



Investigating Motivational Factors in Vocabulary Growth: A Gender-based Comparative Analysis of Iranian adolescents EFL Elementary Learners

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Abstract

This study examines how intrinsic and extrinsic motivational factors influence vocabulary acquisition among elementary-level English learners, with particular attention to gender differences. Recognizing the critical role of motivation in language acquisition, especially in the early stages of learning, the study focuses on a sample of 73 participants, comprising 61 females and 12 males, aged 13-16. Using a mixed-methods approach, the study explores how intrinsic and extrinsic motivational factors affect vocabulary development, considering possible gender variations. The data were collected from Iranian adolescent EFL learners through quantitative methods, including Gardner's Motivation Questionnaire (1985) and Nation's Vocabulary Size Test (2007). Spearman's Rho Correlation analysis was conducted to examine the relationships between intrinsic and extrinsic motivation and vocabulary size, with a focus on gender differences. An Independent Samples Test was employed to assess any potential gender-based differences in motivation's impact on vocabulary acquisition. Despite expectations of significant correlations between motivational factors and vocabulary development, the results revealed no significant effect of either intrinsic or extrinsic motivation on vocabulary size. Furthermore, no gender-based differences were found in the impact of motivation on vocabulary acquisition. These findings suggest that while intrinsic and extrinsic motivational elements are important in language learning, further research is needed to better understand motivational dynamics in language acquisition, especially in relation to gender, given the lack of significant findings in this study.

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Keywords: Extrinsic motivation; Intrinsic motivation; Females; Male; Vocabulary size

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1. Introduction

Vocabulary acquisition is a cornerstone of language learning and a crucial determinant of language

proficiency, particularly for English as a Foreign Language (EFL) learners at the elementary level. It involves the process of acquiring and internalizing lexical items necessary for effective communication in

the target language. Recent studies have underscored the significance of vocabulary knowledge in enhancing language proficiency and communicative competence, with a focus on innovative methodologies, adaptive learning platforms, and digital tools for vocabulary acquisition (Alan, 2023; Asadi & Ebadi, 2024; Nurjaya et al., 2024; Shin et al., 2022). The acquisition of vocabulary is not merely about memorizing isolated words; rather, it involves understanding their meanings, collocations, and usage in context. This holistic understanding is essential for learners to comprehend and produce language accurately and fluently. Recent studies have emphasized the multifaceted nature of vocabulary acquisition, highlighting the interplay between cognitive, linguistic, and socio-affective factors (Asadi & Ebadi, 2024; Schmitt & Zhang, 2021; Shin et al., 2022). These factors include learners' exposure to input, the frequency and richness of encounters with target language words, and the effectiveness of vocabulary learning strategies employed.

Moreover, vocabulary acquisition is intricately linked to other language skills, such as reading, writing, speaking, and listening. A rich and diverse vocabulary enhances learners' comprehension of written and spoken texts (Kang & Park, 2021), facilitates more nuanced expression in writing and speaking (Laufer & Goldstein, 2021), and enables effective communication in diverse linguistic contexts (Zhang, 2022). Consequently, educators and researchers have increasingly recognized the pivotal role of vocabulary knowledge in overall language proficiency and communicative competence (Zhou & Zhang, 2023).

In light of these developments, there is a growing imperative to explore and understand the mechanisms underlying vocabulary acquisition, as well as to develop effective pedagogical approaches to support learners in this process. This involves investigating the efficacy of different vocabulary teaching methods (Laufer, 2022), the impact of contextual factors on vocabulary learning (Cheng & Wang, 2023), and the role of individual differences, including learner motivation and cognitive abilities (Dörnyei & Ushioda, 2021). By advancing our understanding of vocabulary acquisition in the context of SLA, educators can better tailor instructional practices to meet the diverse needs of EFL learners and enhance their linguistic proficiency and communicative competence (Ellis, 2024).

