

Attribution Beliefs and Self-efficacy in Foreign Language Reading

Creencias atribucionales y autoeficacia en la lectura en lengua extranjera

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Abstract

This study examined the interrelationship between attribution beliefs, self-efficacy, reading performance in foreign language (FL) reading among 153 English language learners (ELLs) in China. A mock College English Reading Test – Band 4 was used to measure English reading performance and two questionnaires were used to evaluate attribution beliefs and self-efficacy in English reading. Correlation analyses showed that while self-efficacy and attribution to reading strategy had significant and positive relation with reading performance, attribution to mood was significantly and negatively associated with reading performance. Multiple regression indicated that attribution beliefs and self-efficacy together explained about 17% of variance in reading performance. The students of higher self-efficacy and good English reading performance tended to attribute their English reading more to internal and controllable factors than their counterparts with lower self-efficacy and poorer reading performance. These results have practical implications that English teachers should encourage learners to form positive attribution beliefs.

Keywords: attribution beliefs, self-efficacy, foreign language reading performance, English language learners, university students

Resumen

En este estudio, se ha investigado la interrelación entre las creencias atribucionales, la autoeficacia y el rendimiento en lectura en lengua extranjera (LE)

entre 153 estudiantes de lengua inglesa (ELI) de China. Se ha utilizado un simulacro de prueba universitaria de lectura en inglés (College English Test - Nivel 4) para medir el rendimiento en lectura en inglés y se han empleado dos cuestionarios para evaluar las creencias atribucionales y la autoeficacia en la lectura en inglés. Los análisis de correlación han demostrado que, aunque la autoeficacia y la atribución a la estrategia de lectura tienen una relación significativa y positiva con el rendimiento en lectura, la atribución al estado de ánimo está asociada de manera significativa y negativa al rendimiento en lectura. La regresión múltiple ha indicado que las creencias atribucionales y la autoeficacia explican conjuntamente el 17% aprox. de varianza en rendimiento en lectura. Los estudiantes con una mayor autoeficacia y un óptimo rendimiento en lectura en inglés tienden a atribuir dicho rendimiento más a factores internos y controlables que sus compañeros con una menor autoeficacia y menor rendimiento en lectura. Estos resultados tienen implicaciones prácticas: los profesores de inglés deberían animar a los estudiantes a desarrollar creencias atribucionales positivas.

Palabras clave: creencias atribucionales, autoeficacia, rendimiento en lectura en lengua extranjera, estudiantes de lengua inglesa, estudiantes universitarios

Introduction

In cognitive learning theories, human beliefs and perceptions of self have been found to closely relate to the amount of effort a student devotes to learning tasks and their perseverance when facing challenges (Dörnyei, 2009; Hsieh & Kang, 2010; Williams & Burden, 1999). Among these beliefs and perceptions, Weiner's attribution theory (1992, 2010) and Bandura's (2012) self-efficacy theory have been demonstrated to have impact on students' academic achievement, including language learning performance (Hsieh & Kang, 2010; Hsieh & Schallert, 2008) and first language (L1) reading performance (Law, 2009; O'Sullivan & Howe, 1996). Reading in a foreign language (FL) is an effortful activity, which requires from readers to make constant efforts and invest time to practise. In the processes, FL readers' self-beliefs, such as the factors which they believe to influence the success and failure in FL reading performance (i.e., attribution beliefs in FL reading) and how they evaluate their capabilities to handle a task in FL reading (i.e., self-efficacy in FL reading) can be of importance in whether they will sustain effort or they

will be discouraged and give up (Hsieh & Kang, 2010). Due to dearth of research on attribution beliefs and self-efficacy in FL reading, our study empirically investigates the interrelationship between the two constructs of self-beliefs, and the impact of them on the FL reading performance among ELLs in China.

Literature Review

Attribution beliefs

Attribution is defined as beliefs held by individuals to interpret and explain the reasons for their success and failure (Weiner, 1992, 2010). Students' attributions are believed to exert a great influence on students' expectancy for future success or failure, their confidence about their own competence of performing certain learning tasks, the amount of effort they are willing to invest, their cognitive learning behaviours such as strategy use, their emotional experience in learning, and ultimately their academic outcomes (Weiner, 1985, 2000, 2010). The main reasons to which individuals attribute performance are one's ability, effort, task difficulty, and luck (Erten & Burden, 2014). A variety of other factors have also been identified, including interest, mood, strategy, materials, and health (Peacock, 2009; Vispoel & Austin, 1995; Williams & Burden, 1999). Weiner (1992, 2010) classified these reasons into three dimensions: locus of control, stability, and controllability (Weiner 1992, 2010). Locus of control refers to whether individuals perceive that causes are within or outside their control. Stability implies that the causes of performance are perceived to be changeable over time by an individual. Controllability means that the causes of performance are thought to be controllable by oneself (Weiner, 1992, 2010). For instance, test difficulty is considered as a factor that is external to test takers, unstable across different testing situations, and is out of control by test takers. Previous research has shown that people who tend to attribute performance to internal factors, such as one's ability and effort, are more likely to have heightened motivation and sustain their effort, which in turn leads to better performance (Erten & Burden, 2014). For instance, attributions to effort are considered being within the reach of individual's control.

Therefore, more efforts may be put in the future and a greater chance to gain improvement in performance may be expected (Weiner, 2010).

