EXAMINING GENDER AND SOCIOECONOMIC STATUS PREDICTABILITY IN ENGLISH READING COMPREHENSION AMONG THAI EFL UNDERGRADUATES

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บทความวิจัย

This research aims to examine the predictive abilities of gender and socioeconomic status (SES) on reading comprehension among Thai EFL undergraduates, consisting of 2,072 freshmen in the Science and Technology stream selected by convenience sampling. Data in the form of participants' scores from an online Thai-READS were collected and analyzed by multiple regression using dummy variables.

The results of this research were as follows:

1. Gender and SES showed predictive power with a low percentage of variance in predicting the reading comprehension score among participants at the statistically significant level of 0.05.

2. Male participants' mean score (M=30.20) was greater than female participants (M=26.25) at the statistically significant level of 0.05.

3. Mean score of participants with a high SES level (M=32.18) was greater than others with medium SES level (M=29.83), low SES level (M=27.09), as well as very low SES level (M=25.48) at the statistically significant level of 0.05.

Keywords: Reading Comprehension, Gender, Socioeconomic Status (SES), Thai Reading Comprehension Evaluation and Decoding System (Thai-READS)

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การตรวจสอบความสามารถการพยากรณ์ของเพศและสถานะทางเศรษฐกิจและสังคมที่ส่งผลต่อความเข้าใจการอ่านภาษาอังกฤษของนักศึกษาไทยที่เรียนภาษาอังกฤษเป็นภาษาต่างประเทศ

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การวิจัยครั้งนี้มีวัตถุประสงค์ เพื่อตรวจสอบความสามารถการพยากรณ์ของเพศและสถานะเศรษฐกิจและสังคมที่ส่งผลต่อความเข้าใจการอ่านภาษาอังกฤษของนักศึกษาไทยระดับมหาวิทยาลัยที่เรียนภาษาอังกฤษเป็นภาษาต่างประเทศ กลุ่มตัวอย่างที่ใช้ในการวิจัย คือ นักศึกษาชั้นปีที่หนึ่ง จำนวน 2,072 คน ศึกษาทางด้านวิทยาศาสตร์และเทคโนโลยี เลือกสุ่มด้วยวิธีการสุ่มตามความสะดวก ข้อมูลในการวิจัย ครั้งนี้เก็บจากคะแนนของกลุ่มตัวอย่างจากการทำข้อสอบวัดความเข้าใจการอ่านภาษาอังกฤษด้วยระบบคอมพิวเตอร์ซึ่งใช้ข้อสอบฉบับที่ใช้ในประเทศไทย ข้อมูลคะแนนของกลุ่มตัวอย่างวิเคราะห์ด้วยวิธีวิเคราะห์การถดถอยเชิงพหุคูณใช้ตัวแปรหุ่น

ผลการวิจัย พบว่า

1. เพศและสถานะเศรษฐกิจและสังคมมีความสามารถพยากรณ์ความเข้าใจการอ่านภาษาอังกฤษของนักศึกษาอย่างมีนัยสำคัญทางสถิติที่ระดับ 0.05 โดยมีระดับความแปรปรวนอยู่ในระดับต่ำ

2. นักศึกษาเพศชาย (M=30.20) มีความเข้าใจการอ่านภาษาอังกฤษสูงกว่านักศึกษาเพศหญิง (M=26.25) อย่างมีนัยสำคัญทางสถิติที่ระดับ 0.05

3. นักศึกษาที่มีสถานะเศรษฐกิจและสังคมระดับสูง (M=32.18) มีความเข้าใจการอ่านภาษาอังกฤษสูงกว่านักศึกษาที่มีสถานะเศรษฐกิจและสังคมระดับปานกลาง (M=29.83) ระดับต่ำ (M=27.09) และระดับต่ำมาก (M=25.48) อย่างมีนัยสำคัญทางสถิติที่ระดับ 0.05

