages extensively in

their everyday life, contributing to their L2 development either intentionally or incidentally (Guo & Lee, 2023; Kusyk et al., 2023). As a result, everyday environments where individuals are exposed to the target language have become new L2 learning environments. This shift has amplified the role of informal language learning (ILL), defined as "any activities taken consciously or unconsciously by a learner outside of formal instruction that lead to an increase in the learner's ability to communicate in a second (or other, non-native) language" (Dressman, 2020, p. 4). Recognising the developments in ILL, Sundqvist (2024) repositioned her relevant concept, extramural English (EE), as the foundation of L2 learning in their model of the so-called L2 English Learning Pyramid (Sundqvist & Sylvén, 2016). This suggests that L2 learning is primarily driven by ILL rather than formal classroom instruction.

The growing emphasis on ILL is driven by empirical evidence from previous studies which have shown that learners with little to no formal instruction can still develop high L2 proficiency through informal exposure (e.g., De Wilde et al., 2020; Puimège & Peters, 2019). In a scoping review of research on ILL published between 2000 and 2020, Kusyk et al. (2025) found that, out of 107 studies exploring the connection between ILL and L2 development, 74% reported a positive correlation, 22% showed mixed or inclusive results, and only 4% found no connection. These consistent findings highlight that ILL is an important part of L2 learning.

In their scoping review, Kusyk et al. (2025) also highlighted that research on ILL has been predominantly conducted in countries such as Sweden, Finland, France, Germany, Hong Kong, and Mainland China. This indicates a need for broader geographical representation in ILL research. Despite its popularity in several countries, ILL research in the Turkish context is scant. To the best of our knowledge, only three published studies (Coskun & Mutlu, 2017; Ipek & Mutlu, 2022; Uztosun & Kök, 2023) and two unpublished M.A. dissertations (Bardak, 2023; Engin, 2023) have explored ILL in Türkiye. Furthermore, none of these studies has addressed whether a relationship exists between ILL and L2 proficiency. This shows that, while this field of research is well established in several countries, it remains an emerging area of investigation in the Turkish context. Consequently, additional research is required to explore whether the

positive associations identified between ILL and L2 English proficiency in other contexts are also evident in the Turkish context.

This study addresses this gap. It is the first study to examine whether the frequency of ILL activities is related to L2 English proficiency in Turkish universities. This study aims to address the following research questions.

1. How much time do Turkish university students spend on specific Extramural English activities?

2. Are there significant relationships between specific EE activities and L2 English proficiency (i.e., reading/listening, writing, speaking)?

Extramural English as a Concept of Informal Language Learning

The growing interest in ILL research, coupled with the positive findings of previous studies, has prompted researchers to conceptualise ILL, leading to the emergence of several related terms. Some of these concepts adopted a broader perspective, such as *Recreational Language Learning* (Chik & Ho, 2017) and *Informal Second Language Learning* (Arndt & Woore, 2018) – while others narrow the focus to technology-mediated activities, including *Language Learning in Digital Wilds* (Sauro & Zourou, 2019). Among these related concepts, three are English-specific: *Online Informal Learning of English* (Sockett, 2013), *Informal Digital Learning of English* (Lee & Dressman, 2018), and *Extramural English* (Sundqvist, 2009). Given that the present research is not limited to online and digital activities but considers a broader range of out-of-class English language experiences, the concept of Extramural English (EE) is adopted.

EE, a term proposed by Sundqvist (2009), refers to English learned outside of formal school contexts – literally, 'English outside the walls'. Two key variables define EE. The first concerns the initiating agent of the activity: EE must be voluntarily initiated by the learner, rather than assigned by teachers or parents. The second variable concerns the physical location of the learning – EE typically takes place outside the classrooms. However, given technological advancements since 2009, it is important to

acknowledge that EE can now also occur within the classroom, for example, a student could watch English videos during breaks.

In her original conceptualisation, Sundqvist (2009) also emphasised that EE may or may not involve a deliberate intention to learn English. In other words, learners can engage in EE both intentionally and unintentionally, and even encounter it incidentally, for example, reading an English advertisement in a store. Examples of EE activities include, but are not limited to, watching films or series, listening to music, playing video games, and browsing English-language websites (Sundqvist & Sylvén, 2016).