Attribution beliefs in language learning

Studies of attribution beliefs in language learning have evolved from early descriptive studies (Williams & Burden, 1999) to inferential studies in recent years (Erten & Burden, 2014). In the early qualitative studies, interviews with students aimed to find out reasons and explanations of students for various levels of achievement in language learning (Williams & Burden, 1999; Williams, Burden, & Al-Baharna, 2001; Williams, Burden, Poulet, & Maun, 2004). In these studies, language learners often attributed their achievement to uncontrollable factors, such as the innate cognitive capacity for language learning, distraction by others, poor teaching methods, and difficulty of the target languages, rather than controllable factors, such as the effort or use of language learning strategies (Williams & Burden, 1999; Williams et al., 2001). Research also reported that successful and unsuccessful students differed in various factors they attributed to in language learning: while successful learners frequently attributed language learning to the effort they put, unsuccessful students believed teachers were the most important factor for language learning (Williams et al., 2004).

More recent studies with inferential approach aimed at investigating the relationship between language learners' attribution beliefs, self-beliefs (self-efficacy, self-concept, aspiration for language learning in future), and language learning achievement. These studies showed that language learning achievement was significantly related mostly to attributions which were uncontrollable, such as ability (Hsieh & Schallert, 2008); luck and mood (Pishghadam & Zabihi, 2011), task difficulty (Hashemi & Zabihi 2011); and interest and teacher (Erten & Burden, 2014). Only one study reported the positive relation between a controllable factor (i.e., effort) and achievement (Pishghadam & Zabihi, 2011).

Research on the relations between attribution beliefs and other self-beliefs suggested a negative relation between uncontrollable attributions (i.e., task difficulty) and aspirations in language learning in future (Erler & Macaro, 2011). When learners believed that language learning performance were beyond their control, they also showed a decrease in

self-efficacy in language learning (Hsieh & Schallert, 2008). In contrast, students who had attributions of effort showed higher self-efficacy than those who believed that there was no relation between effort and language learning test performance (Hsieh & Kang, 2010). These studies are informative for language learning in general. However, they do not offer much information for attribution beliefs in different skills in language learning, such as in FL reading.

Attribution beliefs in L1 reading

A number of studies have been carried out to investigate attribution beliefs in L1 reading with children and in general have endorsed that children's attribution beliefs play a crucial role in their L1 reading performance. Successful and unsuccessful readers were reported to have different attribution beliefs. For instance, O'Sullivan and Howe (1996) found that for children from three grades (i.e., 3, 6, and 9), attributions to ability, liking for reading, and help at home, were closely related to their reading performance measured by Hates-MacGinitie test. With the increase of age, students attributed reading performance more to internal factors related to oneself than factors related to others. Research has shown that attribution beliefs also have impact on reading behaviors, such as use of reading strategies. For instance, Law (2009) found a close relationship between attribution beliefs, awareness of strategy use, and reading comprehension among fifth graders in Hong Kong. Children who perceived intelligence and ability as controllable and malleable were more likely to adopt a variety of reading strategies and attained higher level of comprehension. However, the relationship between attribution beliefs and FL reading performance has not been examined. This serves one of the aims of the present study.

Self-efficacy

Bandura's self-efficacy theory has been influential and has produced prolific research in the area of general academic learning (Pajares, 2003; Pajares & Kranzler, 1995; Pintrich & De Groot, 1990; Schunk, 1984; Schunk & Pajares, 2005). According to Bandura (2012), self-efficacy

refers to the belief that individuals hold about his/her competence to complete a specific task. Self-efficacy needs to be distinguished from self-concept theoretically and methodologically. Self-concept refers to one's general feeling in a broad area, whereas self-efficacy normally limits one's capacities to a specific and well-defined task (Woodrow, 2006). To take FL reading as an example, a self-concept question might ask "How good are you at reading in English?" and a self-efficacy question might ask "How much confidence do you have for summarizing the main theme of an English article". Research in the areas of self-efficacy and self-concept has generally indicated that the former construct has more predictive and explanatory power in academic achievement than the latter construct (Bandura, 1997; Bong, 2002; Jansen, Scherer, & Schroeders, 2015; Pajares & Johnson, 1996; Skaalvik, 1994). In a recent study of self-efficacy and self-concept in science learning among German students, Jansen et al. (2015) found that self-efficacy was a better predictor of current science ability, self-concept was more predictive to aspiration of a science career.

Self-efficacy in language learning

Compared to the vast amount of research carried out in general academic learning, there are only a limited number of studies on self-efficacy in language learning. Self-efficacy tended to be investigated in relation to other motivational constructs, such as self-concept and goal orientation. For instance, with intermediate-level French learners in universities, Mills, Pajares, and Herron (2007) investigated both self-efficacy and self-concept in French learning in relation to French proficiency. The results indicated that students' self-efficacy explained French proficiency more than self-concept in French learning. Adopting goal theory, studies found that Korean ELLs' self-efficacy in English learning was strongly associated with mastery goal-orientation and moderately correlated with performance goal-orientation (Lee & Lee, 2001), and negatively associated with performance avoidance goal (Bong, 2001).

Self-efficacy in FL learning has been found to affect language learning strategy use. Yang (1999) found a strong positive correlation between self-efficacy and functional practice strategies among a cohort of Taiwanese English learners. Woodrow (2006) found that self-efficacy in spoken English in and out of English class was the strongest predictor

of students' oral performance as measured by a mock International English Testing System spoken test among factors such as strategy use, integrative goal orientation, task goal orientation, and anxiety in oral English performance. Those students who had higher self-efficacy in and out of English classes also tended to adopt more of metacognitive strategy than those students with lower self-efficacy.