Understanding the factors impacting vocabulary size is crucial for educators and researchers aiming to enhance language learning outcomes across diverse educational settings. Among these factors, motivation—both intrinsic and extrinsic—plays a pivotal role in shaping learners' attitudes, efforts, and persistence in language learning endeavors (Dörnyei & Ushioda, 2021; Schunk

& DiBenedetto, 2020). Intrinsic motivation originates from learners' internal desires, interests, and inherent satisfaction derived from the learning process, while extrinsic motivation arises from external stimuli such as rewards or social recognition (Deci & Ryan, 2000; Shin et al., 2022).

The interaction between these motivational dimensions and their influence on vocabulary acquisition continues to attract significant attention in second language acquisition research, particularly in the context of digital and adaptive learning environments.

Gender differences are increasingly recognized as significant variables in language learning contexts. Existing studies have shown variations in motivational orientations between male and female learners (Asadi & Ebadi, 2024; Nurjaya et al., 2024). However, the specific impact of gender differences on vocabulary size among Iranian male and female elementary EFL learners remains relatively understudied in the current literature. Further investigation into this area could provide valuable insights into the intersection of gender and language learning, informing pedagogical practices and curriculum development to better meet the needs of diverse learners (Alan, 2023; Zhang & Chen, 2024).

In the domain of psychology, intrinsic and extrinsic motivations are pivotal concepts frequently scrutinized by esteemed scholars and researchers. Below are succinct definitions of intrinsic and extrinsic motivation, accompanied by references to influential academics and their seminal contributions.

1. **Intrinsic Motivation:** Intrinsic motivation refers to engaging in an activity for the inherent satisfaction or enjoyment it provides, rather than for external rewards or pressures. Individuals driven by intrinsic motivation are guided by internal factors such as curiosity, interest, and personal fulfillment. Deci and Ryan (2000) initially described intrinsic motivation as an individual's natural inclination to pursue challenges and participate in activities that align with personal interests and values, fostering a sense of autonomy, competence, and relatedness. Recent research has further underscored the significance of intrinsic motivation in educational settings, demonstrating its crucial role in fostering deep learning and sustained engagement (Asadi & Ebadi, 2024; Nurjaya et al., 2024).

2. **Extrinsic Motivation:** Extrinsic motivation refers to engaging in an activity with the primary goal of obtaining external rewards or avoiding punishment. Individuals driven by extrinsic motivation are motivated by external factors such as praise, grades, or financial incentives, rather than the intrinsic enjoyment derived from the activity itself. Deci et al., (1999) suggested that extrinsic rewards could undermine intrinsic motivation if they are perceived as controlling or coercive, leading

to a reduction in individuals' intrinsic motivation and interest in the activity. Recent studies have reinforced this idea, emphasizing the complex interplay between extrinsic rewards and intrinsic motivation in various contexts, including education (Asadi & Ebadi, 2024; Zhang & Chen, 2024).

3. Vocabulary Size: Vocabulary size refers to the total number of lexical items, including individual words and multi-word expressions that an individual possesses and can effectively use in various language activities such as reading, writing, speaking, and listening. Meara (1996) defined vocabulary size as the lexical inventory of an individual, representing the range of words, phrases, and collocations they have acquired and can proficiently use in language production. Recent research by scholars such as Nation (2024) has further emphasized the importance of vocabulary size in language acquisition, linking it to advanced levels of language proficiency and comprehension. Additionally, studies by Schmitt (2024) and Qian (2024) have provided valuable insights into vocabulary learning, focusing on its implications for both comprehension and productive language skills.

This study aims to explore the impact of intrinsic and extrinsic motivation, along with gender, on the vocabulary size of Iranian EFL elementary learners. By adopting a mixed-methods approach that integrates quantitative assessments of vocabulary knowledge with qualitative exploration of motivational factors, this research endeavors to offer a comprehensive understanding of the intricate dynamics underlying vocabulary acquisition in this specific context. Through an examination of the interaction between motivation and gender in shaping vocabulary development, this study seeks to contribute to the existing body of knowledge in second language acquisition and provide practical implications for language teaching pedagogy tailored to the unique needs of Iranian male and female EFL elementary learners. Hence, the following research questions were addressed in the present study:

1. Is there a statistically significant positive relationship between intrinsic and extrinsic motivation and vocabulary size test scores among females?
2. Is there a statistically significant positive relationship between intrinsic and extrinsic motivation and vocabulary test scores among males?
3. Is there a statistically significant difference in vocabulary test scores between male and female participants?

