



Research article

Reading motivation and reading comprehension achievement among English majors in China: A descriptive correlational study

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ABSTRACT

This study explores the relationship between reading motivation and reading comprehension achievement among English major students in China, an area that has received limited attention in existing literature. Drawing on previous research emphasizing the importance of reading motivation in improving reading skills, this study seeks to examine the connection between reading motivation and reading comprehension achievement within the specific research context. The Pearson correlation coefficient showed a significant positive correlation between reading motivation and reading proficiency among English major students at a Chinese private undergraduate university. The study also indicated that reading motivation can predict reading comprehension scores. This investigation not only fills a gap in current research but also paves the way for future experimental studies to investigate the efficacy of specific motivational interventions or instructional strategies in boosting reading motivation and subsequently improving reading skills among English language learners. The findings of this study are expected to guide educational practices and policies, ultimately leading to advancements in English language education for Chinese students majoring in English.

1. Introduction

In the context of English language education, reading motivation plays a critical role in developing learners' reading ability and overall language skills. Recognized as a substantial factor in language learning, motivation influences students' engagement with reading materials, reading achievement, overall language proficiency, and language learning outcomes [1–4]. According to Guthrie and Davis [5], motivated readers are more likely to engage in extensive reading, persist in challenging texts, and employ effective reading strategies, leading to improved reading comprehension. Moreover, McGeown et al. [6] emphasize the significance of reading motivation as a predictor of reading comprehension and skills in adolescents. Morgan and Fuchs [7] assert a bidirectional relationship between reading skills and reading motivation, highlighting the importance of enhancing both reading motivation and reading comprehension simultaneously.

Numerous studies have explored the relationship between key factors in various educational contexts, such as the positive reciprocal effects of reading achievement and intrinsic reading motivation among students in Grades 3 and 4 [8]. Other research has examined intrinsic and extrinsic reading motivations as predictors of reading performance [9,10], and highlighted how reading motivation can inform policies aimed at enhancing reading achievement [11]. However, there is a notable lack of research

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investigating this relationship, specifically among English major students in EFL and ESL settings, including China. The English major is the most extensive undergraduate discipline offered in more than 1300 universities across China [12], holding significant importance within China's higher education system. This discipline is responsible for educating and training English language learners in China from primary to college levels, as well as in academic and professional areas like linguistics, literary studies, cultural studies, business, international affairs, tourism, translation, and interpretation [13].

Despite decades of practice and development, research on English major education has identified several challenges impacting the quality of English learning, such as an overemphasis on examinations, outdated teaching approaches, limited authentic language practice, and incongruence between English proficiency goals and practical constraints [14–16]. These challenges have hindered the development of reading comprehension [17,18] and resulted in low motivation among English majors in China [19,20].

Given the importance of reading motivation and reading comprehension ability in EFL learning for Chinese English major students, it is crucial to determine the nature and degree of the relationship between the two variables as a “stepping-stone to the more powerful experimental method” in the future [21]. Therefore, the current research aims to establish the correlation between reading motivation and reading comprehension achievement in the Chinese context to gain insight into the factors that contribute to students' language learning outcomes. This will inform effective language instruction and curriculum design to enhance students' proficiency in English.

2. Literature review

The intricate interplay between reading motivation and comprehension is a pivotal area of inquiry in the field of language education. As a fundamental skill in language learning, reading requires not only linguistic competence but also a strong motivation to effectively engage with written texts [22,23]. According to Wigfield and Guthrie [24], motivation plays a crucial role in influencing the quantity and breadth of students' reading, thereby facilitating language acquisition and academic success. This study delves into the relationship between reading motivation and comprehension among English majors in China, providing a foundation for further investigation into effective interventions regarding reading motivation and comprehension. This research aims to promote reading proficiency and academic success among English majors in China.