คำสำคัญ: ความเข้าใจในการอ่าน เพศ สถานะเศรษฐกิจและสังคม ข้อสอบวัดความเข้าใจการอ่านฉบับที่ใช้ในประเทศไทย

Introduction

Reading is a vital and powerful skill that can contribute to successful learning of English. In an academic setting, it is a notable skill for learners to gain new information through explanation and interpretation of reading materials (Levine, Ferenz, & Reves, 2000) as evidenced by several eminent studies in the past decades (e.g., Cummin, 2012; Farnia & Geva, 2013; Lipka & Siegel, 2012; and Snow, 2002) examining English language learners' reading comprehension. Snow (2002) stresses the importance of reading comprehension especially for students' reading skills for their academic and future professional success, whilst Zhang (2017) suggests reading as an active process which interrelates readers' knowledge of the world and their language abilities. Acquiring successful text comprehension requires these two determinants with an underlining state of functional and reciprocal actions.
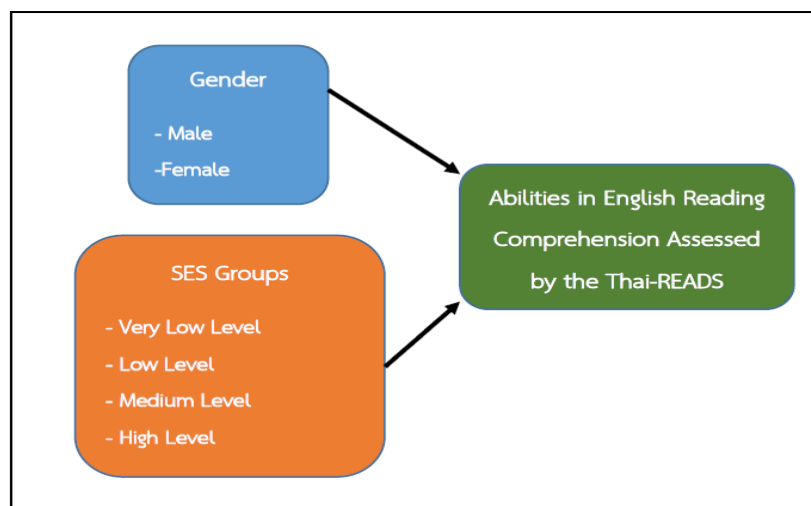
At an individual level, reading generally can drive EFL readers to excel in their daily worldly affairs (Khemanuwong, Mohamed, & Ismail, 2018) as an interactive process focused on reading with comprehension (Gamboa-González, 2017) which ultimately promotes readers' understanding of the text by teasing out its overall meaning (Arechiga, 2013) This interactive process of reading comprehension involves the writer who primarily encodes thought to language and the reader who consequently decodes language to thought.

Different possible factors such as ethnicity, gender, home use of language and socioeconomic status (SES) can directly affect learner's reading comprehension (Ismail, Karim, & Mohamed, 2018). EFL learners' SES has been widely acknowledged as a significant agency in enhancing their English language skills. For example, learners from a higher SES background have wider opportunities and exposure to practise the target language in addition to their typical school learning whereby their parents can afford to provide professional home English tutoring. Prior research has echoed SES relationship with reading comprehension (Hart, Soden, Johnson, Schatschneider, & Taylor, 2013), particularly among kindergarten students' English world reading (Howard, Páez, August, Barr, Kenyon, & Malabonga, 2014). However, Ismail et al. (2018) revealed no significant effect of gender on reading comprehension scores in the Malaysian ESL context. This exemplifies a contributing factor to ensuring suitable and efficient literacy skill development of learners with high SES background (Hol & Yavuz, 2017). Therefore, SES is considered an important component in an ecocultural model promoting learners' reading achievement (Reese, Garnier, Gallimore, & Goldenberg, 2000).