There is an argument that self-efficacy and attribution beliefs are interrelated: people's level of confidence is related to kinds of beliefs they have for success and failure of the task at hand, and the beliefs they hold can also affect how confident they are to perform the task (Bandura, 1986; Hsieh & Kang, 2010). For instance, Hsieh and Kang (2010) found that Korean ELLs with higher self-efficacy attributed their English test performance to internal and controllable factors more often than those counterparts with lower self-efficacy. Hsieh and Schallert (2008) demonstrated that university language learners who attributed failure in language learning to lack of effort had higher self-efficacy than students who did not have effort attribution.

The present study

The above two studies indicated that self-efficacy is related to attribution beliefs in FL learning in general. However, to the best of the researcher's knowledge, the relationship between self-efficacy and attribution beliefs in a specific skill in FL learning, such as FL reading, has not been explored. VanPatten pointed out (1994) that it is necessary to confine the research to specific language skills in FL learning research, because learners' beliefs and learning processes are different in different language skills. The present study examines the interrelationship between attribution beliefs, self-efficacy, and FL reading performance among ELLs in China at college level. English reading is important for ELLs in China, because it not only functions as an essential language skill, but also serves a channel as language input.

The present study addresses two research questions:

1. To what extent do Chinese ELLs' attribution beliefs and self-efficacy in FL reading relate to and contribute to FL reading performance?

2. To what extent do Chinese ELLs' attribution beliefs differ among students with high and low self-efficacy in FL reading and among good and poor FL readers?

Method

Sampling

The present study was conducted in one public university in China with 153 second-year students. The selection of participants was targeted on non-English majors, as English majors were not representative of the majority Chinese ELLs. The participants were 18 to 23 years old, with a *M* of 20. The average period of English instruction they received was 7.5 years.

Data collection tools and procedure

A reading test was used to measure students' reading performance and two questionnaires were employed to evaluate participants' attribution beliefs and self-efficacy in FL reading.

The reading test

The reading test was the reading section of a mock CET Band 4. As the participants were going to sit CET Band 4 in the following semester, using such test was appropriate for the participants' reading proficiency level. The reading test consisted of two parts: fast reading and reading in depth. Fast reading used a long passage and the comprehension questions measured students' abilities to summarize the main idea, to locate specific information by scanning and skimming, and to draw inferences from the content. Reading in depth section had 3 passages and the comprehension questions measured students' abilities to summarize the theme, draw inferences from the content, discriminate more or less important ideas, and find information explicitly or implicitly stated in the

text. The reliability of the reading test was .79. The highest possible score was 40, and the participants' scores ranged from 10 to 38 ($M = 25.41$, $SD = 4.99$).

Attribution Beliefs in English Reading Questionnaire

The questionnaire was adapted from questionnaires measuring attribution beliefs in FL learning in general (Hsieh & Kang, 2010; Hsieh & Schallert, 2008) and in L1 reading (Chan, 1994; Lau, 2004). It had 7 items on a 5-point Likert scale, with 1 indicating “strongly disagree” and 5 representing “strongly agree”. The 7 items assessed the 7 sources of attributions, including reading ability, task difficulty, quality of teaching, effort, mood, luck, and reading strategy (My English reading performance is usually poor because of my reading ability). Among the 7 sources, while reading ability, effort, and reading strategy are controllable, the remaining 4 sources are less manageable. The first 6 sources of attributions were from Language Achievement Attribution Scale, which was developed and used in Hsieh and Kang and Hsieh and Schallert's studies. Hsieh and Schallert justified that the reasons for using the 6 sources were based on Weiner's explanations and examples of the attribution beliefs theory. We further added reading strategy as an additional source because past research in FL reading has consistently revealed that use of reading strategies has an impact on reading performance, hence is an important source for attribution (Aghaie & Zhang, 2012; Kazemi, Hosseini, & Kohandani, 2013; Tavakoli, 2014; Zhang & Wu, 2009).

Self-efficacy in English Reading Questionnaire

The design of the questionnaire followed the instructions by Bandura (2006) that “Scales of perceived self-efficacy must be tailored to the particular domain of functioning that is the object of interest” (pp. 307-308). The questionnaire comprised 7 items and assessed students' self-efficacy in performing 7 specific tasks in English reading, including comprehending the meaning of sentences, finding the relations among paragraphs, obtaining the main theme of texts, scanning and skimming for specific information, analysing reference words, drawing inferences

from the contents, and discriminating facts from opinions (How much confidence do you have for summarizing the main theme in English reading?). The questionnaire used a 5-point Likert scale, with 1 indicating “0% of confidence” and 5 representing “100% of confidence”.

The two questionnaires were translated from English into Chinese by a certified Chinese-English translator. The translated version was read by two Chinese university students, who did not participate in the present study, in order to make sure that the translation made sense. For confusing language, modifications were made until no further comments from the students. For instance, “English reading comprehension tests” were replaced by “English reading tests” so that students would not be confused between “reading tests” and “comprehension questions in the reading tests”. The research was conducted in a 50-minute English class (40 minutes for the reading test and 10 minutes for the questionnaires).