Theoretical Framework

Given the varied nature of EE activities, the concept aligns with several theories of second language acquisition (SLA) (see Sundqvist & Sylvén, 2016; Toffoli & Sockett, 2010). Firstly, EE reflects several of Krashen's (1982) hypotheses, particularly the input and affective filter hypotheses (Toffoli & Sockett, 2010). EE activities provide people with rich, comprehensible input while lowering their affective filters, as they are typically done for enjoyment without affective pressure. Secondly, EE also supports Swain's output hypothesis (1995) (Toffoli & Sockett, 2010), since certain activities (e.g., playing board games, writing text messages) prompt people to produce spoken and written outputs. Moreover, interactive EE activities (e.g., online gaming, phone conversations) align with Long's (1981) interaction hypothesis, highlighting the importance of negotiation of meaning in making input comprehensible. Furthermore, EE activities involving interaction with others are grounded in a socio-constructivist view of learning, which emphasises that knowledge is constructed with others (Toffoli & Sockett, 2010) and can be understood within a sociocultural framework where learning is mediated by social interaction (Lantolf & Thorne, 2006; Vygotsky, 1978). Taken together, these perspectives demonstrate that the concept of EE, depending on the activity, is theoretically grounded in several foundational theories in SLA.

In addition to the hypotheses summarised above, EE is also closely tied to affective factors in L2 learning. The voluntary nature of EE activities and the fact that they are not initiated through formal education increase the likelihood that people are

driven by intrinsic motivation, as proposed by self-determination theory (Ryan & Deci, 2000). As Sundqvist and Sylvén (2016) emphasise, individuals engage in EE activities because they find them enjoyable and personally rewarding, rather than due to external pressure or obligations. This, in turn, helps reduce negative emotions such as anxiety and fosters positive emotions like enjoyment (Dewaele & MacIntyre, 2014). Given the empirical findings in learner psychology, such engagement appears to be a beneficial L2 learning experience.

Furthermore, EE activities that are carried out intentionally to improve L2 competence align with Papi and Hiver's (2024) Proactive Language Learning Theory. This theory highlights learners' active roles in identifying linguistic weaknesses, setting goals, and planning actions to address these gaps. From an EE perspective, a learner who feels little confidence in their oral communication skills and chooses to create opportunities for speaking practice during their free time exemplifies the principles of proactive language learning. Considering these insights, EE draws on multiple arguments from established and contemporary theoretical frameworks, which may help explain why it has consistently benefited L2 learning.

Previous Research on the Benefits of Informal Language Learning for L2 Learning

Several studies have reported positive relationships between ILL and L2 proficiency, as shown in two recent review articles. Zhang et al. (2021), in their review of 33 studies, found that among the 23 studies focusing on the effectiveness of ILL for L2 learning, 19 reported positive effects, three reported negative outcomes, and one had mixed findings. These effects included gains in grammar, vocabulary, and the four main language skills – reading, writing, listening, and speaking. Similarly, Kusky et al. (2025), in a systematic review of 206 studies on ILL between 2000 and 2020, reported that 74% found positive associations with L2 development, 22% found mixed or inconclusive results, and only 4% reported no connection. These findings show the empirical consensus on the beneficial impacts of EE on L2 English development.

Several studies have explored this relationship across different learner populations and contexts. In Flanders, Belgium, Wouter et al. (2024) examined learners

aged 11-16 and found that even those who had not yet received formal English instruction could perform listening tasks at the A2 level, suggesting the potential of EE to foster early L2 development. Specific EE activities, such as *watching non-subtitled TV* and *communicating with friends and family*, were predictors of listening and reading proficiency. Complementing this, De Wilde et al. (2020), also in Flanders, found that *using English on social media* and *speaking English* predicted proficiency across all four language skills and vocabulary knowledge. *Gaming* also significantly contributed to overall proficiency.