2.1. Constructs of motivation in L2 reading

L2 motivation is widely recognized as a crucial factor influencing language learning, playing a significant role in determining the pursued goals, level of effort invested, depth of engagement, and persistence in learning [25]. According to Gardner [26], language-learning motivation entails both the exerted effort and the desire to achieve language-learning goals, alongside positive attitudes towards the learning process. Crookes and Schmidt [27] further define motivation as interest in and enthusiasm for class materials, dedication to learning tasks, and levels of concentration and enjoyment. Dörnyei [28] suggests that motivation determines the actions undertaken, the perseverance in activities, and the amount of effort devoted to them. Thus, high levels of motivation among students can lead to more efficient learning outcomes. Reading motivation is critical within a specific domain [29,30].

According to Guthrie and Wigfield [31], reading motivation encompasses an individual's personal goals, values, and beliefs regarding topics, processes, and outcomes associated with reading. Individuals may have diverse motivations for reading, resulting in varying levels of reading motivation. Drawing upon motivational theories, motivations for reading can be broadly categorized into two dimensions: intrinsic and extrinsic forms of motivation [24]. Extrinsic reading motivation originates from external incentives, such as the desire for good grades, meeting others' expectations, or outperforming peers. It involves reasons for reading that are external to both the act of reading and the subject matter, encouraging learners to seek positive outcomes and avoid negative consequences [32]. In contrast, intrinsic motivation to read is characterized by an individual's genuine enjoyment of reading as a rewarding activity in itself [32,33]. Intrinsically motivated readers engage in reading for internal reasons such as personal fulfillment, pleasure, or curiosity [34]. The dichotomy between intrinsic and extrinsic motivation serves as a useful framework for understanding reading motivation dynamics.

2.2. Reading comprehension skills in L2 learning

In foreign language learning, reading is a primary activity to comprehend written texts to acquire academic information, knowledge, and messages explicitly or implicitly [23,35]. Therefore, it is expected to have a valuable impact on learners' linguistic and extralinguistic knowledge when it is meaningful and engaging. According to Grabe [36], reading entails a complex combination of processes, with the central objective being comprehension. Reading comprehension involves the ability to understand, interpret, and extract meaning from written texts by actively engaging with the content, connecting ideas, and synthesizing information [37]. It encompasses the cognitive and linguistic skills needed to comprehend and interpret written texts, such as vocabulary knowledge, reading fluency, and reading comprehension strategies [38]. A general understanding of these component skills can offer a clear depiction of the reading process.

As early as the 1940s, Davis [39] identified nine component skills, including aspects like knowledge of word meanings, identifying the main idea of a passage, responding to text-based questions, drawing inferences about content, etc., laying the groundwork for further exploration of component processes. Grabe [36,40] further elaborates on reading comprehension skills, which encompass tasks such as predicting text information, mentally organizing and summarizing information, monitoring comprehension, and aligning comprehension with the reader's objectives. By categorizing reading abilities into lower-level and higher-level processes, Grabe presents a comprehensive framework for understanding how reading works.

It is crucial to note that the distinction between lower-level and higher-level components does not suggest that one is simpler or more basic than the other. For example, while word knowledge is essential for comprehension, higher-level processes involve a more deliberate engagement with the text. Grabe's insights into reading comprehension components have been widely acknowledged and supported by researchers such as Nassaji [41]. Proficient readers, as highlighted by Kazemi, Hosseini, and Kohandani [42], adeptly blend both lower-level processes, such as word recognition and syntactic parsing, with higher-level processes, such as drawing on prior knowledge, making inferences, and predicting the text's direction. This integrated approach leads to a deeper comprehension and enjoyment of reading materials.