Reliability of the questionnaires

To ensure the reliability of the two questionnaires, we conducted confirmatory factor analyses (CFA) using Mplus 7 and Cronbach’s alpha reliability analyses using SPSS 22. We followed the general procedures for conducting CFA (Jöreskog & Sörbom, 2005). Because of the sensitiveness of chi-square statistics to sample size, we used the most common goodness-of-fit indices to assist evaluating the models (Kline, 2005), including the Tucker-Lewis Index (TLI, Tucker & Lewis, 1973), the Comparative Fit Index (CFI, Bentler, 1990), and the root mean square error of approximation (RMSEA, Browne & Cudeck, 1993). To indicate a good fit between the model and the data, it is generally acceptable that values TLI and CFI should be greater than .90, and the value of RMSEA should be less than .06 (Hu & Bentler, 1999).

For the attribution beliefs questionnaire, the CFA model resulted in a proper solution with a superior fit: $\chi^2 (14) = 14.28$, CFI = .99, TLI = .99, RMSEA = .01. As this is a unidimensional scale, we calculated the Coefficient *H* reliability – a measure of maximal reliability, which is a more appropriate measure of the scale’s reliability (Bentler, 2007; Hancock & Mueller, 2001; McNeish, 2018). The Coefficient *H* reliability was .96, suggesting that the scale was highly reliable. The CFA model for

the self-efficacy scale also generated an acceptable fit: $\chi^2 (13) = 20.77$, CFI = .96, TLI = .97, RMSEA = .06. The Coefficient *H* reliability was .84.

Data analysis

Data analyses were conducted using SPSS 22. To find out relations between attribution beliefs, self-efficacy, and FL reading performance, correlation analysis was applied. A multiple regression analysis was conducted to answer the research question that attribution beliefs and self-efficacy contribute to English reading performance (Mills et al., 2006, 2007). The second research question was answered using a 2 x 2 MANOVA and follow-up ANOVAs to examine attribution beliefs in English reading between high and low self-efficacy readers and good and poor readers.

Results

Relationship between attribution beliefs, self-efficacy, and FL reading performance

Table 1 presents descriptive statistics. Table 2 presents the results of correlation between attribution beliefs, self-efficacy, and reading performance. It is generally agreed that the range of *r* between .00 and .40 indicates a weak relation; between .40 and .60 is a moderate relation; between .60 and .80 is a strong relation; and between .80 and 1.00 can be considered a very strong relationship (Neil, 2008). Table 2 shows that self-efficacy in FL reading was positively and moderately associated with the participants' reading performance ($r = .32, p < .01$). In terms of the relation between attribution beliefs and reading performance, only two factors were significantly related to reading performance: attribution to reading strategy was positively and moderately correlated with reading performance ($r = .30, p < .01$), suggesting that the students who attributed FL reading performance to use of reading strategy tended to achieve higher in English reading. The attribution of mood was negatively and moderately associated with reading performance ($r = -.24, p < .01$),

implying that students who believed that mood was a reason for English reading performance tended to achieve more poorly.

TABLE I. Descriptive statistics

Variables	Min.	Max.	M	SD
Self-efficacy	1.50	4.86	3.07	0.58
Ability	2.00	5.00	3.38	0.67
Task	1.00	5.00	2.72	0.62
Teaching	1.00	5.00	2.85	0.62
Effort	2.00	5.00	3.82	0.62
Strategy	1.00	4.50	2.99	0.60
Mood	1.50	5.00	2.97	0.52
Luck	1.00	4.00	2.32	0.60
Reading performance	10.00	38.00	25.41	4.99

TABLE II. Results of correlation

Variables	1	2	3	4	5	6	7	8
1 Self-efficacy	---							
2 Ability	.31**							
3 Task	.18*	.01						
4 Teaching	-.10	.07	.03					
5 Effort	.25**	.26**	-.03	-.19*				
6 Strategy	.32**	.01	.11	-.18*	.08			
7 Mood	-.18*	-.01	.04	.05	-.13	-.10		
8 Luck	-.06	-.16	-.06	.10	-.55**	.02	.03	
9 Reading performance	.32**	.06	.08	-.08	.11	.30**	-.24**	-.02

** $p < .01$, * $p < .05$ (2-tailed)

Contributions of attribution beliefs and self-efficacy to FL reading performance

TABLE III. Results of multiple regression analysis

Variables	B	SE B	β	<i>t</i>	<i>p</i>
Self-efficacy	1.90	.68	.22**	2.78	.00
Attribution to reading strategy	1.82	.65	.22**	2.82	.00
Attribution to mood	-1.85	.73	-.19*	-2.53	.01

** $p < .01$, * $p < .05$ (2-tailed)

We regressed FL reading performance on attribution beliefs and self-efficacy. The results are reported in Table 3. Table 3 reveals that the regression model was significant: $F(3, 150) = 11.43, p < .01, f^2 = .11$. All three variables: self-efficacy, attribution to reading strategy, and attribution to mood, were significant predictors to FL reading performance. While self-efficacy ($\beta = .22, p < .01$) and attribution to reading strategy ($\beta = .22, p < .01$) positively predicted FL reading performance, attribution to mood ($\beta = -.19, p < .05$) negatively explained reading performance. Altogether the three predictors accounted for 17% of the variance in FL reading performance.