Furthermore, another key factor influencing reading comprehension is gender in which literary skill development varies depending on gender difference (Asgarabadi, Rouhi, & Jafarigohar, 2015). Studies conducted by Baker and Wigfield (1999) as well as Soderman, Chhikara, Hsiu-Ching, and Kuo (1999) revealed higher number of successful female achievers in reading comprehension skills than males. Similarly, a study in the Iranian learning context

indicated English major female undergraduates outperformed on reading comprehension in three different types of reading texts (i.e., history, essay, and short story) as compared with males (Keshavarz & Ashtarian, 2008). In a reading test, however, Bügel and Buunk (1996) found that males scored significantly better than females, which was also demonstrated in a Chinese university reading comprehension test producing similar results.

Context-specific test development can deliver precise learning insights to stakeholders (e.g., teachers, parents, school principal, administrators, educators as well as test designers and developers), as well as encourage learners to reflect on their performance and further plan towards their English language learning achievements using language assessments. As a context-based assessment, an online standardised reading comprehension assessment known as Thai-READS was implemented to examine the abilities of gender and SES in predicting reading comprehension scores among first-year Thai EFL students. It aims to add new knowledge in the body of literature to present research findings using context-based evaluation. A conceptual framework in Figure 1 illustrates a concise scope for the present study.

Conceptual Framework

Anderson (2004) established a connection between reading with several major components such as readers' interlanguage competence, (e.g., incomplete, fragmented, or not fully developed linguistic, strategic discourse and sociolinguistic competence), personal features (e.g., gender, motivation, SES, and educational levels) and external contexts, (e.g., stakes of reading and time constraints) which can directly impact learners' reading comprehension. In addition to Anderson's proposed connection, Guthrie and Klauda (2014) clarified the difficulty of text and learners' unfamiliarity with the subject matter have a significant impact on their reading comprehension. Other identified affective factors identified that can potentially preclude readers from comprehending the reading text include word decoding, sentence comprehension level and ability to understand text genres, lack of requisite knowledge combined with improper reading strategies (Phillips,

1984). It was also claimed that students typically learn how to read in schools; nevertheless, they have limited ability to generate meanings of the text by connecting the text, readers' schemata and context (Al Asmari & Javid, 2018). In the long run, learners do not show progress in their reading comprehension throughout the higher education process.

Research Objectives

The present study is conducted to seek answers for the following research questions (RQs):

RQ1: Does gender show abilities in predicting Thai EFL undergraduates' English reading comprehension score?

RQ2: Does SES show abilities in predicting Thai EFL undergraduates' English reading comprehension score?

Null Hypotheses

Corresponding with the two research questions above, two null hypotheses (H_0) are formulated as:

$H_0$1: Gender does not show any abilities in predicting Thai EFL undergraduates' English reading comprehension score.

$H_0$2: SES does not show any abilities in predicting Thai EFL undergraduates' English reading comprehension score.

Literature Review

This section supports the present study's standing proposition with an overview of past relevant studies. Effects of gender and SES on reading comprehension have been found across various literature in language acquisition and development, with several factors directly and indirectly affecting ESL learners' reading comprehension (Habók, Magyar, & Hui 2019) Among those factors, SES is known to be more prominent with its direct association between education, profession, and family earnings. This association in terms of a family's SES background affects learner's academic performance (Sun, Li, Qiu, X., & Liu, 2018) as family financial income is essential for providing learners with a conducive learning environment of accessible resources and quality education to facilitate their academic success.

The role of SES has been found to be a significant contributor in development of language proficiency among language learners of English. Today education is viewed as a business so that learners' financial status influences their academic performance inevitably. For instance, Lacour and Tissington (2011) showed that poverty can lead to a poor academic performance to language learners. According to Payne (1996), resources are of various forms such as financial, emotional, mental, spiritual, and physical support system, relationship, role models and knowledge of hidden rules. Ogunshola and Adewale (2012) explain that SES plays a crucial role in serving one's academic and intellectual performance.

For example, learners who are from financially privileged community with literate parents' care, have more opportunities in achieving a standard score than their counterparts. Supported that by Lörz, Netz, and Quast (2016), learners who are from economically sound families perform better than the underprivileged.