2.3. Reading motivation and reading comprehension in L2 learning

Numerous studies have shown a strong connection between motivation in reading and students' reading comprehension achievement. Pecjak and Kosir [43] discovered that students display increased interest in reading when they have both extrinsic and intrinsic motivation. McKay [44] emphasized that reading, as an interaction between the reader and a particular text, relies on motivational factors, making them essential to the reading process. It is apparent that without student motivation or interest in the content, simply teaching reading skills or strategies may not effectively engage them [45]. Conversely, motivated students demonstrate higher attention and a reduced filter towards reading [46], supporting Krashen's argument that students with positive attitudes have a lower filter [47]. Therefore, a key factor in enhancing the reading skills of English learners is to cultivate student engagement and motivation to read.

Some researchers have highlighted the reciprocal relationship between motivation and engagement, indicating their crucial role in developing reading comprehension. According to Guthrie et al. [48], motivation and engagement can impact the depth of understanding text content and information processing, thereby improving reading comprehension. Davis et al. [49] attributed student disengagement from reading to a lack of motivation. Without acquiring reading comprehension skills and having the motivation to learn through reading, students' academic progress may be hindered. Hence, motivation can encourage EFL learners to sustain their learning activities and persevere in their endeavours.

The association between reading comprehension proficiency and students' motivation to read effectively has become a growing concern for Chinese English as a Foreign Language (EFL) learners. Xu and Durgunoğlu [50] emphasize the importance of motivational factors in EFL reading comprehension, highlighting their role in enhancing deeper understanding and engagement with reading materials. Additionally, Han [22] underscores the significant role of reading motivation in influencing reading behaviours such as strategy use, reading frequency, and overall reading proficiency. Furthermore, Yao [51] identified a link between reading strategies, motivation, and self-efficacy, proposing that a targeted reading program could boost reading motivation. The combined findings from these studies underscore the interconnected nature of reading motivation and comprehension skills, underscoring the need for a holistic approach to nurture students' enthusiasm and proficiency in reading.

While there is a growing focus on the connection between reading motivation and comprehension in the Chinese EFL learning context, there is a noticeable gap in relevant research studies dedicated to English major students. English major students encounter significant challenges, including issues like poor reading comprehension [52,53], and a lack of reading motivation within this specific academic group [20,54]. Given these hurdles, it is essential to explore the link between reading motivation and comprehension among English major students to offer valuable insights for future empirical research in this overlooked area.

In conclusion, the literature review presents a detailed overview of the definitions, past research, and the relationship between reading motivation and reading comprehension. This review sets the groundwork for the current study, highlighting the importance of investigating the unique dynamics of reading motivation and ability in this specific context and the potential implications for language teaching and learning practices. It aims to address the following research questions.

Question 1. What is the nature and strength of the relationship between reading motivation and reading comprehension achievement among English majors in China?

Question 2. How do specific constructs of reading motivation relate to reading comprehension achievement among English majors in China?

Question 3. To what extent does the reading motivation of English majors predict their reading comprehension achievement in a Chinese private university setting?

3. Method

3.1. Participants

The participants in the current study were recruited from a private university located in northwest China. This research site, a well-established private higher institution, is representative of numerous private universities and colleges in China, renowned for their teaching quality and scientific research achievements. Following approval from the faculty dean, 452 sophomore students majoring in English education from 14 intact classes were invited to participate. Participants were comprehensively briefed on the study's objectives, procedures, data handling, sharing practices, and voluntary nature. Furthermore, they were assured that all information collected would remain confidential and anonymized to safeguard their privacy.

To ensure sufficient statistical power for identifying correlations between reading motivation and reading comprehension

achievement, G*Power was utilized to determine the sample size. With a two-tailed test, a correlation coefficient of .3, an alpha level of .05, and a statistical power of .8, a sample size of 84 was deemed adequate to detect significant relationships between reading motivation and reading comprehension while reducing the risk of Type I errors. Consequently, 84 students were chosen as participants via simple random sampling, approximately 6 from each intact class. All participants shared similar demographic characteristics; they were of Han Chinese ethnicity, with Chinese as their native language and English as their sole foreign language. Additionally, all participants were between 18 and 20 years old and commenced learning English as a foreign language in Grade 3 during primary school.

