

**ACHIEVEMENT DIFFERENCES AND GENDER GAPS IN READING
MOTIVATION: AN EXAMINATION OF TAIWANESE ADOLESCENT
READERS OF ENGLISH AS A FOREIGN LANGUAGE**

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ABSTRACT

This study has two aims: one is to examine whether or not there are individual differences in motivation to read English as a Foreign Language (EFL) among Taiwanese adolescents, and the other is to scrutinize whether or not a gender gap exists among those readers. A total of 252 adolescents, half of them female and the other half male, participated in the overall study, while eight of them took part in the study's qualitative portion. The data consisted of background information, scores from an EFL test, questionnaires, and interviews. The results show a significant main effect on EFL reading achievement in all of the eight aspects of reading motivation investigated, as well as a main effect on gender difference in favor of female readers, particularly in their social motivation. These findings imply that struggling EFL readers are likely to suffer from multiple deficiencies in terms of their motives for reading and that teaching motivation in EFL classrooms appears to be crucial, in particular, for those struggling readers.

Key Words: reading motivation, reading English as a foreign language, secondary education

Reading motivation displayed by second/foreign language (L2/FL) learners can have profound impacts on their general achievement (e.g., Lin, Wong, & McBride-Chang, 2012; Takase, 2007) as well as their emotional well-being (e.g., Williams & Burden, 1999; Williams, Burden, & Al-Baharna, 2001). Along with the link between reading motivation and L2/FL learning, it is also important to note that a considerable gap between male and female readers in terms of literacy achievement has

been detected in various countries and territories (e.g., Chiu & McBride-Chang, 2006). Male and female readers were found to be dissimilar in their intrinsic motivation (McGeown, 2015; McGeown, Goodwin, Henderson, & Wright, 2012; Schaffner, Phillip, & Schiefele, 2016; Schwabe, McElvany, & Trendtel, 2015). In Taiwan, female adolescents have been found to outperform their male counterparts on the national literacy tests of English as a Foreign Language (EFL) (e.g., Lin, 2014, 2015). Nevertheless, only a very limited number of studies have investigated whether or not there is a gender gap in reading motivation, particularly in the context of learning to read a foreign language. Thus, the current study has two aims: one is to examine whether or not there is an individual difference in EFL reading motivation among Taiwanese adolescents, and the other is to scrutinize whether or not a gender gap exists among them.

Reading Motivation

For the last four decades, a relatively wide range of theories, approaches, and perspectives has been applied in the investigation of motivation in reading one's first language (L1) and L2/FL, including self-determination theory, social cognitive theory, constructivism on learning, causal attribution on performance, and the self-motivation system. Self-determination theorists posit that motivation can be divided into intrinsic and extrinsic motivation based upon an individual's underlying attitudes and goals that give rise to action (Deci & Ryan, 1985). Intrinsic motivation refers to doing something because it is inherently interesting or enjoyable, whereas extrinsic motivation involves doing something because it leads to a separable outcome (Deci & Ryan, 1985). Engaging in a task based upon one's own interest in the activity is regarded as intrinsic motivation; on the other hand, performing a reading behavior with the goal of receiving an extrinsic reward (e.g., good grades or praise from others) or to avoid punishment is viewed as extrinsic motivation. Utilizing a qualitative research method, Matsukawa and Tachibana (1996) found motivational dissimilarities between Japanese and Chinese EFL adolescents despite the fact that educational contexts in Japan and China were relatively similar. The motivation shown by the EFL learners in Japan was intrinsic in nature, whereas the motivation displayed by the EFL learners in China was extrinsic (Matsukawa & Tachibana, 1996). The educational context with respect to

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EFL learning in Taiwan, generally speaking, is also similar to those in Japan and China. That is, English is one of the pivotal subjects in the university entrance examinations, as knowledge of English is a requirement in most international institutions. It is important to note that EFL proficiency among the adolescent participants in Matsukawa and Tachibana's study was not scrutinized. Whether or not there is a motivational difference among EFL learners with differing reading competencies calls for further inspection.

Another study on EFL reading motivation was conducted by Takase (2007) who looked into the link between intrinsic motivation and the amount of reading (the number of words read, and the number of books read) among female Japanese adolescents. The results showed that intrinsic motivation significantly predicted the number of English books read. This finding is in line with those found in L1 reading research (e.g., Guthrie, Wigfield, Metsala, & Cox, 1999; Schwabe et al., 2015; Wang & Guthrie, 2004). Fluent readers showed stronger intrinsic interests in reading than less fluent readers (Wang & Guthrie, 2004). Again, it is important to note that the participants were mainly female in Takase's study. A gender gap in favor of female students, particularly in their intrinsic reading motivation, has been reported in L1 reading research. A recent case in point is a comparison study, conducted by Schwabe, McElvany, and Trendtel (2015), on gender difference in reading motivation among secondary students in Germany. In this study, female adolescents were found to possess higher intrinsic reading motivation, as well as a higher level of reading achievement. A gender gap in favor of female adolescents specifically in their EFL literacy achievements among Taiwanese adolescents was not salient, however (Lin, 2014, 2015). A further investigation on whether a sex difference exists in EFL reading motivation among Taiwanese adolescents is apparently needed.