Parallel findings emerged in other contexts. Leona et al. (2021) reported that EE activities involving entertaining media and familial EE exposure increased young learners' vocabulary knowledge in the Netherlands. In a study of Norwegian university students, Busby (2021) found that engagement in EE was a stronger predictor of vocabulary knowledge than formal classroom instruction. Tam and Reynolds (2023), studying Cantonese speakers in Macau, found that EE reading activities were the strongest predictor of English vocabulary size, although the overall correlations were small. Similarly, Warnby (2022) found positive correlations between academic vocabulary knowledge and engagement in EE activities such as watching movies, reading, listening, and gaming among Swedish upper-secondary school students. Kaatari et al. (2023) also investigated the link between EE and writing development in Sweden. They reported that reading activities were associated with greater adverbial modification, while conversation and watching activities contributed to lexical diversity. In Spain, Lázaro-Ibarrola (2024) grouped young learners based on their EE engagement and found that those with higher engagement scored significantly better on A2-level speaking and reading tests and had higher overall exam scores. In Hong Kong, Tsang and Lam (2024) followed junior-secondary students of varying proficiency levels and found strong positive correlations between EE engagement and performance on reading and listening exams among average- and high-proficiency learners, though not for low-proficiency learners. This suggests that learners' proficiency levels may moderate the benefits of EE. While these studies offer robust evidence that EE contributes to L2 English proficiency across diverse contexts and learners of different ages, research on EE in Türkiye remains limited. Consequently, it is still unclear whether the benefits of EE observed internationally also apply to the Turkish context.

To the best of our knowledge, the first published study on EE in Türkiye was conducted by Coskun and Mutlu (2017). The study aimed to develop a scale for measuring EE use and examined whether Turkish high school students differed in the frequency of EE engagement based on gender and self-perceived English proficiency. EE activities were categorised according to the four language skills: reading, writing, listening, and speaking. The findings revealed that Turkish students reported engaging in listening-related EE activities occasionally, while reading, writing, and speaking activities were rarely done. Female students reported significantly higher EE engagement than male students, and a positive relationship was found between self-perceived English proficiency and EE frequency. In contrast, Ipek and Mutlu (2022) found that male university students engaged in EE activities more frequently than females. Their study also showed that the EE frequency was correlated with academic achievement. Focusing on affective variables, Uztosun and Kök (2023) examined the relationship between EE frequency and L2 skill-specific anxiety and communication apprehension in a Turkish university context. Their findings demonstrated that EE engagement negatively predicted listening anxiety, speaking anxiety, and communication apprehension, indicating that more frequent EE engagement may help reduce anxiety in specific L2 English skills.

As these studies illustrate, research on EE in Türkiye has so far been limited in scope and number. Most existing studies have approached the concept from a descriptive perspective, focusing on variables such as gender, academic achievement, perceived L2 proficiency, and affective factors. Notably, no study has yet investigated the relationship between EE engagement and L2 English proficiency. The present study aims to address this gap by providing empirical evidence on whether EE frequency is statistically associated with L2 English proficiency among university students in Türkiye. In doing so, it attempts to contribute to the national and international literature on ILL and, as suggested by Kusyk et al. (2025), extend our understanding of EE in an underdeveloped context.

Methodology

This quantitative study employed a correlational design, as its primary aim was to explore the relationships between different variables (Creswell & Creswell, 2023). To achieve this, a cross-sectional design was adopted using a survey methodology, enabling the examination of associations between specific variables at a single point in time (Cohen et al., 2007). The data was collected at a university in Istanbul following institutional ethical approval. Before completing the questionnaire, participants provided written consent after receiving detailed information about the study's purpose. They were informed that their responses would remain confidential and be used exclusively for research. The questionnaire did not include sensitive questions, and all data were collected anonymously, ensuring no personally identifiable information was recorded or shared.

Participants

A convenience sampling technique was employed to select the research setting and recruit participants. The first author gained access to the institution based on its availability and ease of access (Cresswell & Creswell, 2023). The study involved 59 students of L2 English, including 40 females and 16 males, and 3 participants opted not to disclose their gender. The participants' ages ranged from 17 to 46 years, with an average of 19.74 years (SD = 4.83). The median age was 19, and the mode was 18. They were at the beginning of their university studies and enrolled in a department focussed on English language teaching English literature.