3.2. Instruments

The research objective of the study is to evaluate the connection between reading motivation and reading comprehension among English major students in China. In response to the research question, data was collected using a self-report motivation scale and a standardized test to gain insights into aptitudes, academic performance, and various aspects of personality [55].

Given the focus of the current study on investigating the reading motivation of tertiary-level students, it utilized the Adult Motivation for Reading Scale (AMRS) developed by Schutte and Malouff [56]. This scale comprises 21 items rated on a 5-point Likert scale, ranging from strongly disagree to strongly agree. Drawing on the reading engagement theory and the Children's Motivation for Reading Questionnaire [24], Schutte and Malouff delved into adult reading motivation and identified four factors within two dimensions. The first factor, encompassing eight items, pertains to individuals viewing reading as an integral part of their lives, denoting intrinsic motivation [57]. The second factor, comprising six items, relates to reading efficacy, representing individuals' aspiration to excel as readers and their readiness to tackle challenges [57,58]. This factor is also intertwined with intrinsic motivation. The remaining two factors, containing 3 and 4 items respectively, denote extrinsic motivations, depicting individuals' desire for recognition and admiration from others [57], and the practical benefits of reading for achieving success in other domains [58]. AMRS stands out as the only scale tailored to adult individuals, demonstrating reliability and validity in gauging adult reading motivation [48]. The internal consistency analysis of the reading motivation scale ($\alpha = .85$) was deemed satisfactory, indicating a good capacity to predict reading enjoyment. Moreover, in recent years, several studies have been conducted to validate AMRS or utilize it for evaluating adult reading motivation [58–60]. The versatility and vitality of this scale have been evident through its application in various contexts [61–63]. Since the participants are English major students, the scale, originally developed in English, was not translated into Chinese.

The second instrument used in the study was an adapted version of a national standardized reading test aimed at providing a numerical score to allow for inferences about individual performance [55]. Considering the study population of English major students in China, the Test for English Majors-4 (TEM4) emerged as the most suitable tool. TEM4 is a criterion-referenced test designed to assess the English proficiency of Chinese university undergraduates majoring in English Language and Literature [64]. Over more than two decades, numerous studies have scrutinized the feasibility, validity, and implications of the TEM system [65]. The primary aim of TEM is to evaluate the language proficiency of English major students and assess their adherence to the national syllabus for teaching foreign languages. TEM4, specifically catering to students' listening, reading, and writing skills, employs diverse assessment methods such as multiple-choice questions (MCQs), dictation, and blank filling [64]. Therefore, the reading subtest within the TEM paper qualifies as a reliable and valid instrument to gauge students' reading comprehension ability in this research. For the current study, the 2022 edition of the TEM-4 test paper was selected to obtain data, developed by educational experts following rigorous psychometric evaluation to ensure reliability and validity before its administration to exam-takers nationwide. The reading test comprises three passages, with 10 MCQ items (1–10) and five short-answer questions (11–15). The first passage is a narrative, while the remaining two are argumentative pieces. Students are scored out of 20 points (1 point per MCQ and 2 points per short-answer question).

3.3. Data collection

The data collection process involved administering the Adult Motivation for Reading Scale to assess participants' reading motivation and a reading test to measure their comprehension ability. The data collection took place in a multimedia room after regular teaching hours to accommodate the 84 participants. Participants were instructed to provide honest and best possible responses to the questionnaire items. They participated in the TEM 4 reading test under standardized testing conditions, mimicking an exam setting to evaluate their reading ability. The test was administered in a controlled environment to ensure assessment validity and reliability. It lasted 35 min and was in a paper-and-pencil format, followed by a 15-min online motivation survey. Participants were required to complete the online questionnaire on their mobile phones within 15 min.

Subsequently, the researcher collected and marked the reading test papers, which an English reading lecturer then reviewed to ensure consistent scoring procedures. The reading comprehension test scores and reading motivation scores were cross-checked for consistency before being entered into SPSS and appropriately labelled. The data underwent screening and editing for normality and linearity to prepare for further correlational analysis.