Along with intrinsic and extrinsic reading motivation, a learner's sense of efficacy can also have a salient impact on learning and achievement (Bandura, 1986; Zimmerman, 2000). Self-efficacy is described as "people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performance" (Bandura, 1986, p. 391). Not only do students need to learn required skills in order to reach competence, they also require self-efficacy beliefs to effectively use the skills (Bandura, 1986). In the context of foreign language learning, judgments made by language learners as to their own capabilities of carrying out certain reading tasks

are regarded as a vital motivation for reading comprehension. The association of self-efficacy with reading comprehension has been reported from L1 reading research (e.g., Chapman & Tunmer, 2003; Shell, Colvin & Bruning, 1995). Good readers were found to possess higher self-efficacy beliefs than poor readers (Shell et al., 1995). Readers with a high sense of self-efficacy perceived difficult tasks as manageable and were more likely to focus their attention on how to perform reading tasks successfully. Conversely, readers with a low sense of self-efficacy perceived difficult tasks as personal threats and had a tendency to dwell on their personal deficiencies and obstacles that they encounter while reading (Shell et al., 1995). In comparison, research on the relationship between self-efficacy and EFL reading comprehension remains less explored (Grabe & Stoller, 2011). Thus, the current study will examine in particular whether or not there is a difference in the sense of reading efficacy among EFL adolescents with differing reading achievements, as well as the potential gender difference between male and female adolescents in their EFL reading efficacy.

On top of one's sense of efficacy, the act of reading is also regarded as a socially constructed trait, taking place in a social context through interactions with others (Street, 1984). The social environment in which learning is situated is thus considered influential in the formation of one's motivation for learning. In the EFL learning context, Lin and associates (2012) reported a non-significant relationship between social motivation and EFL reading comprehension among young adolescents in Hong Kong. Thus far, few studies have investigated whether there is a gender gap in social reading motivation among EFL learners. In response to this lack, the current study will examine social reading motivation between male and female adolescent learners of EFL. Referring to Matsukawa and Tachibana's 1996 study, the different motivations shown by Chinese and Japanese learners of EFL suggest the possible influence of language learners' motivational systems regarding their notions of possible selves (the ideas of what they want to become and what they would avoid to become), as proposed by Dörnyei (2009). Motivational systems displayed by EFL male and female learners with different reading achievements will be further scrutinized as well.

Causal Attributions

Along with the motivational factors mentioned above, the ways in

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which individuals make sense of their personal successes and failures also impact learning. Drawing from the attribution theory posited by Weiner (1986), another line of research has investigated causal attributions made by learners. Causal attributions refer to the beliefs that an individual forms about what causes one's own outcomes of learning-related tasks (Weiner, 1986). However, there have been a limited number of studies to date on the relationships of causal attributions and reading comprehension among adolescent learners of foreign languages. One case in point is a comparative study of FL learners conducted by Williams and colleagues (2001). In this study, British adolescents perceived effort as one of the main reasons for their success, while Bahraini adolescents regarded sufficient practice as the main cause (Williams et al., 2001). The finding points out the possible cultural differences in making causal attributions for foreign language learning. The extent to which foreign language learners with differing reading proficiencies align with or deviate from their beliefs as to what causes their own outcomes of EFL reading tasks remains an open question. Referring to findings generated from L1 reading research, unsuccessful readers of English were more likely to have higher ratings on intelligence, task difficulty, and luck as a cause of success for reading than were successful readers (Shell et al., 1995). Unsuccessful readers may also see their failure as a result of factors such as a lack of ability, effort, and study strategy; the difficult nature of the task; or as someone else's fault (Shell et al., 1995; Weiner, 1994; Weiner, Russell, & Lerman, 1979). These research findings point out a potential influence of the socialization processes in various learning contexts. The extent to which causal attributions are linked to EFL reading achievement, particularly among Asian learners, requires further examination. In response, this study aims to investigate the relationship between causal attributions and reading achievement among adolescent readers of EFL, as well as explore whether or not sex differences exist in terms of their attributions for the outcomes of EFL reading tasks.

The current study investigates whether or not there are differences in eight aspects of reading motivation between successful and less successful adolescent readers of EFL, as well as between male and female readers of EFL. The three research questions that have framed the current study are as follows:

1. Are there differences in reading motivations between successful and less successful adolescent readers of EFL?

2. Are there gender differences in their EFL reading motivations?
3. To what extent are the participants with differing EFL achievements similar to and/or different from each other, in terms of their motivational self-systems?

As for the first two research questions, we hypothesize that successful readers of EFL show higher reading motivation and that male and female adolescents with similar EFL reading competence do not show differences in their EFL reading motivations.

METHODS

Adopting both quantitative and qualitative methods, this study examined individual differences in EFL reading motivations. The data consisted of background information, scores from an EFL test, questionnaires, and interviews.

Participants

A total of 252 Taiwanese adolescents, half of them female and the other half male, participated in the study. They were all high-school seniors (Grade 12), enrolled in two secondary schools within the Taipei metropolitan area. Their ages ranged from 17 to 20 years old ($M = 17.86$ years, $SD = 0.54$), and their average years of EFL learning were 10.49 ($SD = 2.02$). Additionally, relevant information was also obtained, including time spent on reading English extracurricular materials. Among the 252 participants, eight of them, including four boys (two successful and two less successful) and four girls (two successful and two less successful), took part in the qualitative study.