Data Collection Tools

The study utilised an online questionnaire structured into three sections: (a) time spent on EE activities, (b) self-reported scores from an English proficiency exam, and (c) demographic details such as age and gender. The first section was adapted from Sylvén and Sundqvist (2012) and Sundqvist and Uztosun (2024), where participants were instructed to write how many hours they spent on six EE activities during a typical term week, excluding weekends and holidays. The activities included: (i) playing English-language games, (ii) watching English-language films, TV series, and videos, and (iii) listening to English songs, podcasts, or audiobooks, (iv) reading English books, short

stories, online content, (v) writing in English, including emails, social media posts, notes, and (vi) engaging in spoken interactions English, either online or in person with acquaintances or strangers. These activities were included in the questionnaire because they are among the most popular ones identified in previous research (Zhang et al., 2021), and each targets specific L2 English skills.

The second section of the questionnaire required participants to report their scores from an English proficiency test that was organised in three sessions: (i) reading and listening, (ii) writing, and (iii) speaking. The exam was not developed for research purposes but was administered at a university at the beginning of every school year to determine whether students possessed the necessary English proficiency to commence undergraduate studies without attending preparatory courses. The test aligned with the B2 level of the *Common European Framework of Reference for Languages* (Council of Europe, 2020). According to the regulations of the participating university, each session was weighted equally and contributed 25% to the total score, with a maximum achievable score of 100. In the first session, students completed listening comprehension tasks, which were followed by reading passages with multiple-choice questions. The second session assessed writing proficiency through an essay task based on given prompts. The final session evaluated speaking skills using a structured three-part format, where an interlocutor and an independent rater assessed participants. Two independent raters evaluated each exam component, and any discrepancies were resolved through consensus. The researchers were not involved in any test development or grading stage. In this study, while the total exam scores (i.e., the sum of scores gained in three sessions) were considered as indicators of general L2 English proficiency, session scores were used to indicate the proficiency in the specific language skill.

Data Analysis

Data analysis was performed using IBM SPSS Statistics (Version 29). Multiple criteria were considered to examine the distribution of the data, including the Kolmogorov-Smirnov test and z-scores for skewness and kurtosis (Field, 2013). The findings indicated that exam scores did not follow a normal distribution, as reflected in significant p-values from the Kolmogorov-Smirnov test ($p < .001$) and skewness and kurtosis z-scores surpassing the threshold of 2.58 (Mayers, 2013). Due to the non-

normal distribution of the data and small sample size, multiple regression and Pearson correlation analyses were deemed unsuitable, and Spearman's rank-order correlation was employed to investigate the relationship between time spent on EE activities and L2 English proficiency (Mayers, 2013).

Findings

Time Spent on EE Activities

The descriptive analysis provided insights into the amount of time Turkish L2 English university students dedicated to each EE activity included in the questionnaire. The results are presented in Table 1.

Table 1

Descriptive Statistics on Time Spent on EE Activities

EE Activity	Mean	SD	Mode	Median	Maximum
Listening	12.27	15.63	10	8	100
Watching	10.48	9.16	10	8	50
Gaming	6.75	9.53	0	3	50
Reading	4.83	4.74	2	3.50	21
Writing	2.45	3.29	0	1.50	18
Spoken Interaction	2.40	4.64	0	1	27

** Hours spent per week*

As shown in Table 1, EE activities related to listening and watching were the most common activities, whereas activities involving spoken interaction in English and writing in English were the least popular.

The relationship between Time Spent on EE Activities and L2 English Proficiency

Spearman's rank correlation analysis was conducted to examine the potential relationship between the amount of time spent on EE activities and L2 English proficiency. To interpret the strengths of these relationships, we followed the guidelines for Pearson r as outlined by Mayers (2013), where correlation coefficients greater than .5 are considered large, those between .3 and .5 represent a medium, and coefficients below .3 indicate a small correlation. The results are presented in Table 2.

Table 2

The Relationship Between Time Spent on EE Activities and L2 English Proficiency

		Gaming	Watching	Listening	Reading	Writing	Spoken Interaction
1	Correlation Coefficient	,118	,303*	,363**	,137	,272*	,329*
	Sig. (2-tailed)	,388	,023	,006	,315	,044	,015
	N	56	56	56	56	55	54
2	Correlation Coefficient	-,166	-,014	-,070	,022	,119	,044
	Sig. (2-tailed)	,223	,919	,607	,872	,387	,753
	N	56	56	56	56	55	54
3	Correlation Coefficient	,127	,134	,447**	,279*	,296*	,213
	Sig. (2-tailed)	,350	,324	<,001	,037	,028	,123
	N	56	56	56	56	55	54
4	Correlation Coefficient	,105	,278*	,375**	,180	,329*	,352**
	Sig. (2-tailed)	,430	,033	,003	,172	,012	,007
	N	59	59	59	59	58	57

