



Attitude Toward EFL Reading as Predicted by Self-Reported Self-Regulation Ability

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Abstract

Through academic self-regulation, learners use affective, cognitive, motivational, and behavioral feedback to adjust their strategies and behaviors to attain their goals. The present study utilized a correlational research design to explore how EFL intermediate learners' self-reported self-regulation ability would predict their attitude toward EFL reading. The participants were 91 Iranian EFL learners in some English language institutes. They were put in the intermediate classes at the beginning of their program on the basis of their scores on the Preliminary English Test (PET). They were assigned the L2 Reading Attitude Questionnaire and the Self-Regulated Foreign Language Learning Strategy Questionnaire (SRFLLSQ). The results of multiple regression analysis indicated that the metacognitive factor played the most strongly predicted attitude toward EFL reading, followed by cognitive, meta-affective, and meta-sociocultural-interactive factors. The sociocultural-interactive factor, albeit still relevant, was the weakest predictor of attitude toward EFL reading. The findings underline the different aspects of attitude toward EFL reading and self-regulation, with implications for EFL reading teachers and curriculum designers.

Keywords: attitude toward EFL reading, cognitive, sociocultural-interactive, meta-affective, metacognitive, meta- and sociocultural-interactive self-regulation strategies

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1. Introduction

Reading is an important macro-skill for English as a Foreign Language (EFL) learners since it makes information accessible, improves language proficiency, and backs up academic success (Grabe & Stoller, 2011). In the same line, attitude is an influential factor that affects determination to read in the second language (L2) (Day & Bamford, 1998), and a positive attitude to EFL reading has a remarkable part to play in shaping reading engagement, motivation, comprehension, their proficiency in EFL, and success in acquiring language skills (Lee & Schallert, 2014; Yamashita, 2013), but developing it can be a challenge for learners. Moreover, attitude to reading is derived from different sources, for example, personal and educational experiences, and it is linked with affective responses to tasks and situations (McKenna, 2001, as cited in Grabe, 2009). Likewise, the cultural and social dimensions of reading, such as the role of teachers, peers, and the learning environment foster a positive attitude toward EFL reading (Grabe & Stoller, 2013). On the other hand, Crawford Camiciottoli (2001) contends that positive attitudes toward L2 reading may not engross L2 readers and that these attitudes only have a weak link with actual reading performance. In addition, attitudes toward reading are a multifaceted characteristic of motivation along with other aspects, including extrinsic and intrinsic motivation (Mori, 2002; Wigfield & Guthrie, 1997).

Likewise, some researchers believe that further research is required to look into the relationship between attitudes toward reading processes (Kamhi-Stein, 2003), and how metacognitive strategies impact EFL learners' reading comprehension ability and attitudes toward reading (Sheorey & Mokhtari, 2001). As academic *self-regulation* encompasses learning strategies including reading strategies (Chamot, 2014; Oxford, 2011, 2017), there has also been an interest in understanding learners' self-regulation strategies and their effect on L2/EFL learning outcomes (e.g., Daniel et al., 2016; Li et al, 2022; Kim & Linan-Thompson, 2013). Zimmerman (2000) defines academic self-regulation as the process by which learners can map out, keep track of, and assess their learning. There have been many studies on the interaction of self-regulation teaching on EFL reading ability (e.g., Costa-Ferreira & Veiga Simão, 2012; de Burgh-Hirabe & Feryok, 2012; Finkbeiner et al., 2012; Mbato, 2013). However, there have been scarce empirical research findings, confirming the interplay between

self-regulation of EFL reading and attitude toward it (e.g., Hemmati et al., 2017). While some studies have investigated other factors related to L2 reading, such as efficacy beliefs and metacognitive strategy use (Schoonen et al., 1998; Yau, 2009), more research is required to understand how self-regulation of EFL reading interacts with attitude toward EFL reading.