3.4. Data analysis

In this research, SPSS 29 was utilized to analyze the collected data. As the research questions involve both examining the correlation and predictive power between reading motivation and reading comprehension ability, the Pearson Correlation coefficient and bivariate regression analysis were applied to address the key inquiries. This research aimed to uncover relationships between reading motivation levels and reading comprehension abilities among the selected participants and to ascertain the extent to which variations

in one variable can predict the values of the other variable. The Pearson Correlation coefficient investigates whether a relationship exists between reading motivation and reading comprehension ability, determining its magnitude and direction [66]. Since correlations cannot indicate the prediction of one variable from another [67], simple linear regression was also utilized to answer the third research question. This allowed for a comprehensive examination of how changes in reading motivation scores might be linked to variations in reading comprehension achievement, providing valuable insights into the factors influencing academic performance in the context of reading-related skills among students.

4. Results

4.1. Tests of linearity and normality

To apply the statistics of the Pearson correlation coefficient and simple linear regression, the assumptions of linearity, homoscedasticity, and normal distribution must be ensured [66,67]. When checking the assumption of linearity, scatterplots are utilized to assess the assumptions of linearity and homoscedasticity. As can be observed from Figs. 1–3, there is a linear relationship between the variables of reading motivation and reading comprehension ability, between intrinsic reading motivation and reading comprehension ability, and between extrinsic reading motivation and reading comprehension ability. The figures also indicate that the homoscedasticity assumptions are met because the variability of the reading comprehension scores remains relatively constant from one motivation score to the next.

Two components of statistical tests to assess normality are skewness and kurtosis. Additionally, statistical programs offer specific tests for normality that calculate the significance of deviations from a normal distribution [60]. A simple guideline is that if skewness falls between plus or minus one (-1 to $+1$), the variable is approximately normal [68,69]. The Kolmogorov-Smirnov statistic and the Shapiro-Wilk statistic are two common tests for normality; normality is assumed if the significance levels for these tests exceed .05. Table 1 displays the normality test results for the variables in the research. The Kolmogorov-Smirnov values presented in Table 1 indicate that scores for total reading motivation, intrinsic reading motivation, and extrinsic reading motivation are approximately evenly distributed ($p > .05$). Although the significance value for reading comprehension was below .05, the descriptive statistics show skewness within the range of -1 to $+1$, specifically $-.305$, confirming the variable is also considered approximately normally distributed.

4.2. Descriptive statistics

The results of the descriptive statistics in Table 2 suggest that the English majors in the sample possess a moderately high level of reading motivation ($M = 3.78$, $SD = .60$), both intrinsic ($M = 3.78$, $SD = .63$) and extrinsic ($M = 3.79$, $SD = .62$). The average reading comprehension score indicates a good understanding of reading materials ($M = 15.75$, $SD = 2.45$). The standard deviations highlight variability in motivation and comprehension levels, suggesting notable differences in individual motivation and comprehension abilities.

4.3. Results of the first and second research questions

The first and second research questions aimed to determine the nature and strength of the relationship between reading motivation, constructs of motivation, and reading comprehension achievement among English majors in China. As the assumptions of linearity, homoscedasticity, and normality were met, the Pearson product-moment correlation coefficient was calculated to examine the intercorrelations among the variables. Table 3 shows that all pairs of variables were significantly correlated.