Note: 1 = Reading and Listening proficiency, 2 = Writing proficiency, 3 = Speaking proficiency, 4 = General L2 English proficiency

As displayed in Table 2, general L2 English proficiency exhibited a significant positive correlation with all types of EE activities, with the exception of activities involving gaming and reading. Specifically, medium-level correlations were observed between general L2 English proficiency and EE activities related to listening ($r = .37$, $p < .50$), spoken interaction ($r = .35$, $p < .50$), and writing ($r = .32$, $p < .50$). In contrast, the relationship with watching-related activities was small ($r = .27$, $p < .50$)

A medium-level correlation was also found between the time spent on listening-related EE activities and speaking proficiency ($r = .44$, $p < .01$). Speaking proficiency also showed small correlations with reading- ($r = .27$, $p < .05$) and writing-related ($r = .29$, $p < .50$) EE activities. Moreover, reading/listening proficiency correlated at medium levels with EE activities involving watching ($r = .30$, $p < .05$), listening ($r = .36$, $p < .05$), and spoken interaction ($r = .32$, $p < .05$). In contrast, the correlation with writing-related activities was small ($r = .27$, $p < .05$).

Discussion

The Frequency of EE Activities

The present study examined the time participants devoted to six types of EE activities. The sum of the mean scores indicated that participants reported spending 39.18 hours per week on these six EE activities. The standard deviation scores were relatively high (all above 3.29), particularly for the most popular activities: *EE Listening* (*S.D.* = 15.63), *EE Watching* (*S.D.* 10.48), and *EE Gaming* (S.D. = 9.53). These large standard deviations suggest substantial variation among individuals in how frequently they engage in EE, aligning with the findings of Sylvén and Sundqvist (2012).

More than half of the total reported time was spent on two specific EE activities: *EE Listening* and *EE Watching*. The heavy reliance on just two activities may indicate that Turkish university students have a relatively limited repertoire of EE engagement. This suggests that while these learners are highly engaged in certain EE activities, their overall EE engagement lacks variety. Such a narrow range of EE activities could potentially limit their exposure to diverse language skills and reduce opportunities to engage with a broader spectrum of EE experiences.

The popularity of *EE Listening* activities is consistent with a number of previous studies across diverse contexts. For instance, listening to music was found to be the most frequent EE activity among children in Belgium (aged 11) (De Wilde et al., 2020; De Wilde & Eyckmans, 2017), learners in Catalonia (aged 12 to 39) (Muñoz, 2020), Flemish learners (aged 15 to 16) (Peters, 2018), and junior-secondary school students in Hong Kong (aged 12) (Tsang & Lam, 2024). These consistent findings suggest that Turkish university students exhibit similar EE tendencies to international learners in their preference for EE listening. These findings are not surprising, given that listening to music is widely perceived as enjoyable, highly accessible, and typically does not require intense cognitive effort. As such, it represents a high-frequent form of EE engagement that is both intrinsically motivating and easily integrated into daily life.

Several previous studies also supported the popularity of *EE Watching* activities. For instance, Brevik (2019), in a study focusing on Norwegian high school students who performed poorly on the national Norwegian test but well on the English test, found that

all participants reported using English primarily for watching TV series and films. In the Danish primary school context (aged 8 to 10), Jensen (2017) similarly reported that watching TV, YouTube, cinema, and other web-based services were among the most common EE activities. Videos and movies also ranked among the three most popular EE activities in studies conducted with junior-secondary school students in Hong Kong (Tsang & Lam, 2024) and young learners in Belgium (De Wilde et al., 2020). Although *EE Watching* typically demands more mental effort than *EE Listening*, its accessibility in daily life, the wide range of content available, and the general enjoyment people derive from watching audiovisual materials likely explain its popularity in Türkiye, as in many other contexts.