On the one hand, self-regulation helps learners to continue learning despite unfavorable situations (Chamot, 2014), and self-regulation training of EFL reading comprehension has proved to have a positive impact on EFL reading ability (e.g., Maftoon & Tasnimi, 2014; Morshedian et al., 2016). On the other hand, poor readers with negative experiences may develop negative attitudes (Woolley, 2011), and most reading attitude studies in EFL contexts focused on extensive reading and its effect on the reading attitude (e.g., Hayashi, 2011; Takase, 2007). Hence, it might be supposed that EFL readers with self-regulation ability can keep a positive attitude toward their reading tasks; albeit challenging. This fact led the researcher to probe into the association between self-regulation in intensive EFL reading inside the classroom and a positive attitude to reading.

Two key tools that are underrepresented in this exploration are the L2 Reading Attitude Questionnaire (Lee & Schallert, 2014) and the Self-Regulated Foreign Language Learning Strategy Questionnaire (SRFLLSQ) (Habók & Magyar, 2018). The former offers an updated and comprehensive framework for evaluating learners' attitudes toward L2/FL reading and is a valuable tool for understanding learners' perceptions of their reading abilities and the challenges they face in reading L2/FL texts. Hemmati, et al. (2017), for example, used Yamashita's (2013) questionnaire of attitudes toward EFL reading in their research, which was devised and validated specifically for extensive reading. Their research also involved self-regulatory intervention (i.e., the effect of training in self-regulation of EFL reading upon attitude toward EFL reading). The latter includes sociocultural-interactive and meta-sociocultural-interactive factors such as social interaction, cultural background, and collaborative learning which have been recognized as influential in learning a language (Lantolf, 2000). They were missing in Motivated Strategies for Learning Questionnaire (MSLQ) (Pintrich et al., 1993) used by Morshedian et al. (2016) and Morshedian and Meshkat (2020) to gather self-report data from their participants to see how their self-regulation ability

would impact their EFL lexical retrieval ability. The fact that SRFLLSQ (Habók & Magyar, 2018) is a newly developed tool and validated specifically for FL context necessitates a new investigation to know how it shows the predictive link between self-reported self-regulation ability and attitude toward EFL reading.

In other words, despite the individual contributions of these tools, there is no research using them on the predictive interaction between learners' self-reported self-regulated learning ability and their attitude toward L2 reading. Thus, this research tried to bridge this gap by delving into how EFL intermediate learners' self-regulation abilities, as assessed by the adapted-to-reading version of SRFLLSQ (Habók & Magyar, 2018) could predict their attitude toward L2 reading, as measured by the L2 Reading Attitude Questionnaire (Lee & Schallert, 2014). Accordingly, the research question of the study was:

How much does self-regulation in the case of Iranian EFL learners at the B1 level predict their attitude toward reading?

2. Literature Review

2.1. Affective Factors in L2 Reading

Alexander and Filler (1976, as cited in Yamashita, 2013) define reading attitude as feelings about reading that make the learner avoid or approach a reading task. Also, according to Mathewson (1994, as cited in Lee & Schallert, 2014), the reading attitude involves willingness to read and beliefs and feelings about reading. Similarly, McKenna et al. (2012) also define attitude toward reading as the learned inclination to react consistently favorably or unfavorably to reading. Yamashita (2007) identifies five factors in attitudes to both first language (L1) and L2 reading: anxiety, comfort, intellectual, linguistic, and practical value. Anxiety and comfort are related to the affective part, and the other factors to the cognitive part of reading attitude. Likewise, Day and Bamford (1998) developed a model for attitudes to L2 reading, with four elements contributing to it: attitudes toward L2 and L1 reading, earlier experiences in L2 reading, self-efficacy, and self-concept.