Assessing EFL Reading Proficiency

The assessment of EFL reading proficiency was based on the participants' performance on a nation-wide examination of EFL literacy specifically given to approximately 145,000 high-school seniors or graduates. The EFL test was designed and administered by the College Entrance Examination Center (CEEC) in the spring. The test was made up of three sections: reading comprehension, Chinese/English translation, and paragraph writing. The EFL reading section was intended to measure

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the high-school seniors' ability to comprehend English at the sentence, paragraph, and text levels. There were 56 multiple-choice items (one single correct answer) in this section, accounting for 72% of the total score (72 out of 100 points). The second section intended to assess the test-takers' ability to translate two Chinese sentences into English (8 points; 8% of the total score). The last section aimed to measure the test takers' writing ability by asking them to compose a narrative paragraph in English, in response to the pictures given (20 points; 20% of the total score).

The overall EFL score on average was 55.34 out of 100 ($SD = 23.34$). A test taker's raw scores were subsequently converted into a 15-point Likert scale as a means of measuring the EFL literacy competence of test-takers, ranging from extremely poor (1) to outstanding (15). On this particular test, the median fell on 10; the mean was on 9.27 ($SD = 3.70$); and the mode was 13. The interval between the 15 scores was 6.31 on the test (Lin, 2014). The mean score for EFL reading comprehension (i.e., Section I) was 43.17 out of 72, and the reliability of this section was 0.95 (Lin, 2014), suggesting excellence for the items given. Accordingly, those obtaining a score at or above 10 were considered successful EFL readers, while those having a score lower than 10 were less successful. Initially, there were 315 participants in this study; however, the less successful readers of EFL appeared to be overrepresented in the sample. The 315 subjects were subsequently divided into four groups, namely, male successful readers, female successful readers, male unsuccessful readers, and female unsuccessful readers. The distributions of sex and EFL literacy scores in the sample and the population were taken into consideration for selection. Based upon the criteria, 126 successful and 126 less successful EFL adolescents were randomly selected. Males and females were equally distributed as well (126 each).

Assessing EFL Reading Motivation

Grounded in the notion that motivation is characteristically multidimensional (Baker & Wigfield, 1999; Dörnyei, 1994), two sets of questionnaires written in Chinese were devised: one examined four aspects of reading motivation, and the other looked into the attributions of four possible causes for different reading tasks (see Appendices A & B). Adapting the engagement perspective and achievement motivation theories, Baker and Wigfield (1999) initially constructed the Motivation

for Reading Questionnaire (MRQ) for readers of English. The MRQ was subsequently revised, reconstructed, and validated in Lau's 2004 study with seventh graders and Lau's 2009 study with primary and secondary students in Hong Kong. The motivation questionnaires applied in this study were mostly taken from those designed by Lau (2004, 2009). The four aspects of reading motivation in the questionnaire included intrinsic motivation, extrinsic motivation, self-efficacy, and social motivation. The intrinsic motivation gauged one's inherent interest in EFL reading (6 items); the extrinsic motivation appraised one's external purpose for reading (6 items); self-efficacy measures the degree of conviction in one's reading ability (6 items); and the social motivation evaluated one's social reasons for reading (6 items). The participants responded to each statement on a four-point Likert scale, ranging from "very different from me" (1) to "a lot like me" (4). The reliabilities of the four motivational factors, measured by Cronbach's alpha, were 0.81, 0.81, 0.89, and 0.76, respectively.

In conjunction with the four motivational subscales, the second survey was adopted and modified from Lau's (2004) Causal Attribution Scales. This survey aimed to assess a learner's tendency to attribute his or her performance in different EFL reading tasks (e.g., taking reading tests, doing reading exercises, getting the gist of English texts read, and writing a reading report) to four possible reasons (i.e., ability, effort, strategy use, and external factors). For instance, the participants were invited to gauge the following statement on a 4-point scale: "Usually it is my effort that determines whether or not I get most of the answers right on EFL reading comprehension exercises." Similar to the former survey, the scale, ranging from "very different from me" (1) to "a lot like me" (4), indicated how representative the participants considered that particular reason to be. There were 16 items on the survey. The reliability of each, measured by Cronbach's alpha, was 0.89 for ability attribution, 0.88 for effort attribution, 0.91 for strategy attribution, and 0.92 for attribution of external factors. As a whole, the reliability for the eight motivational factors was 0.96, implying excellence for the items given.

Quantitative Data Collection and Analysis

The scores on the English (L2) test and the background information of the participants were collected from the participating schools and the participants themselves. The surveys used for this study were administered

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to the participants by their teachers during regular class periods. Each survey took about 10-15 minutes for the participants to complete. Afterwards, their teachers collected all questionnaires from the participants and sent them back to the first author within a month.

As for data analysis, both the motivation and causal attribution variables were subsequently averaged by the number of items. For example, the items that constituted intrinsic motivation (2, 6, 10, 14, 18, and 22) were divided by 6 to form the intrinsic motivation composite. The purpose of dividing was to make a meaningful interpretation: the average score, which was greater than 2.5, signified high on intrinsic motivation; the average score, which was smaller than 1.5, suggested low; and the average score, which fell between 1.51 and 2.49, was moderate.

The analyses of quantitative data included *t*-tests, Multivariate Analysis of Variance (MANOVA), correlation, and hierarchical regression. First, *t*-tests were conducted to investigate whether or not there were differences between gender and achievement groups in terms of their ages, years of learning EFL, English reading scores, and hours spent reading extracurricular materials in English. Next, a 2 x 2 MANOVA was performed to examine the effect of the success levels (i.e., successful and unsuccessful) and gender (male and female) upon EFL motivational subcategories. Correlational analysis was employed to investigate the interrelationships among variables investigated in this study. Finally, hierarchical regression analysis was executed to look into the effects of motivations on EFL reading achievement.