Attribution beliefs between higher- and lower- self-efficacy and good and poor readers

In order to examine whether attribution beliefs differ between readers with higher- and lower- self-efficacy, the participants were first classified as higher ($N = 88$) and lower ($N = 65$) self-efficacy readers using the *M* self-efficacy score (3.07) and as good ($N = 66$) and poor ($N = 87$) readers using the *M* reading score (25.41). We then carried out a 2 x 2 MANOVA to examine whether there were significant contrasts of attribution beliefs between groups. The results of MANOVA showed that the multivariate effect was significant for the main effects of self-efficacy, Wilks's $\lambda = .95, F(7, 146) = 3.67, p < .01$, partial $\eta^2 = .15$; and reading performance, Wilks's $\lambda = .84, F(7, 146) = 3.80, p < .01$, partial $\eta^2 = .16$. However, the interaction

effect between self-efficacy and reading performance was not significant, Wilks's $\lambda = .94$, $F(7, 146) = 1.21$, $p = .30$, partial $\eta^2 = .06$. The follow-up ANOVAs and the *Ms* and *SDs* of group contrasts are presented in Table 4.

TABLE IV. Results of MANOVA

Self-efficacy	low (<i>N</i> = 88)		high (<i>N</i> = 65)		<i>F</i>	<i>p</i>	partial η^2
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Ability	3.21	0.66	3.62	0.63	12.09	.00**	.08
Task	2.67	0.56	2.77	0.70	0.62	.43	.01
Teaching	2.89	0.62	2.82	0.62	0.65	.42	.01
Effort	3.71	0.63	3.95	0.58	4.54	.04*	.03
Strategy	2.87	0.58	3.15	0.61	7.03	.01*	.05
Mood	3.03	0.54	2.89	0.45	2.14	.15	.01
Luck	2.39	0.60	2.23	0.60	1.67	.20	.01
Reading performance	poor (<i>N</i> = 66)		good (<i>N</i> = 87)		<i>F</i>	<i>p</i>	partial η^2
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Ability	3.36	0.61	3.41	0.72	0.38	.54	.01
Task	2.66	0.67	2.76	0.59	0.85	.36	.01
Teaching	2.93	0.68	2.80	0.56	1.05	.31	.01
Effort	3.73	0.70	3.87	0.55	1.89	.17	.01
Strategy	2.77	0.60	3.17	0.56	16.46	.00**	.10
Mood	3.11	0.51	2.87	0.49	7.52	.00**	.05
Luck	2.31	0.62	2.32	0.59	0.00	.99	.00

** $p < .01$, * $p < .05$

Table 4 shows that high self-efficacy readers tended to attribute English reading performance more to reading ability, $F(1, 152) = 12.09$, $p < .01$, partial $\eta^2 = .08$, effort, $F(1, 152) = 4.54$, $p < .05$, partial $\eta^2 = .03$, and use of reading strategy, $F(1, 152) = 7.03$, $p < .01$, partial $\eta^2 = .05$; all of which were internal and changeable attribution beliefs. Good readers tended to attribute reading performance more strongly to use of reading strategy than poor readers, $F(1, 152) = 16.46$, $p < .01$, partial $\eta^2 = .10$; and less strongly to mood than poor readers, $F(1, 152) = 7.52$, $p < .01$, partial $\eta^2 = .05$.

Discussion

The study examined the (1) interrelationship of attribution beliefs, self-efficacy, and FL reading performance, (2) the contributions of attribution beliefs and self-efficacy to FL reading performance, and (3) the extent to which FL readers of two levels of self-efficacy and reading performance differed in terms of attribution beliefs.

The moderate and positive relationship between FL reading self-efficacy and FL reading performance suggests that students with higher self-efficacy in FL reading tend to perform better in FL reading. It could also be possible that when students achieve more highly in FL reading, they are likely to feel more confident when they perform various tasks in FL reading, such as skimming and scanning, making inferences, understanding the relations between paragraphs, and summarizing the main ideas. The result corroborates past studies which examined the relationship between self-efficacy and achievement in various academic subjects (Pajares, 2003; Pajares & Kranzler, 1995; Pintrich & De Groot, 1990; Schunk, 1984), and in FL learning in general (Mills et al., 2007), and extends the positive relationship between self-efficacy and performance in a domain specific context – FL reading.

Self-efficacy is found to have different relationships with sources of attribution. Students' self-efficacy has a positive relationship with attribution to reading strategy (a controllable factor), which is in turn positively related to students' English reading performance. In contrast, students' self-efficacy is negatively associated with attribution to mood (an uncontrollable factor), which also has a negative correlation with their reading performance.

The correlation results are aligned with the results of MANOVA: we found that students with higher self-efficacy and students with better reading performance attribute reading performance to factors that are internally controlled by themselves, such as abilities, effort, and use of reading strategies; more often than their counterparts who feel less confident about their capabilities in FL reading and who have poorer reading performance. These results demonstrate the interrelatedness between higher self-efficacy, healthy attribution beliefs, and better reading performance on the one hand, lower self-efficacy, undesirable attribution beliefs, and poorer reading performance on the other hand.

These findings suggest that when students have desirable attribution beliefs, such as perceiving FL reading performance being under their control, these beliefs may in turn encourage them to persistently invest effort and time to practice English reading because students may feel it is worthwhile to make efforts so as to improve English reading (Gosiewska-Turek, 2017; Hashemi & Zahibi 2011; Pishghadam & Zabihi, 2011; Weiner, 2000). The more they practice, the more likely they can perform better in English reading. The good reading performance may in turn make students feel confident about their various English skills and capabilities. An alternative interpretation could be that when students feel successful in FL reading, they will become comfortable reading English texts on a frequent basis. They may read news in English to obtain information, browse English articles on the Internet to expand knowledge, and read English novels for leisure. Such frequent contact with English texts may help them maintain or improve performance in English reading. This may trigger students to value factors which are well under their own control, such as effort and use of reading strategy, and eventually form desirable and positive attribution beliefs.