On the other hand, participants reported engaging less frequently in EE activities that require social interaction, writing, and reading in English. This finding aligns with previous research, such as Peters et al. (2019) and Muñoz (2020), which also reported low levels of engagement in *EE Reading* and *EE Social Interaction*, respectively. These parallels suggest that Turkish students' preferences for EE engagement are similar to those observed among learners in some other countries. In examining factors that influence individuals' engagement in EE activities, Zhang et al. (2021) identify interactivity as a factor, noting that warm, interactive environments encourage more frequent use of the target language in communicative ways (Lee, 2019; Leona et al., 2021). The low frequency of engagement in spoken interaction among Turkish students may therefore indicate a lack of accessible and psychologically safe environments in which they can use English interactively, or a limited ability to create such opportunities on their own.

The Relationship between EE Frequency and L2 English Proficiency

The present study found significant positive relationships between general L2 English proficiency and four EE activities: *EE Listening, EE Spoken Interaction, EE Writing*, and *EE Watching*. These four activities also positively correlated with reading/listening proficiency. In contrast, *EE Gaming* and *EE Reading* did not show significant correlations with either general L2 English proficiency or reading/listening proficiency.

When comparing the correlations between EE activities and different measures of L2 English proficiency, *EE Listening* and *EE Writing* emerged as the most strongly

associated activities, correlating with three out of four proficiency measures. Among them, *EE listening* appeared to relate to L2 English proficiency more strongly: the strongest correlation in the entire dataset was found between *EE Listening* and speaking proficiency. This result diverges from (De Wilde et al., 2020), who found a negative correlation between listening to music and L2 English proficiency. Unlike their findings, the present study suggests that, in the Turkish context, EE activities involving listening to English and writing in English are positively related to general L2 English proficiency, including reading, listening, and speaking.

The study also showed that *EE Watching* was significantly related to general L2 English proficiency, as well as reading/listening proficiency. This finding aligns with Tsang and Lam (2024), who reported that watching videos significantly correlated with reading and listening proficiency among average- and high-proficiency student groups in Hong Kong. A similar conclusion was drawn by Wouters et al. (2024), who found that watching TV with no subtitles predicted both reading and listening proficiency in the Belgian context. Taken together, these findings suggest that the Turkish context may share certain commonalities with other countries when it comes to the relationship between EE watching and L2 proficiency, although further cross-contextual comparisons would help to confirm this.

In a similar way, *EE Spoken Interaction* was found to be associated with general L2 English proficiency, as well as reading/listening proficiency. These results are consistent with De Wilde et al. (2020), who identified speaking activities as particularly beneficial for children aged 10–13 in terms of L2 English development. Wouters et al. (2024) also found that communicating with friends and family in English predicted higher listening proficiency. These positive relationships suggest that EE communication is related to enhanced L2 development, particularly in the development of overall language proficiency and reading and listening proficiency.

However, the study also revealed some unexpected results: certain EE activities did not correlate with the language skills they involve. For example, *EE Spoken Interaction* did not significantly correlate with speaking proficiency. Similarly, *EE Reading* and *EE Writing* did not significantly correlate with reading/listening and writing proficiency. Several factors may explain these findings. First, data on skill-

specific EE activities were gathered through a questionnaire rather than a validated scale. As a result, we cannot claim that the listed activities fully captured participants' EE engagement in each L2 skill. The questionnaire provided only sample activities, which may not have reflected participants' broader EE repertoires. Future studies should employ validated scales to obtain more valid and representative data. Second, the data were not normally distributed, and the presence of outliers – individuals with extremely high or high levels of EE engagement – may have influenced the results. As studies like Brevik (2019) suggest, focusing specifically on outliers could offer valuable insights into the benefits of EE engagement. Finally, the proficiency exam used in this study was not designed for research purposes. As such, the exam's assessment of each skill may not have aligned closely with the nature of the EE activities reported by participants. Future research would benefit from using proficiency tests specifically developed for research purposes, ensuring a closer match between test content and the language skills practiced through EE activities.

Lastly, the results regarding *EE Gaming* were also noteworthy. No significant relationships were found between *EE Gaming* and any measures of L2 English proficiency. This contradicts the findings of De Wilde et al. (2020), who argued that gaming can offer rich and beneficial language input, but aligns with the results of a large-scale study conducted in the Spanish context (Muñoz, 2020) which showed that, compared to other EE activities, gaming was the least associated with English classroom grades. The absence of correlation in the current study mirrors the findings from Spanish but diverges from those in Belgium, suggesting that L2 English learning benefits of gaming may be context dependent. Further research is needed to explore why EE Gaming appears to play differing roles in L2 development across various countries.