Interviews & Analysis

Semi-structural interviews were conducted to examine the extent of motivational self-systems displayed by four successful learners (whose EFL scores were greater than 13) and four less successful learners (whose EFL scores were less than 7). Each group consisted of two boys and two girls. The interview questions were based upon the three main components of 'L2 Motivational Self System' proposed by Dörnyei (2009, p. 29): ideal L2 self, ought-to L2 self, and L2 learning experience. At the initial phase of the interview, the participants described their trajectory of learning to read EFL. Afterwards, they stated what they wanted to be in the present, what they wanted to be in the future, and how their EFL reading competence could be associated with their present

and future goals. Mandarin Chinese was the primary language used in the interviews, each of which lasted between 15 and 25 minutes. Glaser and Strauss's (1967) constant comparative method was employed for the analysis of the interview data. The codes used were present self, future self, regulatory strategy, goal setting, pleasure reading, intrinsic motivation, extrinsic motivation, and causal attributions. Afterwards, we created a student's profile including background information, reading habits, reading interests, achievements or difficulties in reading EFL, and goals for the present and future. The profiles of the participants were sent to two high-school instructors of EFL for further validation. Differences were resolved through group conferencing at this phase of analysis. Pseudonyms were used for confidential purposes. The excerpts extracted from the interview data are presented in English in order to illustrate the forthcoming section in a succinct manner.

RESULTS

Preliminary Analysis

The *t*-tests were performed to examine whether or not there was a difference in each of the following: EFL reading/literacy performance and time spent on reading English extracurricular materials across the two achievement groups (more success vs. less success). A significant difference was found between the two achievement groups in their overall EFL literacy performance, $t(1, 250) = 23.66, p < 0.001$. The successful participants ($n = 126, M = 12.10, SD = 1.75$) performed significantly better than their less successful counterparts ($n = 126, M = 6.67, SD = 1.88$). So there was a significant difference identified in their EFL reading performance (Section 1 on the test) as well, $t(1, 216.78) = 23.33, p < 0.001$; that is, the successful EFL participants ($M = 58.21, SD = 6.41$) scored significantly higher on EFL reading than the less successful ones ($M = 34.04, SD = 9.70$).

In addition to the differences in EFL literacy performance, a significant difference between these two groups ($t = 2.33, p < 0.05$) was also revealed in the time spent reading extracurricular materials in English (e.g., films, magazines, books, digital printouts); the successful participants reported spending more time reading extracurricular materials in English ($n = 126, M = 6.56, SD = 6.90$) than the less successful ones ($n = 126, M = 4.67, SD = 5.95$). Levene's tests of

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homogeneity of variance were not violated, $p > 0.05$.

An additional set of t -tests was performed to determine whether or not there was a difference between male and female adolescents in terms of their EFL literacy performance and time spent reading English extracurricular materials. Although the girls ($n = 126$, $M = 9.79$, $SD = 2.94$) scored higher than the boys ($n = 126$, $M = 8.98$, $SD = 3.53$) on the EFL literacy test, the difference between them did not reach a significant level, $t(1, 242.15) = 1.96$, $p > 0.05$. Nor was there a significant difference in EFL reading performance on this test between girls ($n = 126$, $M = 47.52$, $SD = 13.31$) and boys ($n = 126$, $M = 44.73$, $SD = 15.77$), $t(1, 243.14) = 1.53$, $p > 0.05$. As for the reported time spent reading extracurricular English materials, there was no statistical significance either, $t(1, 250) = 0.58$, $p > 0.05$; $M = 5.38$, $SD = 6.60$ for girls; and $M = 5.86$, $SD = 6.40$ for boys. Levene's tests of homogeneity of variance were not violated, $p > 0.05$.

Achievement Differences in EFL Reading Motivation

The subsequent analyses investigated the eight motivational subscales using a MANOVA with Achievement (2) x Gender (2) as between-subject variables. The sample sizes in the current study were all equal between groups (126 each). As a rule, when sample sizes are equal, Box's test and Levene's test of equality of error variances can be ignored because the tests tend to be unstable (Bray & Maxwell, 1985; Zimmerman, 2004), and Pillai's trace is the most robust to violations of assumptions (Bray & Maxwell, 1985). Accordingly, Pillai's trace was used for the multivariate test of significance. The result indicated no significant Achievement x Gender interaction effect, $V = 0.05$, $F(8, 241) = 1.68$, $p > 0.05$, $\eta_p^2 = 0.05$. Nevertheless, the analysis showed a significant main effect for achievement, $V = 0.41$, $F(8, 241) = 20.74$, $p < 0.001$, $\eta_p^2 = 0.41$, suggesting a large effect size. Table 1 shows means and standard deviations for the two achieving groups. A series of follow-up t -tests were performed to examine which subscales were significantly different. The difference in all of the eight motivational variables between the two achievement groups was significant after adjustment using the Bonferroni procedure (i.e., t -values were evaluated at $0.05/8$ or 0.006 level). These findings suggest that the eight motivational variables for reading had equal importance for EFL reading comprehension (see Table 1).