On the other hand, when students have undesirable attribution beliefs, such as shown in our research, when they perceive mood, which is quite arbitrary, it could affect their reading performance. Consequently, they probably do not intend to practice English reading. Without much practice, they may perceive that English reading is challenging and feel lack of confidence about reading in English. This will potentially develop a vicious circle in which low-achieving readers would become less and less confident and would not have much positive attribution beliefs. The correlation and MANOVA results seem to suggest a reciprocal effect between self-efficacy, attribution beliefs, and FL reading performance. However, with a cross-sectional study such as ours, it is not possible to examine such speculation.

The interrelationship between self-efficacy, attribution beliefs, and FL reading performance is also revealed in the multiple regression analysis, which demonstrates that three factors: attribution to mood, and attribution to reading strategy, and self-efficacy jointly explain about 17% of variance in FL reading performance. These results imply that English language teachers may need to tackle students' self-efficacy and attribution beliefs simultaneously in order to assist students in improving English reading performance.

Teaching implications

The results of our study have some practical implications for English reading instructors in China. To help students achieve better results in English reading, teachers should not solely focus on learners' abilities and skills. In addition to linguistic training and general reading abilities building, teachers should also be aware of students' self-beliefs. English reading teachers may wish to find out the current status of individuals' self-efficacy and attribution beliefs at the beginning of a reading course through questionnaires such as the ones used in our study, or through interviews and casual conversations. They could explicitly raise learners' awareness of their own beliefs and self-perceptions of English reading abilities. If students' unhealthy attributions are identified, such as attributions to uncontrollable and external factors (task difficulties and teaching factors), educators should help students develop appropriate and desirable beliefs so that students may become more willing to endeavour to succeed in the future, and persevere when facing challenges in reading difficult English texts.

For instance, teachers may wish to change students' misconceptions that English reading proficiency is something developed naturally without using any effort, or that English reading proficiency is solely dependent on good teachers and teaching practices. When students become aware of the values of practice and take responsibility of their own learning, they may be more motivated and autonomous to spend time in and out of English reading classes to hone their reading skills, such as abilities to understand long and difficult sentences. Also, they may be motivated to develop skimming and scanning skills to search specific information to quickly understand the main ideas, and efficiency and speed in reading long texts. Teachers may also explicitly explain how some good reading strategies can be helpful in comprehending English texts, and build some reading strategy training exercises in English reading instruction. Once students understand that their English reading performance can be facilitated with strategic reading, they may become more likely and willing to apply good strategies and have positive attitudes and beliefs towards using readings strategies. At the same time, teachers could think of ways of developing students' efficiency, and help them build confidence while reading in English. For example, teachers may encourage students to evaluate their reading abilities, such as asking students to self-identify

their strengths and weaknesses in English reading. Whenever students make good progress in reading, this should be acknowledged. Through these strategies, which nurture positive and desirable attribution beliefs and confidence, students may become aware of their own responsibility for their English reading.

When students direct their beliefs to a healthy and positive direction, and when they have a strong sense that they are efficient in English reading, they may also change their behaviours, such as being willing to put a greater amount of time and effort into learning, persisting in facing challenges, and being responsible to take care of their own learning. A combination of healthy self-beliefs and changed learning behaviour will be beneficial for them to become successful English readers.

Limitations

Notwithstanding the values of our study to inform practice, limitations of the study should be pointed out. First, both self-efficacy and attribution beliefs tend to be influenced by the context of the study and the nature of the participants. Therefore, the attribution beliefs of success and failure in reading English as a FL may only hold true for Chinese ELLs at college level. Therefore, it is recommended that researchers from other countries, such as Spain, to investigate the attribution beliefs and self-efficacy in English reading or reading in other foreign languages of the ELLs in Spain, in order to compare and contrast the results obtained in the current study. Furthermore, as mentioned, our study was cross-sectional, which prevented us from examining any possible reciprocal relationship between attribution beliefs, self-efficacy, and FL reading performance. Future studies can adopt a longitudinal design to trace and model students' self-efficacy, attribution beliefs, and their English reading performance over time.

Bibliographic References

Aghaie, R., & Zhang, L. J. (2012). Effects of explicit instruction in cognitive and metacognitive reading strategies on Iranian EFL students' reading