For the first research question, which investigates the nature and direction of the relationship between reading motivation and reading comprehension achievement, a positive correlation is identified, $r(82) = .720$, $p < .001$. This indicates that English-major students with higher reading motivation tend to have higher reading comprehension achievement and vice versa; as the students' reading motivation levels increase, their reading comprehension scores also improve. According to Guildford's Rule of Thumb [70],

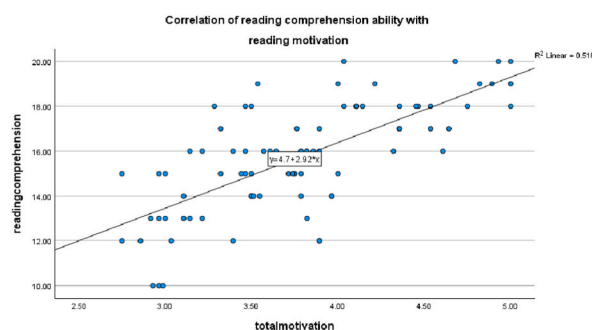


Fig. 1. Scatterplot of the linearity between reading comprehension ability and reading motivation.

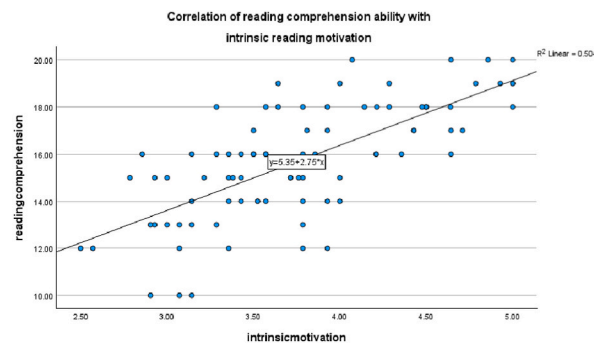


Fig. 2. Scatterplot of the linearity between reading comprehension and intrinsic reading motivation.

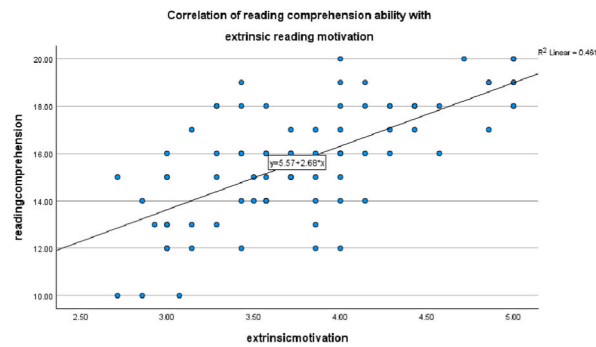


Fig. 3. Scatterplot of the linearity between reading comprehension and extrinsic reading motivation.

Table 1
Tests of normality.

	Kolmogorov-Smirnov			Shapiro-Wilk			Skewness
	Statistic	df	Sig.	Statistic	df	Sig.	
Motivation	.072	84	.200*	.964	84	.018	.352
Intrinsic motivation	.079	84	.200*	.972	84	.061	.252
Extrinsic motivation	.083	84	.200*	.959	84	.009	.342
Reading Comprehension	.118	84	.006	.964	84	.019	-.305

Table 2
Results of descriptive statistics.

Variables	N	Minimum	Maximum	Mean	SD
Reading motivation	84	2.75	5.0	3.78	.60
Intrinsic motivation	84	2.50	5.0	3.78	.63
Extrinsic motivation	84	2.71	5.0	3.79	.62
Reading comprehension	84	10.00	20.00	15.75	2.45

Table 3
Correlations between reading motivation and reading comprehension.

Variable	1	2	3	4	M	SD
1. Reading motivation	—	.966 ^a	.965 ^a	.720 ^a	3.78	.61
2. Intrinsic reading motivation	—	—	.864 ^a	.710 ^a	3.78	.63
3. Extrinsic reading motivation	—	—	—	.679 ^a	3.79	.62
4. Reading comprehension	—	—	—	—	15.75	2.45

^a Correlation is significant at the .01 level (2-tailed).

there is a high relationship between reading motivation and reading comprehension, and the correlation is significant.