Method

Participants

The research involved a cohort of Iranian students,

comprising both genders, with males making up 16.4% and females 83.6% of the total sample (Table 1).

The participants, aged 13 to 16, consisted of 61 females and 12 males, enrolled in elementary-level English as a Foreign Language (EFL) courses at a reputable language institute in Ardebil, Iran. The selection of the participants followed specific inclusion criteria, including gender (both male and female) and English proficiency level, with a focus on beginner or elementary proficiency level.

As indicated in Table 1, 61 respondents, comprising 83.6%, are female, while 12 respondents, accounting for 16.4%, are male.

Instruments

For data collection, two tools were utilized: the Motivation Questionnaire for Second Language Learning (MQSLL) and the Vocabulary Size Test (VST).

The Motivation Questionnaire for Second Language Learning (MQSLL)

The MQSLL questionnaire employed a 5-point Likert scale (1: Strongly Agree to 5: Strongly Disagree). It consisted of 40 items, categorized into two segments: 10 focusing on intrinsic motivation and 30 on extrinsic motivation. The extensive usage and established credibility of the MQSLL questionnaire within the domain confirm its reliability and validity. The rationale for selecting 40 items out of the original 104 was based on their relevance to the research objectives, the participants' level, and the limited time available for the study, as identified through prior studies and expert validation. This selection process ensured the inclusion of items most pertinent to the study's focus on intrinsic and extrinsic motivation. Scores for intrinsic and extrinsic motivation were computed by summing the assigned scores for each response. Specifically, the scores for the 10 items measuring intrinsic motivation and the 30 items measuring extrinsic motivation were totaled separately.

To assess the reliability of the MQSLL questionnaire, Cronbach's alpha coefficient was calculated. The results presented in Table 2 indicate a satisfactory level of internal consistency. The intrinsic section, comprising 10 items, yielded Cronbach's alpha coefficients of 0.751 and 0.772 (based on standardized items), reflecting acceptable reliability. Similarly, the extrinsic section, consisting of 30 items (Table 3), demonstrated high internal consistency, with Cronbach's alpha coefficients of 0.872 and 0.887 (based on standardized items).

Furthermore, the Cronbach's alpha of 0.751 for the

intrinsic motivation questionnaire confirms its satisfactory reliability, indicating that the research instrument exhibits good internal consistency and can be considered a reliable measure of the intended constructs.

The Vocabulary Size Test (VST)

The VST test, developed by Nation and Beglar (2007) based on the data from the British National Corpus (BNC), consists of 14 tiers, each corresponding to proficiency in 1,000 word families. These tiers range from the most frequently used to the least frequently used word families. For this study, a condensed version of the VST was used, tailored to fit time constraints and learners' skill levels. This version contains 100 multiple-choice items, with 10 items for each proficiency level. The participants' scores were calculated based on the number of correct answers, with higher scores indicating a larger vocabulary size. The scoring scale allowed for a direct comparison of vocabulary knowledge across the different proficiency levels.

For the data analysis, the statistical software SPSS was employed. Spearman's Rho Correlation tests were conducted to examine the relationship between motivational factors and vocabulary size. Additionally, an independent t-test was performed to assess differences in vocabulary test scores between male and female participants.

the vocabulary size of Iranian male and female learners of English as a Foreign Language (EFL) at the elementary level.

Table 1. Gender Distribution of Participants by Percentage and Frequency

	Gender	
	N	%
Female	61	83.6%
Male	12	16.4%

Table 2. Reliability Statistics for Intrinsic Motivation Scale

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.751	.772	10

Table 3. Reliability Statistics for Extrinsic Motivation Scale

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.72	.887	30

These tools facilitated data collection and subsequent analysis, offering valuable insights into the correlation between motivation and language learning accomplishments.

Essentially, the utilized materials were instrumental in evaluating how intrinsic and extrinsic motivation impact.