- performance and strategy transfer. *Instructional Science*, 40(6), 1063-1081. <https://doi.org/10.1007/s11251-011-9202-5>
- Bandura, A. (1986). The explanatory and predictive scope of self-efficacy theory. *Journal of Clinical and Social Psychology*, 4, 359-373. <https://doi.org/10.1521/jscp.1986.4.3.359>
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York, NY: W. H. Freeman.
- Bandura, A. (2006). Guide for constructing self-efficacy scales. In F. Pajares & T. Urdan (Eds.), *Self-efficacy beliefs of adolescents* (Vol. 5., pp. 307-337). Greenwich, CT: Information Age.
- Bandura, A. (2012). On the functional properties of perceived self-efficacy revisited. *Journal of Management*, 38(1), 9-44. <https://doi.org/10.1177/0149206311410606>
- Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin*, 107, 238-246. <https://doi.org/10.1037/0033-2909.107.2.238>
- Bentler, P. M. (2007). Covariance structure models for maximal reliability of unit-weighted composites. In S. Lee (Ed.), *Handbook of computing and statistics with applications: Vol. 1. Handbook of latent variable and related models* (pp. 1-19). New York, NY: Elsevier.
- Bong, M. (2001). Between- and within-domain relations of academic motivation among middle and high school students: Self-efficacy, task-value, and achievement goals. *Journal of Educational Psychology*, 93, 23-34. <https://doi.org/10.1037/0022-0663.93.1.23>
- Bong, M. (2002). Predictive utility of subject-, task-, and problem-specific self-efficacy judgments for immediate and delayed academic performances. *Journal of Experimental Education*, 70, 133-162. <https://doi.org/10.1080/00220970209599503>
- Browne, M. W., & Cudeck, R. (1993). Alternative ways of assessing model fit. In K. A. Bollen, & J. S. Long (Eds.), *Testing structural equation models* (pp. 136-162). Beverly Hills, CA: Sage.
- Chan, L. K. S. (1994). Relationship of motivation, strategic learning and reading achievement in Grades 5, 7, and 9. *Journal of Experimental Education*, 62, 319-340. <https://doi.org/10.1080/00220973.1994.9944138>
- Dörnyei, Z. (2009). The L2 motivational self system. In Z. Dörnyei, & E. Ushioda (Eds.), *motivation, language identity and the L2 self* (pp. 9-42). Bristol: Multilingual Matters.

- Erler, L., & Macaro, E. (2011). Decoding ability in French as a foreign language learning motivation. *Modern Language Journal*, *95*, 496-518. <https://doi.org/10.1111/j.1540-4781.2011.01238.x>
- Erten, I. H., & Burden, R. (2014). The relationship between academic self-concept, attributions, and L2 achievement. *System*, *42*, 391-401. <https://doi.org/10.1016/j.system.2014.01.006>
- Gosiewska-Turek, B. (2017). The interdependance between attributions and second language attainments in secondary school students. *The Journal of Education, Culture, and Society*, *8*(1), 109-124. <https://doi.org/doi:10.15503/jecs20171.109.124>
- Hancock, G. R., & Mueller, R. O. (2001). Rethinking construct reliability within latent variable systems. In R. Cudeck, S. du Toit, & D. Sörbom (Eds.), *Structural equation modeling: Present and future—A festschrift in honor of Karl Jöreskog* (pp. 195-216). Lincolnwood, IL: Scientific Software International.
- Hashemi, M. R., & Zahibi, R. (2011). Learners' attributional beliefs in success or failure and their performance on the interchange objective placement test. *Theory and Practice in Language Studies*, *8*, 954-960. <https://doi.org/10.4304/tpls.1.8.954-960>
- Hsieh, P. H., & Kang, D. H. (2010). Attribution and self-efficacy and their interrelationship in the Korean EFL Context. *Language Learning*, *60*, 606-627. <https://doi.org/10.1111/j.1467-9922.2010.00570.x>
- Hsieh, P. H., & Schallert, D. L. (2008). Implications from self-efficacy and attribution theories for an understanding of undergraduates' motivation in a foreign language course. *Contemporary Educational Psychology*, *33*, 513-532. <https://doi.org/10.1016/j.cedpsych.2008.01.003>
- Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modelling*, *6*, 1-55. <https://doi.org/10.1080/10705519909540118>
- Jansen, M., Scherer, R., & Schroeders, U. (2015). Students' self-concept and self-efficacy in the sciences: Differential relations to antecedents and educational outcomes. *Contemporary Educational Psychology*, *41*, 13-24. <https://doi.org/10.1016/j.cedpsych.2014.11.002>
- Jöreskog, K. G., & Sörbom, D. (2005). *LISREL 8.72: Structural equation modelling with SIMPLIS command language*. Chicago, IL: Scientific Software International.

- Kazemi, M., Hosseini, M., & Kohandani, M. (2013). Strategic reading instruction in EFL contexts. *Theory and Practice in Language Studies*, 3(12), 2333-2342. <https://doi.org/10.4304/tpls.3.12.2333-2342>
- Kline, R. B. (2005). *Principles and practices of structural equation modelling (2nd ed.)*. New York, NY: The Guilford Press.
- Lau, K. L. (2004). Construction and initial validation of the Chinese reading motivation questionnaire. *Educational Psychology*, 24(6), 845-865. <https://doi.org/10.1080/0144341042000271773>
- Law, Y. K. (2009). The role of attribution beliefs, motivation and strategy use in Chinese fifth-graders' reading comprehension. *Educational Research*, 51, 77-95. <https://doi.org/10.1080/00131880802704764>
- Lee, J. H., & Lee, S. (2001). The relationships of goal orientation, self-efficacy, and reasons for academic performance. *Korean Journal of Educational Psychology*, 15, 217-234.
- McNeish, D. (2018). Thanks coefficient alpha, we'll take it from here. *Psychological Methods*, 23(3), 412-433. <https://doi.org/10.1037/met0000144>
- Mills, N., Pajares, F., & Herron, C. (2006). A reevaluation of the role of anxiety: Self-efficacy, anxiety, and their relation to reading and listening proficiency. *Foreign Language Annals*, 39(2), 276-295. <https://doi.org/10.1111/j.1944-9720.2006.tb02266.x>
- Mills, N., Pajares, F., & Herron, C. (2007). Self-efficacy of college intermediate French students: Relation to motivation and achievement. *Language Learning*, 57, 417-442. <https://doi.org/10.1111/j.1467-9922.2007.00421.x>
- Neil, J. S. (2008). *Statistics for people who hate statistics*. Thousand Oaks, CA: Sage.
- O'Sullivan, J. T., & Howe, M. L. (1996). Causal attributions and reading achievement: Individual differences in low-income families. *Contemporary Educational Psychology*, 21, 363-387. <https://doi.org/10.1006/ceps.1996.0027>
- Pajares, F. (2003). Self-efficacy beliefs, motivation, and achievement in writing: A review of the literature. *Reading and Writing Quarterly*, 19, 139-158. <https://doi.org/10.1080/10573560308222>
- Pajares, F., & Johnson, M. J. (1996). Self-efficacy beliefs in the writing of high school students: A path analysis. *Psychology in the Schools*, 33, 163-175. [https://doi.org/10.1002/\(SICI\)1520-6807\(199604\)33:2<163::AID-PITS10>3.0.CO;2-C](https://doi.org/10.1002/(SICI)1520-6807(199604)33:2<163::AID-PITS10>3.0.CO;2-C)