According to Severiens and Ten Dam (1 9 9 4), gender differences are observed in reading comprehension of language learners. Furthermore, various studies done previously found that the progression of the reading ability of the young learners depends on gender. Dronkers and Kornder (2014) expounded that girls are observed to perform better on tasks, especially reading. The results in Hawke, Wadsworth, and DeFries' (2 0 0 6) research showed that girls developed reading performance better than boys.

The review of previous studies convinces the researchers to examine predictive abilities of gender and SES on abilities in reading comprehension for some reasons. Firstly, the evidence in factors of gender and SES showing influences reading comprehension is limited and inclusive (Sanford, 2015). Secondly, studies on prediction of the effects of gender and SES on reading comprehension abilities is relatively scarce in the Thai EFL university level. Lastly, previous studies in the EFL context using multiple linear regression with dummy variable in investigating predictive power on the target two variables are lacking in number. Hence, the justification for the need of this present study to be conducted is suggested.

Methodology

Using quantitative research approach, this study was conducted with first-year undergraduates in the Science and Technology stream across the Engineering, Agriculture, and Science faculties at a public university in Thailand. Contextually leveraging on the university's large intake number of freshmen comprising diverse genders, SES backgrounds, and academic disciplines as part of the research's purpose and chosen research approach suits the nature of a quantitative inquiry. The online Thai Reading Assessment and Decoding System or the Thai-READS was used as the main research instrument to collect participants' reading comprehension scores due to its suitability in gauging university students' reading comprehension performance at any levels (Hui, Saeed, & Khemanuwong, 2020). In this study, a localised Thai version was specifically developed to minimise possible contextual biases in assessing Thai undergraduates' English reading comprehension performance (Khemanuwong et al., 2018)

Participants of the Study

During the data collection period, 2,072 first-year undergraduates aged between 18 and 19 years old who were originally from different regions in Thailand and currently studying in the Science and Technology stream were selected and recruited using convenience sampling. As part of the informed consent procedures, all participants

voluntarily provided their personal information such as fields of study, genders, and SES levels besides undertaking the Thai-READS, which are classified in Table 1.

Table 1 Participants' Demographic Information

Categories of Information		Number of the participants	Percentage
Faculties	Engineering	695	33.50
	Agriculture	470	22.70
	Science	907	43.80
Gender	Male	841	40.60
	Female	1,231	59.40
Levels of SES	Very Low	690	33.30
	Low	682	32.90
	Medium	369	17.80
	High	331	16.00
Total		2,072	100.00

In this study, gender and SES are two main predicting variables while reading comprehension score is a dependent variable. As shown in Table 1, participants comprising 1,231 female (59.40%) and 841 male (40.60%) freshmen were from diverse backgrounds with four levels of SES, gender differences, and fields of study. Information about participants' monthly family income was used to determine their SES across four different levels; "Very Low" (i.e., below 10,000 Baht), "Low" (i.e., 10,000-25,000 Baht), "Medium" (i.e., 25,001-40,000 Baht), and "High" (i.e., above 40,000 Baht). Using the cut-off criterion, the analysis indicates 690 participants were in a very low SES level (33.30%), 682 participants in a low SES level (32.90%), 369 participants in a medium SES level (17.80%), and 331 participants in a high SES level (16.00%) respectively, all of whom were currently pursuing degrees in three different faculties with a majority number in their first-year undergraduate across the faculties of Science (43.80%), followed by Engineering (33.50%) and Agriculture (22.70%).