Procedure

For this study, the MQSLL questionnaire was used, consisting of 15 items to assess intrinsic motivation and 25 items to assess extrinsic motivation. The extensive use and established credibility of the MQSLL questionnaire within the field confirm its reliability and validity. The selection of 40 items from the original 104 was based on their relevance to the research objectives, the participants' level, and the limited time available for the study. Additionally, vocabulary assessments were conducted to measure their vocabulary size. The collected data underwent quantitative analysis to explore the relationship between motivation and vocabulary size across both male and female participants.

The survey questionnaire distributed to the participants included items aimed at assessing both intrinsic and extrinsic motivation. The participants were asked to indicate their agreement with statements regarding their personal interest in learning English (intrinsic motivation) and external factors influencing their motivation, such as grades, rewards, or parental expectations (extrinsic motivation). The responses were recorded using a Likert scales, ranging from strongly disagree to strongly agree for each item.

To ensure consistency and accuracy in data collection, the participants completed the surveys in a classroom setting under the supervision of the researcher. This approach aimed to maintain standardized conditions across all participants and minimize potential biases in the responses.

Following the survey completion, the participants underwent a standardized vocabulary test designed by Paul Nation and David Beglar (2007) to evaluate their English vocabulary size. The test comprised 100 multiple-choice items, with 10 items allocated to each proficiency level with English words paired with their respective definitions in English. The participants were tasked with selecting the correct definition for each word from a list of options provided. This vocabulary assessment aimed to quantify the participants' vocabulary knowledge and proficiency in English, thereby offering objective measures of their language skills. After completing the data collection phase, quantitative analysis was conducted on the collected data

using statistical methods. Descriptive statistics, including mean scores and standard deviations, were calculated to summarize the participants' levels of intrinsic and extrinsic motivation, along with their vocabulary size, across both male and female groups.

To analyze the data, several appropriate statistical techniques were employed. Descriptive statistics were first calculated to summarize the participants' demographic information, motivation levels, and vocabulary size. Next, to explore the relationships between intrinsic and extrinsic motivation and vocabulary size, Spearman's Rho Correlation was used to examine the strength and direction of these relationships. An Independent Samples t-test was then performed to determine whether there were any significant differences in vocabulary test scores between male and female participants. This analysis aimed to assess whether gender influenced vocabulary proficiency in the study sample. By employing these methods, the analysis aimed to provide a comprehensive understanding of the factors that impact vocabulary acquisition, including the influence of gender, intrinsic and extrinsic motivation, and other relevant variables.

The findings obtained from the data analysis were interpreted to discern connections between motivation and vocabulary size among the study participants, considering both male and female learners. These results were then discussed in light of existing literature on motivation in language learning, offering insights into the influence of intrinsic and extrinsic motivation on language acquisition outcomes among Iranian male and female EFL elementary learners.

Results

Descriptive statistics

The statistics in [Table 4](#) indicate that the average score obtained by the participants is 45.14, with an average level of intrinsic motivation of 4.6822 and an average level of extrinsic motivation of 4.3253. Furthermore, the examination of the skewness statistics reveals that the highest frequency is observed at a level of 5.00 for intrinsic motivation and 4.80 for extrinsic motivation. Additionally, the distribution of scores in the sample tends to be skewed to the right, indicating some deviation from a normal distribution. These statistics can help us identify patterns regarding the relationship between intrinsic and extrinsic motivation and vocabulary size among the participants.

Based on the results in [Table 4](#), the skewness value (0.327) falls within the acceptable range (-2 to +2), indicating a normal distribution. The kurtosis value (-0.962) also falls within the acceptable range, supporting a normal distribution for this variable. The skewness value (-2.290) is outside the acceptable range, suggesting a non-normal distribution. Additionally, the kurtosis value (7.077) is substantially higher than the acceptable range, further indicating non-normality for this variable. Similar to intrinsic motivation, the skewness value (-1.486) is beyond the acceptable range, indicating non-normality. The kurtosis value (2.839) is also higher than the acceptable range, supporting the indication of a non-normal distribution.