- Pajares, F., & Kranzler, J. (1995). Self-efficacy beliefs and general mental ability in mathematical problem-solving. *Contemporary Educational Psychology, 20*, 426-443. <https://doi.org/10.1006/ceps.1995.1029>
- Peacock, M. (2009). Attribution and learning English as a foreign language. *ELT Journal, 64*, 184-193. <https://doi.org/10.1093/elt/ccp031>
- Pintrich, P. R., & De Groot, E. (1990). Motivational and self-regulated learning components of classroom academic performance. *Journal of Educational Psychology, 82*, 33-40. <https://doi.org/10.1037/0022-0663.82.1.33>
- Pishghadam, R., & Zabihi, R. (2011). Foreign language attributions and achievement in foreign language classes. *International Journal of Linguistics, 3*, 1-11.
- Schunk, D. (1984). Self-efficacy perspective on achievement behavior. *Educational Psychologist, 19*, 48-58. <https://doi.org/10.1080/00461528409529281>
- Skaalvik, E. (1994). Attribution of perceived achievement in school in general and in math and verbal areas: Relations with academic self-concept and self-esteem. *British Journal of Educational Psychology, 64*, 133-143. <https://doi.org/10.1111/j.2044-8279.1994.tb01090.x>
- Schunk, D. H., & Pajares, F. (2005). Competence perceptions and academic functioning. In A. J. Elliot, & C. S. Dweck (Eds.), *Handbook of competence and motivation* (pp. 85-104). New York, NY: Guilford Press.
- Tavakoli, H. (2014). The effectiveness of metacognitive strategy awareness in reading comprehension: The case of Iranian university EFL students. *Reading Matrix, 14*(2), 314-336.
- Tucker, L. R., & Lewis, C. (1973). A reliability coefficient for maximum likelihood factor analysis. *Psychometrika, 38*, 1-10.
- VanPatten, B. (1994). Evaluating the role of consciousness in second language acquisition: Terms, linguistic features and research methodology. *AILA Review, 11*, 27-36.
- Vispoel, W. P., & Austin, J. R. (1995). Success and failure in junior high school: a critical incident approach to understanding students' attributional beliefs. *American Educational Research Journal, 32*, 377-412. <https://doi.org/10.3102/00028312032002377>
- Weiner, B. (1985). An attributional theory of achievement motivation and emotion. *Psychological Review, 92*, 548-573.

- Weiner, B. (1992). *Human motivation: Metaphors, theories, and research*. Newbury Park, CA: Sage.
- Weiner, B. (2000). Intrapersonal and interpersonal theories of motivation from an attributional perspective. *Educational Psychology Review*, *12*, 1-14.
- Weiner, B. (2010). The development of an attribution-based theory of motivation: A history of ideas. *Educational Psychologist*, *45*, 28-36. <https://doi.org/10.1080/00461520903433596>
- Williams, M., & Burden, R. L. (1999). Student's developing conceptions of themselves as language learners. *Modern Language Journal*, *83*, 193-201. <https://doi.org/10.1111/0026-7902.00015>
- Williams, M. D., Burden, R., & Al-Baharna, S. (2001). Making sense of success and failure: the role of the individual in motivation theory. In Z. Dörnyei, & R. Schmidt (Eds.), *Motivation and second language acquisition* (pp. 171-184). Honolulu, HI: University of Hawai'i.
- Williams, M., Burden, R., Poulet, G., & Maun, I. (2004). Learners' perceptions of their successes and failures in foreign language learning. *Language Learning Journal*, *30*, 19-29. <https://doi.org/10.1080/09571730485200191>
- Woodrow, L. (2006). A model of adaptive language learning. *Modern Language Journal*, *90*, 297-319. <https://doi.org/10.1111/j.1540-4781.2006.00424.x>
- Yang, N. D. (1999). The relationship between EFL learners' beliefs and learning strategy use. *System*, *27*, 515-535. [https://doi.org/10.1016/S0346-251X\(99\)00048-2](https://doi.org/10.1016/S0346-251X(99)00048-2)
- Zhang, L. J., & Wu, A. (2009). Chinese senior high school EFL students' metacognitive awareness and reading-strategy use. *Reading in a Foreign Language*, *21*(1), 37-59.

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