Research Instrument

The research instrument in this study shows novelty in its distinguishing features as compared to previous related studies in the literature. Firstly, it is an adapted-context assessment intended for use in a specific context which is to determine Thai undergraduates' English reading comprehension scores. Adapted from Khemanuwong et al.'s (2018) Thai version of READS, it had been reviewed through the process of a culturally-fit adaptation specifically for assessing Thai university students' English reading comprehension abilities. This test was validated by three experts using the Index of Item Objective Congruence (IOC) leading to results revealing the Thai READS had the IOC index of 0.92, an indication of acceptable content validity construction. Furthermore, the Thai-READS was tested in a pilot study for reliability with a report analysis showing value of 0.91 with a criterion of the KR-20 . As the Thai-READS is an online computer-based test, it is

advantageous to the researchers for immediate and systematic access to participants' responses besides reducing costs and time consumption in data collection and retrieval.
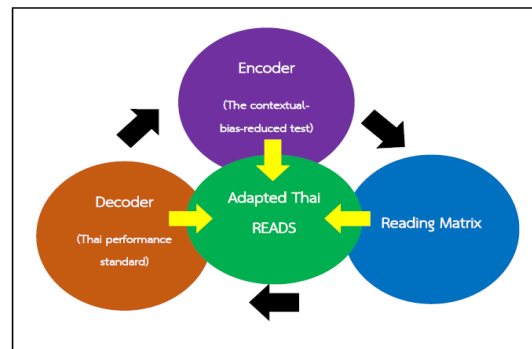

Figure 2 The Thai-READS adapted from Khemanuwong et al. (2018)

Secondly, the research instrument shows clear interpretation and descriptors in reading comprehension abilities based on theoretical support. Figure 2 illustrates three components of the Thai READS– the encoder or the test instrument, the reading matrix, and the decoder or the performance standard. The encoder comprises 60 multiple-choice questions to gauge a test-taker's reading comprehension proficiency, while the decoder aims to determine the test-takers' performance based on their given answers. As all READS test questions should indicate different levels of difficulty (Shohamy, 1984), 60 questions are distributed proportionately with three difficulty levels, namely, easy (25%), average (50%) and difficult (25%) (Mok, 2000). This test design has been incorporated in the English reading comprehension assessment section of the Malaysian public examination as theoretically supported by Barrett's taxonomy of reading comprehension (Lim, Eng, & Mohamed, 2014). There are three types of comprehension sub-skills in the test, that is, 1) Literal Comprehension which is the ability to comprehend concepts and information directly stated in the text; 2) Reorganisation Comprehension which is the ability to evaluate, synthesise, and establish concepts in deeper meaning; and 3) Inferential Comprehension which is the ability to use ideas, information, background knowledge, and prior experiences in making an inference (Mohamed, Ismail, Eng, & Petras, 2012).

Lastly, reading comprehension scores can be classified into groups using the reading matrix as a cross-reference to analyse test-takers' reading comprehension abilities by classifying their performances into four different groups of "Above Standard", "Meet Standard", "Below Standard", and "Above Standard" (Ismail et al., 2018, p.478). Administering the adapted Thai-READS version to EFL students can provide new insights on which students' specific sub-skills require improvement through the reading comprehension ability analysis.

Data Collection Procedure

Data collection in this study involves gathering undergraduates' Thai-READS scores as the main data supplemented by information about their gender and SES as demographic data. Prior to the data collection procedure, researchers first sought an approval from the research site for official permission in addition to specifying ethical considerations throughout different stages of this study such as data collection procedures, data storage, and data analysis. They also explained the overall research purposes and processes prior to the study as well as informed participants who voluntarily provided their personal information and decision to participate in a consent form that the information, test results and their names would be kept confidential. Following Mohamed, Eng, and Ismail's (2010) suggested guidelines, administering the Thai-READS test within 70 minutes is appropriate, reasonable, and sufficient for test-takers to complete the test. In this study, different randomly assigned groups of participants took the computer-based tests in the university's computer center. The one-month data collection process was supported by ten test proctors and two university's assistant staffs who facilitated the test administration alongside the researchers who utilised the university's online platform and its repository for data storage and retrieval.