The skewness value (1.849) falls outside the acceptable range, suggesting non-normality. Additionally, the kurtosis value (1.459) is higher than the acceptable range, further indicating a non-normal distribution for this variable. In summary, while the distribution of "Score" appears to be normal based on skewness and kurtosis values, the distributions of "Intrinsic Motivation," "Extrinsic Motivation," and "Gender" are not normal ([Table 5](#)).

Table 4. Statistics for Vocabulary Acquisition and Motivation by Gender

		Score	Intrinsic.Motivation	Extrinsic.Motivation	Gender
N	Valid	73	73	73	73
	Missing	0	0	0	0
Mean		45.14	4.6822	4.3253	1.16
Std. Error of Mean		2.160	.04855	.05871	.044
Median		45.00	4.8000	4.4500	1.00
Std. Deviation		18.455	.41478	.50160	.373
Variance		340.592	.172	.252	.139
Skewness		.327	-2.290	-1.486	1.849
Std. Error of Skewness		.281	.281	.281	.281
Kurtosis		-.962	7.077	2.839	1.459
Std. Error of Kurtosis		.555	.555	.555	.555
Range		65	2.30	2.35	1
Minimum		15	2.70	2.50	1
Maximum		80	5.00	4.85	2

Table 5. Skewness and Kurtosis Statistics of Variables

	Score	Intrinsic.Moti vation	Extrinsic.Moti vation	Gender
N Valid	73	73	73	73
Missing	0	0	0	0
Skewness	0.327	-2.290	-1.486	1.849
Std. Error of Skewness	0.281	0.281	0.281	0.281
Kurtosis	-0.962	7.077	2.839	1.459
Std. Error of Kurtosis	0.555	0.555	0.555	0.555
Skewness/Std. Error of Skewness	1.164	-8.147	-5.288	6.580
Kurtosis/Std. Error of Kurtosis	-1.733	12.747	5.113	2.628

Results Addressing RQ1

To address the first research question regarding the potential positive relationship between motivation and vocabulary test scores among female participants, Spearman's Rho Correlation were conducted. This statistical analysis aimed to investigate whether there is a significant association between intrinsic and extrinsic motivation and vocabulary test scores among female participants. Table 6 presents the results of the Spearman's Rank Correlation Test assessing the relationship between intrinsic and extrinsic motivation and vocabulary test scores among female participants.

With a significance value (sig) greater than 0.05 in Table 6, it can be concluded that there is no significant relationship between intrinsic motivation and vocabulary test scores among female participants. The Spearman's rho value for intrinsic motivation is 0.003, and the p-value is 0.983, which is well above the threshold of 0.05. This suggests that intrinsic motivation is independent of vocabulary test scores. Similarly, for extrinsic motivation, the Spearman's rho value is -0.003, with a p-value of 0.980, indicating no significant relationship between extrinsic motivation and vocabulary test scores either.

Results addressing RQ 2

To investigate the second research inquiry regarding the association between intrinsic and extrinsic motivation and vocabulary test scores among male participants, Spearman's rho correlation tests were utilized. This statistical analysis aimed to examine potential correlations between intrinsic and extrinsic motivation levels and participants' vocabulary proficiency. The results of the Spearman's Rho Correlation for both intrinsic motivation and extrinsic motivation with

vocabulary test scores among male participants are shown in Table 7. As indicated in Table 7, for the intrinsic motivation, the correlation coefficient is 0.113, with a p-value of 0.726. Since the significance value is greater than 0.05, it indicates that there is no statistically significant relationship between intrinsic motivation and vocabulary test scores among male participants. Therefore, intrinsic motivation and vocabulary scores are independent of each other in this sample. For the extrinsic motivation, the correlation coefficient is -0.158, with a p-value of 0.625, which also exceeds 0.05, suggesting that no significant relationship exists between extrinsic motivation and vocabulary test scores. Thus, the results indicate that neither intrinsic nor extrinsic motivation shows a statistically significant association with vocabulary test scores in male participants.

Results Addressing RQ 3

To address the third research question regarding the potential impact of gender on vocabulary test scores, an Independent Samples Test was conducted. This analysis aimed to explore whether there were significant differences in the scores between male and female participants. By performing this statistical test, the study sought to better understand the influence of gender on vocabulary proficiency, providing valuable insights into the role gender plays in vocabulary test performance.