Conclusions and Implications

The present study addressed the gap in EE research in Türkiye. It aimed to explore how much time Turkish university students spend on specific EE activities, identify the most and least popular ones, and examine whether the frequency of EE activities is associated with L2 English proficiency. The findings also allowed for comparisons with existing

research in other countries, providing insights into whether the patterns observed elsewhere are applicable to the Turkish context.

The results revealed both similarities and differences between the Turkish context and international findings. In line with previous research, participants reported that *EE Listening* and *EE Watching* were the most popular activities. However, their overall EE repertoire appeared limited, with approximately half of their weekly EE time devoted to these two activities. This narrow focus may be concerning, as a diverse EE repertoire enables learners to benefit from a broader language input and practice range. Therefore, teachers and teacher educators are encouraged to expand students' awareness of EE by introducing a wider range of interacting and meaningful activities that students can incorporate into their everyday lives.

The least frequent EE activities were reported to be *EE Reading, EE Writing*, and *EE Spoken Interaction,* with participants spending fewer than five hours on the first and fewer than three hours on the latter two. Given that both *EE Writing* and *EE Spoken Interaction* showed significant correlations with general L2 English proficiency and specific language proficiency (i.e., reading/listening and speaking), these activities appear to be underutilised. In light of the challenges in the English language teaching in Türkiye, such as limited focus on speaking and listening and a reliance on audiolingual and grammar-translation methods (Gürsoy et al., 2013; Haznedar, 2012), promoting these EE activities may help compensate for shortcomings of formal instruction. Encouraging regular engagement in *EE Reading*, *EE Writing,* and *EE Spoken Interaction* could provide valuable opportunities to develop communicative competence in English.

The findings also showed that *EE Listening, EE Spoken Interaction, EE Writing*, and *EE Watching* were significantly associated with reading/listening proficiency and general L2 English proficiency. Of these, *EE Listening* and *EE Writing* were positively correlated with all components of the proficiency exam except for writing. These results suggest that these activities are associated with L2 development and should be promoted. Teachers can help students identify EE activities that align with their interests and raise awareness of the potential benefits, thereby motivating them to engage more frequently and purposefully.

At the same time, the study revealed several unexpected findings that deviate from existing literature. Specifically, some EE activities did not correlate with the language skills in which they were most directly involved. For example, *EE Spoken Interaction, EE Writing*, and *EE Reading* did not correlate with speaking, writing, or reading/listening proficiency, respectively. These results contradict previous research suggesting that both writing and gaming can support language learning. It is difficult to determine the reasons for these discrepancies. They may stem from contextual factors specific to Türkiye or the limitations of the current study. Further research is needed to better understand the roles of *EE Writing* and *EE Gaming* in L2 English development, particularly through more focused, in-depth investigations of these activity types.

Limitations and Further Research

This study has several limitations. First, the data were collected through self-report questionnaires, which may not accurately reflect participants' actual engagement with EE activities. Second, the questionnaire included a selection of EE activities, and participants may have engaged in additional EE activities that were not represented in the instrument. Another key limitation is the relatively small sample size, which restricted the statistical power and made it impossible to conduct more rigorous analyses, such as structural equation modelling or regression analysis.

In light of these limitations, there are several avenues for further research. There is a need for more extensive EE research in the Turkish context, involving learners from different age groups and educational backgrounds. Studies with large sample sizes are particularly needed to provide more robust evidence of the relationship between EE engagement and L2 English proficiency. Additionally, qualitative research is necessary to explore some of the more unexpected findings, particularly the limited role of *EE Gaming, EE Writing*, and skill-specific activities. In-depth investigations could help clarify how Turkish learners engage with English across various EE activities and why certain activities may or may not contribute to L2 English development. We hope that this study can serve as a stepping stone for future research into EE in Türkiye and contribute to the growing body of knowledge in this field.

Ethics Committee Permission Information

This research study was conducted with the Research Ethics Committee approval of İstanbul Medeniyet University, dated 11.09.2023, and numbered 2023/06-05.

Acknowledgment

We are grateful to the students who agreed to participate in this research and to the administrators and colleagues who assisted us in collecting the data.

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