Table 1

Achievement Levels in the Eight Motivational Variables

Variable	Group	<i>M</i>	<i>SD</i>	<i>t</i> (250)
Intrinsic motivation	Successful	3.09	0.49	7.85***
	Unsuccessful	2.52	0.65	
	Total	2.80	0.64	
Extrinsic motivation	Successful	2.76	0.59	8.35***
	Unsuccessful	2.12	0.63	
	Total	2.44	0.69	
Self-efficacy	Successful	2.79	0.60	12.94***
	Unsuccessful	1.84	0.56	
	Total	2.31	0.75	
Social motivation	Success	2.09	0.59	5.35***
	Unsuccessful	1.72	0.49	
	Total	1.90	0.57	
Ability attribution	Successful	2.97	0.60	6.14***
	Unsuccessful	2.41	0.83	
	Total	2.69	0.77	
Effort attribution	Successful	2.95	0.60	5.50***
	Unsuccessful	2.46	0.79	
	Total	2.70	0.75	
Strategy attribution	Successful	2.90	0.64	6.70***
	Unsuccessful	2.32	0.76	
	Total	2.61	0.76	
External attribution	Successful	3.17	0.70	4.94***
	Unsuccessful	2.68	0.87	
	Total	2.93	0.81	

Note. *** $p < 0.001$; $n = 126$ in each group

Sex Differences in EFL Reading Motivation

In addition to the main effect across the achieving groups, a significant main effect for gender was discerned, $V = 0.07$, $F(8, 241) = 2.40$, $p < 0.05$, $\eta_p^2 = 0.07$, implying a medium effect size. The finding indicated a gender gap in EFL reading motivation. Again, we conducted a series of follow-up t -tests to examine the significant effect on the motivational subscales between male and female participants. The means and standard deviations are shown in Table 2. The differences between

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the males and females were significant, except in self-efficacy and effort attribution. In spite of this, social motivation was the only significant difference after using a Bonferroni adjusted alpha level of 0.006 (0.05/8). These findings illuminate the existence of a gender gap in favor of female adolescents, particularly in their social motivation for EFL reading.

Table 2

Gender Difference in the Eight Motivational Variables

Variable	Group	<i>M</i>	<i>SD</i>	<i>t</i> (250)
Intrinsic motivation	Male	2.71	0.72	2.25*
	Female	2.90	0.54	
Extrinsic motivation	Male	2.32	0.74	2.85**
	Female	2.56	0.61	
Self-efficacy	Male	2.23	0.77	1.83
	Female	2.40	0.72	
Social motivation	Male	1.77	0.56	3.66***
	Female	2.03	0.56	
Ability attribution	Male	2.58	0.87	2.39*
	Female	2.81	0.66	
Effort attribution	Male	2.63	0.81	1.63
	Female	2.78	0.68	
Strategy attribution	Male	2.51	0.82	2.09*
	Female	2.71	0.68	
External attribution	Male	2.81	0.87	2.34**
	Female	3.05	0.75	

Note. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; $n = 126$ in each group

Relationships between EFL Reading and Motivations

Table 3 displays Pearson product-moment correlations among the following factors: gender (0 = boys; 1 = girls), EFL reading performance, and the eight motivational subgroups. Three salient findings were observed from the correlational analyses. First, all of the eight motivational subgroups had positive and moderate relationships with EFL reading performance ($r = 0.3 - 0.7$, $p < 0.001$). Next, there were low correlations ($r = 0.13 - 0.23$, $p < 0.05$) between gender and six of the eight motivational subgroups. These findings indicate that not only did

the girls in this study show significantly higher intrinsic, extrinsic, and social reading motivations than did the boys, but they also attributed their successes more to their perceived ability, strategy used, and external factors (e.g., being lucky or having an easy task).

Table 3

Correlations between Gender, EFL Reading, and Motivations

Factors	Gender	EFL Reading Score
EFL reading	0.09	--
Intrinsic motivation	0.14*	0.49***
Extrinsic motivation	0.18**	0.45***
Self-efficacy	0.12	0.68***
Social motivation	0.23**	0.33***
Ability attribution	0.15*	0.41***
Effort attribution	0.10	0.36***
Strategy attribution	0.13*	0.44***
External attribution	0.15*	0.32***

Note. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; $n = 252$

Hierarchical regression analysis was conducted to examine the contribution of the eight motivation variables to EFL reading scores. Gender as a control variable was entered first, and then the eight motivation factors. The result indicated that gender ($\beta = 0.09$, $t = 1.43$, $p > 0.05$) had no significant contribution to the prediction of EFL reading scores ($R^2 = 0.01$, $p > 0.05$) when it was entered as a control variable. Next, when the scores of the eight motivation variables were entered, R^2 changed to 0.48, adding 47% of variance. The eight motivation variables contributed to EFL reading performance over and above the effect of the control variable (i.e., gender), $F(9, 242) = 24.46$, $p < 0.001$. Although all of the motivation factors had positive relations with EFL reading scores, self-efficacy ($\beta = 0.70$, $t = 8.98$, $p < 0.001$) was the sole significant predictor of EFL reading scores.