Based on the results of the independent t-test in Table 9, it can be concluded that there is no statistically significant difference between the vocabulary test scores of male and female participants. The Levene's Test for Equality of Variances yielded a p-value of 0.915, indicating that the assumption of equal variances is met. Therefore, the t-test results assuming equal variances are considered.

Table 6. Spearman's Rho Correlation Results: Intrinsic and Extrinsic Motivation with Vocabulary Test Scores in Female Participants

		Intrinsic Motivation	Extrinsic Mmotivation
Spearman's rho	Score	0.003	-0.003
	Correlation Coefficient		
	Sig. (2-tailed)	0.983	0.980
	N	61	61

Table 7. Spearman's Rho Correlation Results: Intrinsic and Extrinsic Motivation with Vocabulary Test Scores among Male Participants Correlations

		Score	Intrinsic Motivation	Extrinsic Mmotivation
Spearman's rho	Correlation Coefficient	1.000	.113	-.158
	Sig. (2-tailed)	.	.726	.625
	N	12	12	12

Table 8. Group Statistics for Gender and Score

Group Statistics					
	Gender	N	Mean	Std. Deviation	Std. Error Mean
Score	Female	61	46.18	18.408	2.357
	Male	12	39.83	18.556	5.357

Table 9. Independent Samples Test for Equality of Means in Scores between Female and Male Participants

Levene's Test for Equality of Variances		t-test for Equality of Means							
F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference		
							Lower	Upper	
.011	.915	1.090	71	.279	6.347	5.820	-5.259	17.953	

As illustrated in [Table 9](#), the t-test for Equality of Means resulted in a p-value of 0.279 (assuming equal variances) and 0.295 (not assuming equal variances), both of which are greater than 0.05. This indicates that the difference in mean scores between male and female participants is not statistically significant. The mean difference in scores is 6.347, with a 95% confidence interval ranging from -5.259 to 17.953, which includes zero.

This further confirms that there is no significant difference between the vocabulary test scores of male and female participants.

Discussion

The research sought to explore the intricate interplay between intrinsic and extrinsic motivation and their possible impacts on the vocabulary proficiency of Iranian elementary learners studying EFL, both males and females. Despite the initial expectation of discovering notable relationship between different types

of motivation and the acquisition of vocabulary, the results unveiled a lack of significant influence of either intrinsic or extrinsic motivation on vocabulary size among the participants. This unanticipated revelation challenges preconceived notions and underscores the intricate nature of motivational elements within the context of language learning.

The findings align with prior research on the role of motivation in language learning outcomes. [Ryan and Deci \(2023\)](#) emphasized the importance of intrinsic motivation in language learning, suggesting that the inherent desire for mastery and enjoyment plays a crucial role in vocabulary acquisition. However, their findings also highlighted the variability of this impact depending on contextual factors, which may explain the lack of significant results in the present study. [Gardner \(2022\)](#) similarly underscored the influence of socio-contextual elements, including extrinsic motivation, in shaping language learning outcomes across diverse cultural settings. These perspectives resonate with the

study's findings, which suggest that intrinsic and extrinsic motivation might not operate in isolation but are deeply intertwined with external and situational factors.

The results of the present study are also consistent with those reported by Ghenghesh (2010), who found no significant correlation between intrinsic motivation and vocabulary acquisition among Libyan EFL learners, attributing this outcome to contextual differences. This aligns with the findings of Agreda (2006) who conducted a comparative study among German, French, and English learners, revealing no notable differences in vocabulary acquisition linked to motivational levels. These studies collectively indicate that the relationship between motivation and vocabulary acquisition may not be universally applicable but rather contingent on specific learner populations and contexts. Furthermore, as noted by Dörnyei and Ushioda (2021), the interaction between intrinsic and extrinsic motivation can yield varying outcomes depending on the learning environment, further emphasizing the complexity of motivational dynamics.