The second research question aims to determine the correlation between different constructs of reading motivation. In this study, reading motivation is measured through two broader constructs: intrinsic and extrinsic motivations. Intrinsic motivation pertains to internal drives such as enjoyment, personal goals, or satisfaction of curiosity, whereas extrinsic motivation focuses on external purposes, such as acquiring rewards or gaining recognition from teachers or peers [34]. The results indicate a positive and high correlation between internal reading motivation and reading comprehension, $r(82) = .710$, $p < .001$, signifying that as students' internal reading motivation levels increase, their reading comprehension scores also rise.

The correlation between external reading motivation and reading comprehension scores is $r(82) = .679$, $p < .001$. The positive direction of this correlation suggests that as students' levels of external reading motivation increase, their reading comprehension scores also tend to rise. According to Guildford's Rule of Thumb [70], the analysis reveals a moderate correlation between the two variables.

4.4. Results of the third research question

The third research question aims to predict the impact of reading motivation on the reading comprehension ability of English majors in Chinese private university settings. Since the two variables are normally distributed and exhibit a linear relationship, a bivariate regression was conducted to investigate how well the reading motivation of Chinese English major students predicts reading comprehension scores.

As shown in Table 4, the reading motivation of English-major students at a private university in China significantly predicted reading comprehension, $F(1, 82) = 88.064$, $p < .001$. The identified equation to understand this relationship was reading comprehension score = $4.70 + 2.92 \times (\text{reading motivation})$, indicating that for every one-unit increase in reading motivation, the reading comprehension score increased by 2.92 units. The R^2 value was .518, indicating that 52 % of the variance in reading comprehension scores was explained by reading motivation.

5. Discussion

The current research examined the nature and strength of the relationship between reading motivation and reading comprehension, revealing significant positive correlations between these constructs among English major students at a Chinese private undergraduate university. While the findings align with existing literature, such as Mol and Bus [71], which underscore the critical role of reading motivation in facilitating reading development, it is essential to delve deeper into the implications of these results. The significant positive correlation between reading motivation and reading comprehension skills suggests that students with higher levels of reading motivation tend to demonstrate better abilities in vocabulary recognition, identifying main ideas, and drawing inferences. The results also corroborate previous research highlighting the importance of motivation in language learning [22,50], emphasizing EFL reading comprehension's role in promoting deeper understanding, engagement, strategy use, reading frequency, and reading proficiency. The positive correlation underscores the potential influence of motivational factors on students' language learning outcomes and supports the promotion of reading motivation in educational settings.

The analysis further suggests a strong correlation between intrinsic reading motivation and reading comprehension, indicating that the internal drive to read plays a pivotal role in bolstering adult readers' understanding of written texts. This finding aligns with Schutte and Malouff [56], who assert that intrinsic reading motivation may wield a greater influence on adults, possibly stemming from individuals developing a personal connection to reading through their socialization experiences. Moreover, the study validates Schiefele et al.'s [32] research, which highlighted the positive and significant relationship between reading ability and intrinsic motivations such as reading attitudes and intrinsic task value. These findings underscore the critical role internal factors such as personal interest and perceived task value play in driving individuals to engage with reading materials, enhancing their comprehension skills. Educators can leverage these insights to design tailored interventions that bolster individuals' passion for reading and cultivate a deep-seated commitment to engaging with textual content. By fostering a positive reading environment that values intrinsic motivation, educators can empower adult readers to enhance their comprehension skills and develop a lifelong affinity for reading.

The study results also revealed that reading motivation can serve as a robust predictor of reading comprehension scores. This suggests that individuals with higher motivation levels to engage with reading materials are more likely to excel in understanding and interpreting the content. These findings resonate with McGeown et al. [6], which emphasized reading motivation's pivotal role in predicting adolescents' reading comprehension outcomes. The implications of these results are significant, emphasizing the critical

Table 4
Results of simple linear regression between reading motivation and reading comprehension ability.