Motivational Self-systems and EFL Literacy Achievement

One of the salient themes that emerged from the qualitative data is the way in which the participants associated their EFL learning with their

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current and future aspirations. Regardless of their EFL reading proficiencies, the eight participants all considered the ability to read English as an advantage for fulfilling their personal aspirations. Chris, one of the higher performing EFL readers, metaphorically described English competence as “breathing,” in that we humans do not consider how essential it is—yet without it we can hardly survive. Although the rest of the participants did not describe it as strongly as Chris, they saw English competence as a prerequisite or an advantage for their future aspirations. Accordingly, they regulated their learning by setting up goals and plans. This can be best illustrated by the relatively specific goals and plans established by Steve, another higher performing adolescent in this study. At his high school, Steve was enrolled in an honor program for natural sciences. He also received additional EFL support from a private language institute. According to Steve, his long-term goal was to be a researcher in the field of natural sciences; his middle-range goal was to study abroad after graduating from college; and his current goal was to enter his dream college to study natural sciences. In our interview, Steve described in Chinese how he had set up specific goals and plans in order to fulfill his dream. An excerpt of his statements was translated into English and is presented as follows:

It was about the time when I entered high school that I roughly set up a goal for my future. Accordingly, I look for whatever rouses my interest. I keep listening to speeches presented by researchers from abroad. I sometimes do this for my school projects, and sometimes I do it for my own experiments. On top of that, I deliberately read international research papers. I initiated most of these activities. My purpose is to explore the ideas that rouse my interest.

In a sense, the statements given by Steve reveal his approach to regulating his own learning during his high school years. He set up a goal (searching his own interests), devised a study plan (listening to lectures and reading research reports), and carried out his actions (completing his school projects and conducting his own experiments). His statements reveal his motives for engaging in EFL activities, which can be seen as both intrinsic and extrinsic. Reading international research papers and listening to lectures can be seen as his intrinsic motive for seeking EFL activities, while fulfilling tasks assigned by his school can be regarded as his extrinsic motive. More importantly, Steve’s statements are indicative of his “ought-to” L2 self (searching for his particular

interest in the field of natural sciences, fulfilling a task assigned by his school, studying at his dream university) and his ideal L2 self (becoming a scientist in the global community, becoming bilingual and bi-literate).

Steve was further asked whether or not he had encountered any particular difficulties in understanding the scientific articles he had read, which were written in English, and how he overcame these difficulties. Steve indicated that professional jargon and terminology within the English texts were the major obstacles he had encountered thus far. He subsequently described two phases for solving problems that he had devised for EFL reading. At the initial phase, he would surf the Internet and find out the meanings and descriptions of the unfamiliar jargon and terminology. If he remained confused, he would search for help from more competent individuals, such as his cousin, who shared a similar academic interest with Steve and was studying science at a prestigious university.

Like Steve, Vivian regarded English reading proficiency as an advantage for her future pursuit of becoming a psychologist. Vivian presented her rationale with respect to reading authentic English texts:

Nowadays, research, as a matter of fact, is more advanced abroad, in countries such as the United States and the United Kingdom. If we have to read research reports, it is better to read the source. Thus, with a good command of English, I can have a better understanding [of those research papers]. I may misunderstand what I read if I mainly rely on their [Chinese] translation.

Here Vivian indicated an advantage of being a competent reader of English for her future pursuits: that she could read English texts on her own, rather than relying on their Chinese translations.

The motives for EFL reading tasks described by the higher performing adolescents of EFL in this study tend to be practical or instrumental in essence (e.g., being able to read authentic English texts). More specifically, their motivation is to prepare for academic studies in the present and in the future. Of equal importance, the statements given by the higher performing EFL readers in particular are indicative of their formation of identity: becoming a member of the global community in the future. English competence, thus, was regarded as a crucial step for these adolescents to joining said community. In fact, the activities stated by Steve go beyond even those assigned by Taiwanese high schools, such as reading and listening to research reports in English. As posited

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by Oyserman and Markus (1990), possible selves are motivating because they are future-oriented.

Though the lower performing EFL readers also considered English reading proficiency beneficial for their future pursuits, it appears to be secondary to their current interests. Take Daniel and Peggy, two lower performing readers of EFL, as cases in point. Daniel was passionate about sports. His short-term goal was to be admitted to college so that could join a basketball team. His ultimate goal was to be a professional athlete. Unlike his passion for sports, Daniel stated an explicit lack of interest in reading—both in Chinese and English. Although he had received additional EFL support from private language institutions since childhood, he acknowledged his attitude toward EFL learning was relatively passive; that is, at times he failed to complete the tasks assigned by his teachers. As Daniel stated in our interview, he attributed his low EFL performances to a lack of interest and effort in EFL learning.

Like Steve and Vivian, Peggy acknowledged the positive impact English competence could have on her future pursuits. At the time of our interview, Peggy was interested in history and wanted to be a teacher after college. She also expressed a desire to travel and study abroad in the future. As such, receiving a high mark on the national English competence test was perceived as much more important to her than high marks in other subjects (e.g., Chinese, mathematics, and social studies). However, while recalling her EFL learning experiences, Peggy described a constant struggle in word recognition and decoding at the onset of EFL learning. She attributed her low EFL performance to minimal efforts made specifically during her childhood. By the time she entered secondary school, she had found herself falling further behind and was unable to read on her own due to a limited English vocabulary.