On the one hand, L2 reading attitudes are shaped by L2 readers' individual experiences (Yamashita, 2004, 2007, 2013). It has been proved empirically that extensive reading resulted

in a positive attitude toward L2 reading. For instance, Al-Homoud and Schmitt (2009) concluded that extensive reading positively impacted EFL Saudi Arabian learners' reading attitudes and their attitudes toward class and learning. Liem (2005) also found that extensive reading by six Vietnamese computer science students resulted in better L2 reading attitudes, reading autonomy, and diverse strategy use. However, extensive reading does not always lead to improved attitudes. In a study by Robb and Susser (1989), extensive reading did not result in significantly better EFL reading attitudes. In addition, learner's attitudes to EFL reading may be related to the type of learners. Also, in Walker's (1997) study in the UK, general English students had better attitudes to the extensive reading program than the EAP ones. On the whole, affective factors such as self-confidence, anxiety, and motivation can impact learners' attitudes toward EFL reading (e.g., Ainley et al., 2002; Dörnyei & Csizér, 2002).

On the other hand, a positive attitude toward reading is linked with persistent L2 reading (Mori, 2004), and a favorable attitude toward reading influences L2 learners' reading performance and achievement, influences the decision to read, and improves engagement in reading (Yamashita, 2004, 2007, 2013). In the same line, other researchers found out about the impact of affective determinants on EFL reading, the impact of attitude to L2 reading on determination to read in L2 (Day & Bamford, 1998), the effect of EFL learners' attitudes to reading on their reading comprehension capability and vocabulary learning (Ghaith & Bouzeineddine, 2003; Lee & Schallert, 2014; Rafi et al., 2021), the link of favorable L2 reading attitudes with higher levels of engagement, motivation, and willingness to put effort in reading tasks (Bernhardt, 2011), and the importance of emotions, beliefs, and self-efficacy in learning a language (Aragão, 2011; Papi, 2010). Last but not least, Kamhi-Stein (2003) looked into the association between the use of L2 and L1 reading strategies and the impact of attitude toward L1 and L2 reading behaviors among four college students who read Spanish and English as an L2. She found out that learners' attitudes toward reading and home language influence their behavior. On the other hand, negative attitudes can block L2 learners' progress and result in low self-efficacy and motivation, and bad reading performance (Mori, 2002).

2.2. Self-Regulation in Language Learning and Its Relationship With Attitude Toward L1/L2/EFL Reading

Self-regulation entails goal-setting, mapping out, keeping track of, and assessing the process of learning (Zimmerman, 2000). Self-regulated students perform learning tasks successfully, continue learning despite difficulties, and finally obtain better learning outcomes (Zimmerman, 2002). Self-regulated learners are generally thought to have attitudes and beliefs that make them engage in and continue learning activities (Wolters, 2003). According to Schunk (1991), self-efficacy, a main component of self-regulation, shows itself in students' attitudes, abilities, and background experience before they begin working and during the activity. Likewise, self-efficacy is believed to play a part in one's motivation for and attitude toward learning a language (Bandura, 1997, as cited in Swalander & Taube, 2007). In fact, self-efficacy not only influences attitude formation (McQuillan, 2013) but is influenced by language attitudes (Tremblay & Gardner, 1995, as cited in Koehler, 2007). In other words, self-efficacy affects the reader's attitude before and during a task (Schunk & Zimmerman, 2007). For instance, in a qualitative case study to examine self-efficacy beliefs and the utilization of SRL strategies in mastering English as an L2, Wang (2004) found that self-efficacy beliefs of elementary school students were linked with some factors including attitude to English, the English-speaking society, and its cultural and social context.