Regarding gender dynamics, Johnson (2015) observed that male and female foreign language learners tend to follow similar paths of vocabulary acquisition in the early stages. This finding suggests that gender may not significantly impact vocabulary acquisition, aligning with the present study's results. However, contrasting evidence exists. For instance, Ajeng (2017) reported gender differences in language learning, while Alhaysony (2017) found no significant differences in vocabulary acquisition based on gender or the duration of English language study among Saudi students. Similarly, Hilao and Wichadee (2017) demonstrated that gender differences do not influence language learning or the usage of mobile phones for language learning in Thailand, further corroborating the findings of this study.

In the study conducted by Hilao and Wichadee (2017), the findings showed that gender differences do not exist between male and female students in the language learning and usage of mobile phones for learning foreign languages in Thailand. In this finding, both males and females enjoy the same level of learning performance. Thus, the study found that gender plays no part in students' attitudes toward language learning. Alhaysony (2017) investigated the impact of gender and duration of English language study. The study revealed no significant differences based on gender and time spent studying English among Saudi students, indicating a lack of progressive awareness regarding available strategic learning options. While female students were found to dedicate more time to learning English

compared to male students, the latter were less exposed to formal English reporting.

Recent research by Kiani and Salehi (2021) and Rezaei and Jafari (2022) emphasized the significance of both intrinsic and extrinsic motivation in enhancing language proficiency within Iranian EFL contexts. However, their work also highlighted the role of teaching methods and cognitive strategies as mediating factors, which could explain the lack of significant findings in this study. These insights suggest that motivational factors alone may not sufficiently account for vocabulary acquisition and that broader instructional and environmental variables warrant consideration.

In examining gender-specific motivational dynamics, Khong et al. (2017) reported that female learners exhibited higher levels of instrumental motivation compared to males. However, their findings also indicated no significant differences in the adoption of integrative or instrumental motivations, which resonates with the present study's findings of minimal gender-based differences. Similarly, Smith et al. (2018) and Wang and Derakhshan (2017) explored gender-based variations in motivation and language learning strategies, concluding that while gender dynamics exist, they may not uniformly affect language outcomes. Atika (2019) further highlighted the nuanced relationship between gender and learning strategies, noting that female learners often prefer field-dependent and reflective approaches, whereas male learners exhibit more independent and impulsive tendencies.

In light of these findings, the study extends the understanding of motivation and gender dynamics by revealing their limited influence on vocabulary acquisition among Iranian elementary EFL learners. While intrinsic and extrinsic motivation are widely acknowledged as significant determinants in language acquisition, their effects appear to be mediated by contextual factors, teaching methodologies, and cognitive strategies. This underscores the need for a nuanced approach to language instruction that accounts for the complex interplay of motivational and environmental variables.

The implications of these findings are significant for language education practices. Educators should approach motivation-based strategies with caution, recognizing that traditional extrinsic incentives, such as rewards and punishments, may not be universally effective. Instead, fostering intrinsic motivation through meaningful learning experiences, autonomy-supportive environments, and culturally responsive pedagogy may yield better outcomes. Moreover, the findings highlight the importance of integrating cognitive and environmental factors into instructional design to

optimize vocabulary learning.

Acknowledging the study's limitations is essential. The reliance on self-report measures to assess motivation introduces potential biases, and the imbalance in gender distribution (61 females vs. 12 males) limits the generalizability of the findings. Future research should aim for more balanced participant distributions to enable robust gender comparisons. Additionally, the focus on Iranian adolescent EFL learners restricts the broader applicability of the results to other cultural and educational contexts. Exploring longitudinal effects, comparative studies across diverse demographics, and the underlying mechanisms of motivational influence could provide deeper insights into the dynamics of language learning.

In conclusion, this study challenges traditional assumptions about the role of intrinsic and extrinsic motivation in vocabulary acquisition, highlighting the need for a context-sensitive and multifaceted approach to language education. By addressing the complex interplay between motivation, gender, and contextual factors, educators and researchers can develop more effective strategies to support successful language learning outcomes.

Authors Contribution

All authors have contributed equally to prepare the paper.

Availability of data and materials

The data that support the findings of this study are available from the corresponding author, upon reasonable request.

Conflict of interests

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Biodata

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