Unlike their lower performing counterparts, the higher performing participants in this study tended to attribute their EFL achievement to intrinsic reading motivation. They acknowledged the importance of cultivating good reading habits and interests in their two languages during early childhood and young adulthood. The reading activities they described in our interviews included visiting local libraries with their family members, obtaining books purchased by their parents or relatives, and receiving literature-based instructions (e.g., the use of children's literature in EFL programs) at their preschools, kindergartens, or private language institutes. For instance, Steve attributed his EFL reading

competence to extensive reading that he had cultivated since his childhood. He indicated that when he was younger, his family members usually shared what they had read together. His father often gave him a list of books recommended for reading. During his high school years, he watched English language TV programs, listened to English lectures given by international scientists, and read scientific research reports in English. He personally believed that these extracurricular activities had enhanced his reading proficiencies in both Chinese and English. Steve is not alone. The other participants, including Chris, Jessi, and Vivian, also attributed their reading competence to an interest in reading cultivated in childhood. They were similarly provided with English children's books (either abridged or unabridged), alongside animated cartoons and films at schools. Jessi and Vivian stated in our interviews that they first read picture books then gradually moved to chapter books, and shared what they had read with their family members and peers. Both Jessi and Vivian concluded that their English reading interests had been cultivated ever since. During their high school years, they commenced watching English films embedded with Chinese or English subtitles, as well as read and listened to news presented by the China Post, the International Community Radio Taipei (ICRT), the BBC, and CNN.

DISCUSSION, IMPLICATIONS, AND CONCLUSION

Discussion and Implications

The findings with regard to the individual differences in EFL reading motivations, on the whole, resonate with those reported from previous L1 and L2 reading research (e.g., Guthrie & Wigfield, 2000; Lau & Chan, 2003; Takase, 2007; Wang & Guthrie, 2004). Students with a higher level of reading proficiency tend to possess more positive reading motivation. In this study, multiple motivational factors are associated with EFL reading achievement, implying the multiple facets of reading motivation, as proposed by Guthrie and Wigfield (2000). The successful readers in this study possessed higher intrinsic motivation than their less successful counterparts. They also perceived EFL reading to be more enjoyable than did their less successful counterparts, by spending significantly more time on reading extracurricular materials in English, which were not often assigned by their schools. The descriptions of Steve's and Vivian's EFL activities are the cases in point.

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Along with intrinsic motivation, a significant difference in extrinsic reading motivation was detected between these two achievement groups as well. Desires related to the utility of English – receiving praise from teachers, being noticed by peers when engaging in EFL reading activities, and outperforming their peers in EFL reading tasks – appear to have an impact on reading achievement among the high schoolers, particularly in the context of learning a foreign language. This finding suggests the positive role that extrinsic motivation might play in the context of foreign language reading. Individual differences in extrinsic EFL reading motivation were identified as well. As Deci and Ryan (1985) have contended, the relationship between intrinsic motivation and extrinsic motivation is not dichotomous. Rather, they should be treated as a continuum between self-determined (intrinsic) and controlled (extrinsic) forms of motivation. This continuum depends on how internalized an individual is. If one is sufficiently self-determined and internalized, extrinsic rewards can be combined with, or can even lead to, intrinsic motivation (Deci & Ryan, 1985). Receiving high marks in EFL is essential for being admitted to a desirable school, particularly within the educational contexts of Chinese-speaking communities such as Taiwan, Hong Kong, and China.

Alongside intrinsic and extrinsic motivations, the successful EFL readers appeared to possess a significantly higher sense of self-efficacy than their less successful counterparts. More importantly, self-efficacy beliefs can serve as a predictor for EFL reading achievement. The findings are in line with Zimmerman's (2000) contention that self-efficacy beliefs possessed by a learner are one of the key processes influencing learning and achievement. Aside from self-efficacy, the successful EFL adolescents in this study also displayed higher social reading motivation than did their less successful counterparts. This finding supports the tenet proposed by Vygotsky (1978), that social interaction promotes learning. Those in favor of interacting with others (family members, peers, or community members) appear to have higher reading performances. This finding also demonstrates the importance of interacting with family members and peers. Examples include Vivian's and Jessie's book sharing activities with family members and friends.

In addition to the four motivational factors, significant differences in the four causal attributions between the successful and less successful EFL readers were also observed. Compared with the lower performing ones, the higher performing adolescents tended to attribute their success

in EFL reading tasks more often to internal causes (e.g., ability, effort, and strategy use) than external causes (being lucky or having an easy or unchallenging reading task). These findings, in a sense, correspond with those reported from previous studies on the association of causal attributions with academic achievement (e.g., Shell et al., 1995; Weiner, 1994, Weiner et al., 1979). In other words, successful learners attribute their successes (or failures) more to their possessed ability, level of effort, and strategy use than did less successful learners. The less successful learners likewise tend to attribute their failures to a lack of ability, effort, and strategy use. This could be further supported by Daniel's and Peggy's attributional beliefs about their low EFL performances.

It is also important to note that the successful adolescents in this study attributed their successes to external factors more often than did their less successful counterparts. This finding is considerably disparate to findings from previous research. Unsuccessful readers of English were found to attribute their successes (or failures) to external factors more than did successful ones (O'Sullivan & Howe, 1996). A negative relationship between external attribution and academic achievement was discerned (e.g., Kurtz-Costs & Schneider, 1994; Newman & Stevenson, 1990; O'Sullivan & Howe, 1996). In the current study, the relationship between L2 reading performance and external attribution appears to be positively and significantly related. Further investigations are needed, however, in order to validate this finding.

On top of individual differences, we discerned a significant difference in favor of females in social motivation. Compared with females, male adolescents in this study appeared to be more reluctant to interact with peers and family members. The gender dissimilarity in social reading motivations provides evidence to support significant impacts of social environments (e.g., homes, schools, and communities) on L2/FL reading. It is also indicative of a sociocultural aspect of L2/FL learning on reading motivation. Teacher support, the promotion of interaction with peers within academic tasks, and the promotion of mutual respect among classmates can support motivation and engagement, as Ryan and Patrick (2001) contend.