Method of Data Analysis

Multiple regression using dummy variable in the SPSS program (Statistical Package for the Social Sciences) version 22 was used to analyse the data. To examine the predictability of gender and SES, a group of each predicting variable was used as a reference group for difference comparison. As such, male for gender and high level for SES were used as a reference group whereby male participants were coded as '1' since gender had two groups while participants with high SES level were coded as '0' because SES levels were spread across more than two groups (i.e., very low, low, medium, and high). In this study, English reading comprehension score was considered as dependent variable. To determine whether gender and SES can be significant predictors of participants' English reading comprehension abilities, the statistical significant level at 0.05 was considered either to reject or fail to reject the addressed null hypotheses.

Research Findings

The first research question investigated whether gender can be a predicting variable of Thai EFL students' English reading comprehension scores. Table 2 shows that gender can be a significant predictor of Thai EFL students' English reading comprehension scores, $F(1, 2070)=51.33$, $p<0.05$. Therefore, the first null hypothesis was rejected.

Table 2 Results of the ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	7798.95	1	7798.95	51.33	0.00[b]
1	Residual	314529.27	2070	151.95		
	Total	322328.22	2071			

[a]. Dependent Variable: Score
[b]. Predictors: (Constant), Gender [Male]

Further results in Table 3 also indicate that R^2 in the model was 0.024, signifying only 2.40% of the variance in English reading comprehension score can be explained by participants' gender differences.

Table 3 Results of Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.156[a]	0.024	0.024	12.32666

[a]. Predictors: (Constant), Gender [Male]

Using male as a reference group in the multiple regression model in which was coded as '1' and female as '0' in the SPSS program, results in Table 4 reveal that male participants' mean score (i.e., 26.25+3.95=30.20) was significantly greater than female participants' mean score (i.e., 26.25).

Table 4 Results of Coefficients[a]

Model		Unstandardised Coefficients		Standardised Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	26.25	0.35		74.71	0.00
	Gender [Male]	3.95	0.55	0.16	7.16	0.00

[a]. Dependent Variable: Score

The second research question investigated whether SES can be a predicting variable of Thai EFL undergraduates' English reading comprehension scores. Results in Table 5 show that SES can be a significant predicting variable of Thai EFL undergraduates' English reading comprehension scores, $F_{(3, 2068)}=26.44$, $p<0.05$. Thus, the second null hypothesis was also rejected.

Table 5 Results of ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	11906.51	3	3968.84	26.44	0.00[b]
	Residual	310421.71	2068	150.11		
	Total	322328.22	2071			

[a]. Dependent Variable: Score

[b]. Predictors: (Constant), SES [very low, low, and medium]

Results in Table 6 additionally report R^2 in the model of 0.036, indicating only 3.60% of the variance in English reading comprehension score can be explained by participants' different SES levels.

Table 6 Results of Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate

| 1 | 0.192[a] | 0.037 | 0.036 | 12.25182 |

[a]. Predictors: (Constant), SES [very low, low, and medium]

Analysis for RQ2 with multiple regression using SES levels as a dummy variable, with the high SES group as a reference group coded as '0' while the others (i.e., very low, low, and medium groups) coded as '1' in the SPSS program revealed results in Table 7 as the mean score of participants with high SES level (i.e., 32.18) was significantly greater than the others; very low SES group (i.e., 32.18–6.70=25.48), low SES group (i.e., 32.18–5.09=27.09) as well as medium SES group (i.e., 32.18–2.35=29.83).

Table 7 Results of Coefficients[a]

Model		Unstandardised Coefficients		Standardised Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	32.18	0.67		47.78	0.00
	SES [very low]	-6.70	0.82	-0.25	-8.18	0.00
	SES [low]	-5.09	0.82	-0.19	-6.20	0.00
	SES [medium]	-2.35	0.93	-0.07	-2.54	0.01

[a]. Dependent Variable: Score

Conclusion and Discussion

In this study, concluding findings revealed that gender and SES of the Thai EFL undergraduates showed statistically significant abilities in predicting their English reading comprehension scores with males showing greater scores than females in their reading comprehension abilities. Considering gender differences, previous studies (e.g., Dronkers & Kornder, 2014; Hawke et al., 2006) have indicated females outperformed males in reading achievement. Highlighting the female outperformance, reading literacy ability results in the 2015 Program for International Student Assessment (PISA) in Thailand also concurred that females outscored males in reading comprehension (OECD, 2018). Conversely, results in this study found male undergraduates achieved a higher reading comprehension score than female undergraduates which evidently opposed to the 2015 PISA results. In other words, this specific inconsistency in the findings calls for a larger sample size to obtain more conclusive and robust evidence.