Factors	<i>b</i>	<i>SE</i>	<i>Beta</i>	<i>t</i>	<i>p</i>
Constant	4.704	1.192		3.946	<.001
Reading motivation	2.919	.311	.720	9.384	<.001
<i>F</i> = 88.064		<i>R</i> = .720			
Sig- <i>F</i> < .001		<i>R</i> ² = .518			

Dependent Variable: reading comprehension.

Predictor: (Constant), reading motivation.

importance of fostering and nurturing reading motivation, particularly in educational settings. This, in turn, can positively impact academic performance and overall literacy skill development in the long term.

6. Implications, limitations, and recommendations for future research

The results of this study indicate a significant positive correlation between reading motivation and reading comprehension ability. Specifically, intrinsic motivation, including factors such as reading as part of self and reading efficacy, is positively associated with reading comprehension ability. The study also investigated the predictive power of reading motivation on reading comprehension. The positive correlation observed aligns with theoretical frameworks emphasizing motivation's role in language learning [28,72]. It suggests that fostering students' intrinsic interest in reading, building their confidence in their reading abilities, and emphasizing the value of reading can contribute to improved reading performance and language learning outcomes.

The findings have several implications for educators and practitioners in English language teaching. The research emphasizes that understanding and addressing students' reading motivation may enhance their reading proficiency and overall language learning outcomes. Therefore, educators can incorporate motivational strategies, such as providing choices in reading materials that cater to students' interests and reading levels, fostering a supportive reading environment, and highlighting reading's relevance to students' personal and academic goals. Given the challenges faced by Chinese English major students in language learning—such as decreased effort, interest, concentration, and persistence [19]—this research provides a foundation for further interventions and longitudinal studies to explore the specific mechanisms through which reading motivation influences reading comprehension outcomes and offers valuable insights into the sustained effects of reading motivation over time.

However, several limitations of the study must be acknowledged. Firstly, the use of self-reported measures for reading motivation may introduce social desirability bias and subjective interpretations. Secondly, the study only investigated the predictive power of reading motivation on reading comprehension without considering the bidirectional relationship between the two elements of reading, as highlighted by Nuttall [73] and Morgan and Fuchs [7]. Thirdly, since the study only involved participants from a private university in northwest China, the findings may not be applicable to English major students in public universities or to non-English majors at the tertiary level in China. Lastly, the study did not consider variations such as gender, prior knowledge, and personal differences among students, which may potentially confound the results.

Despite these limitations, the study offers recommendations for future research. Firstly, future research could complement self-report measures with observational and qualitative data to provide a more comprehensive understanding of reading motivation. Secondly, in-depth longitudinal studies can explore the bidirectional correlation between reading motivation and reading comprehension and the effectiveness of specific motivational interventions or instructional approaches in enhancing reading ability among English language learners. Thirdly, future studies can replicate the research with non-English major students or with English majors at different levels, further validating the findings. Lastly, factors regarding subject variation differences are recommended to be included in future studies to gain a complete understanding of the issue.

In conclusion, the study contributes to the field of English language learning and teaching by providing evidence of the relationship between reading motivation and reading ability among English major students in Chinese educational settings. By highlighting motivational factors' significance in language learning, the findings add to the growing body of research supporting integrating motivational strategies into language teaching and curriculum development to enhance students' language learning experiences.

CRediT authorship contribution statement

Lei Ma: Writing – review & editing, Writing – original draft, Software, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Zheng Zhao:** Project administration, Funding acquisition.

Ethics statement

This study was reviewed and approved by the Ethics Committee of Universiti Putra Malaysia, with the approval number: JKEUPM-2023-079, dated April 12, 2023. All participants provided written informed consent to participate in the study and for their data to be published.

Data availability statement

Data will be made available on request. For requesting data, please write to the corresponding author.

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Declaration of competing interest

The authors declare the following financial interests/personal relationships which may be considered as potential competing interests: Zheng Zhao reports financial support was provided by Shaanxi Provincial Academy of Social Sciences. Reports a relationship

with that includes: Has patent pending to. If there are other authors, they declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.heliyon.2025.e42427>.

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