Conclusion

This study looked into the achievement and gender differences in EFL reading motivation among Taiwanese students in secondary

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education. The results derived from quantitative analysis show a significant difference in each of the eight motivational subcategories investigated. Moderate relationships between EFL reading performance and the eight motivational subcategories were observed as well. EFL reading motivations, as a whole, appear to make a significant contribution to EFL reading achievement. These findings are indicative of the connection between motivation and achievement within the context of learning to read a foreign language. They also imply that struggling foreign language readers are likely to suffer from multiple deficiencies in terms of their motive for reading. As the findings suggest, teaching motivation in EFL classrooms appears to be crucial, in particular, for those struggling readers. EFL reading instruction needs to encourage students to share their interests; to encourage them to read extensively; to give support and provide scaffolding with more difficult texts and tasks, and increase students' expectancy of success in particular tasks, as proposed by Grabe (2009).

Among the eight motivational factors, self-efficacy beliefs had the strongest and most positive relationship with EFL reading performance (see Table 3). The adolescents' confidence in their EFL reading capacities can serve as a predictor for their reading performance. Additionally, a gender difference in social motivation was detected. The girls in this study appeared to visit libraries, exchange English books, and share what they read in English with their peers and family members more often than the boys. In fact, they scored higher than the boys on the EFL literacy test, but the difference between them did not reach a significant level. Last and equally important, the findings generated from qualitative data show that the participants tended to regard English proficiency as an investment in their future pursuits. On the one hand, English competence was perceived as a prerequisite for future pursuits particularly for those higher performing readers of EFL; on the other hand, English competence seemed not to be an immediate need for lower performing participants. The degree of congruity in one's motivational self-system (present and ideal future self) and EFL activities appeared to be higher among the successful readers of EFL investigated in this study. This finding suggests a possible link between motivation self-systems and regulating one's EFL reading activities.

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APPENDIX

Appendix A. The Survey of EFL Reading Motivation

1. I am a good English reader.
2. If the teacher discusses something interesting, I might read more about it in English.
3. I like hearing the teacher say I read English well.
4. I visit the library often with my family or friends.
5. I learn more from English reading than most students in the class.
6. I read in English to learn new information about topics that interest me.
7. I am happy when someone recognizes my English reading skills.
8. I often read English texts with my parents, brothers, sisters, or friends.
9. I usually know most of the word meanings when I read English texts.
10. I like to read about new things written in English.
11. I like being the only one who knows an answer in something we read in English.
12. I like to exchange English books with my friends.
13. It is easy for me to get the meaning of the English sentence.
14. I make pictures in my mind when I read in English.
15. I like being the best at English reading.
16. I like to tell my family or friends about what I am reading in English.
17. In comparison to my other school subjects, I am best at English reading.
18. If I'm reading about an interesting topic written in English, I sometimes lose track of time.
19. I look forward to finding out my English grades.
20. I often talk to my friend about what English texts I'm reading.
21. I know that I will do well in English reading next year.
22. If an English book is interesting, I don't care how hard it is to read.
23. I read English texts to improve my grades.
24. I like to do English reading assignments with my friends.

intrinsic motivation: 2, 6, 10, 14, 18, 22; extrinsic motivation: 3, 7, 11, 15, 19, 23; self-efficacy: 1, 5, 9, 13, 17, 21; social motivation: 4, 8, 12, 16, 20, 24.

Appendix B. The Survey of Causal Attributions

Item I: Usually it is my English reading ability that determines whether I ...

1. get high grades in reading comprehension tests.
2. get most of the answers right in doing reading comprehension exercises.
3. get the main idea of the text.
4. get good comments for my reading report.

Item II: Usually it is my effort that determines whether I ...

5. get high grades in English reading comprehension tests.
6. get most of the answers right in doing English reading comprehension exercises.
7. get the main idea of the English text.
8. get good comments for my reading report.

Item III: Usually it is my strategy use that determines whether I ...

9. get high grades in English reading comprehension tests.
10. get most of the answers right in doing English reading comprehension exercises.
11. get the main idea of the English text.
12. get good comments for my English reading report.

Item IV: Usually it is luck or an easy task that determines whether I ...

13. get high grades in English reading comprehension tests.
14. get most of the answers right in doing English reading comprehension exercises.
15. get the main idea of the text.
16. get good comments for my English reading report.

ability attribution: 1, 2, 3, 4; effort attribution: 5, 6, 7, 8;
strategy attribution: 9, 10, 11, 12; external factors: 13, 14, 15, 16.

探討閱讀動機對英文閱讀成就及性別差異的關係—
以台灣高中生為例

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本研究採用量化及質化方法。目的有二：一則探討動機與閱讀成就的關係；二則性別與閱讀動機的關係。參與者為來自台灣北部 252 高中生，男女各半。研究資料包括學生背景資料、英語閱讀成績，英語閱讀動機問卷，以及訪談資料。主要研究結果顯示八個層面的閱讀動機與閱讀成就成中度正相關，男女在社會閱讀動機上有顯著的差異。值得注意的是低成就英語閱讀者在閱讀動機八個層面上均顯著低於高成就讀者，提升學習動機成為英語課程設計及教學不可忽視的議題。

關鍵詞：閱讀動機、英語閱讀、中等教育