Using a cut-off score in grouping different performers in Khemanuwong's (2019) research on English reading comprehension indicated that mean scores of males (M=30.20) and females (M=26.25) were identified in the same category as "Meet Average Performers" who performed scores ranging between 22 and 46 from a total score of 60. However, participants were expected to achieve a standard score of at least 50% (i.e., 30 marks), therefore it can be implied that male participants performed better than female counterparts in light of achieving a standard score. This phenomenon in the current study is explained by Phakiti's (2003) claim, pointing to a significant male outperformance due to reading strategies used in the test. The use of metacognitive strategies in reading tests,

especially by males is higher than females. Other than that, males and females viewed the test situation from different angles (Zeidner, 1998), in which males regarded it as a challenge in contrast to females who generally perceived the test situation as a threat. Therefore, females have been undoubtedly influenced by detrimental determinants such as stress, worry, fear, and low self-esteem while taking the test in comparison to males.

Contradicting findings in Ismail et al.'s (2018) study in a public Malaysia university with results of no significant effect of SES on reading comprehension, this study revealed participants' SES backgrounds could be a predicting variable of their reading comprehension abilities. Average score of participants with high SES level (M=32.18) was significantly greater than others; very low SES group (M=25.48), low SES group (M=27.09) as well as medium SES group (M=29.83). However, given the low percentages in the results, SES is thus regarded a weak predictor of English reading comprehension score. Additionally, as all participants were freshmen who had just prepared for the national exams, It was probable to explain that participants with higher SES level had been provided extra tutoring by their parents before enrolling in their university programs. With concentrated and intensive attention on the participants' university entrance exam preparation, they were more likely to be familiar with the test structure with wider opportunities to practise the test using different reading strategies to give correct answers in the reading test.

Implications and Suggestions

This study has led to several implications. Firstly, adapting and administering the Thai-READS, a uniquely designed research instrument to investigate Thai EFL university students' actual reading comprehension proficiency is an initial step for lecturers to understand learners' strengths and weaknesses in their reading comprehension skills. Understanding a learner's gender difference is equally important for lecturers to make decisions on identifying learning objectives, creating lesson plans, and using instructional strategies. This study infers that male Science stream undergraduates might have certain skills such as analytical skills (Lee, 2012) that facilitate their understanding of English texts which further reinforced their better performance in reading comprehension than females. Thus, lecturers can consider providing undergraduates with additional analytical-oriented learning activities and tasks. Secondly, as demonstrated in this study, recruiting a large sample of participants with individual differences such as gender and levels of SES could potentially increase the generalisation of findings across undergraduates in different Thailand universities and other similar learning contexts. A novel contribution in this study is the assessment of English language learners' actual abilities in reading comprehension using a newly devised educational tool. This is a step closer in gaining evidence-based success in an English language testing and evaluation context particularly for Thai EFL university students. On top of that, this study further emphasises the need to reassess and explore other dominant and dynamic factors besides gender and SES as a prediction of English language learners' abilities

in reading comprehension at university levels in Thailand. Potential factors may include types of reading texts, reading behaviours, and self-perceived confidence in reading skill. To further explore these factors relating to English reading comprehension abilities in the current trend of teaching and learning English in the covid-19 pandemic, for example, an immediate question arises in how a virtual learning format might affect teaching English reading comprehension to undergraduates. On-going and future researchers in this area can continue carrying out explorative studies to gain deeper understanding about Thai EFL university undergraduates' reading comprehension abilities.

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