As mentioned above, research on self-regulation has underlined that self-regulated students have not only cognitive and metacognitive abilities but also the attitudes necessary to direct their learning (Borkowski et al., 1987; Dörnyei, 2005; Schunk & Zimmerman, 1997; Victori & Lockhart, 1995; Zimmerman, 2000). For example, researching the link between family requirements, SRL, reading attitude, and reading ability, Swalander and Taube (2007) found out that females performed better in reading expository and narrative texts, and had a more positive reading attitude and a better linguistic self-concept in comparison with males. James (2012) also taught students L1 reading strategies of making predictions and asking questions while reading as well as goal-setting as a self-regulated reading strategy. He found increased engagement and participation during reading groups and an improved attitude toward reading. Focusing on children's attitudes to and engagement in reading and writing at school,

Perry et al. (2003) also examined differences between two Canadian first graders' home and school contexts in terms of how they could promote self-regulated learning of L1 reading and writing. They found that the classroom context could create opportunities to develop attitudes and actions linked with self-regulated learning. Elsewhere, Al-Homoud and Schmitt (2009) found out about the importance of various aspects of self-regulation in EFL reading to improve learners' attitudes toward reading. Interestingly, Turkyilmaz (2015), who delved into L1 reading and whose population was secondary school students, did not find any predictive link between self-reported self-regulation ability and attitude to L1 reading.

Some research has also explored how L2 reading attitudes and self-regulation might be related. Learners with self-regulation skills usually have a better attitude toward reading in L2 since they can manage their reading process and overcome its challenges (Mikami, 2016). Studies by Agustiani (2017) and Rafi et al. (2021) also discovered a significant correlation between students' reading attitude and their reading scores and achievement. Likewise, Macaro & Erler (2007) carried out a longitudinal self-regulation intervention research study of reading among young English students who were beginner learners of French as an L2. They found enhanced comprehension of simple and complex texts, a change in strategy utilization, and enhanced reading attitudes. In addition, Hemmati, et al. (2017) implemented a self-regulation model for EFL reading comprehension which resulted in an improved attitude toward EFL reading.

3. Method

This study used a predictive correlational research design to delve into how EFL intermediate learners' self-reported self-regulation ability in reading would predict their attitude toward EFL reading.

3.1. Participants

The participants were 91 female Iranian EFL learners in some English language institutes. They were aged between 18 and 38 and selected through convenience sampling and intact classes. The criterion for the selection of institutes was that they administer the Preliminary English Test (PET; Hashemi & Thomas, 1996) and then place learners at the intermediate level at the

onset of their program. Therefore, the learners who had scores of 70-84, corresponding to the B1 level of the Common European Framework of Reference (CEFR) were accepted in the intermediate groupings and were the participants of the study, irrespective of the years they had been learning English because their level of English proficiency at the time of study mattered.

3.2. Instruments

3.3.1. L2 Reading Attitude Questionnaire (Lee & Schallert, 2014)

It consists of 30 items and measures EFL learners' attitudes to reading in English including their motivation, interest, and enjoyment. Lee and Schallert (2014) validated this 5-point scale through this process: developing the questionnaire by adapting the L1 reading attitude questionnaire, administering it to a sample of adolescent Korean readers of English, and analyzing the data using factor analysis (see Appendix A).

Through this process, they identified five factors: conative attitude, cognitive attitude, anxiety, negative affect, and self-evaluation. Also, acceptable reliability coefficients were reported for the questionnaire's subscales, between .70 and .92. Moreover, the questionnaire showed convergent validity, as it positively correlated with L2 language achievement and proficiency, and L1 reading attitude. In this questionnaire, the cognitive attitude refers to L2 reading's linguistic and intellectual value (e.g., getting a good occupation later), the conative factors to the L2 reading behavior (e.g., reading websites in English), the negative-affect factors entail the negative emotions about L2 reading (e.g., difficulty concentrating when reading an English text), being anxious and feeling threat and unease (e.g., to feeling overwhelmed when seeing an English page), and self-assessment involves the conceptions of L2 reading ability (e.g., to be able to read an English text).

It has been used in some studies to assess the effect of instructional interventions on learners' EFL reading attitudes. For instance, Akbari et al. (2017) used this questionnaire to measure L2 and L1 reading attitudes among Iranian English learners. The results suggested that factors of L1 reading attitude correlated significantly with those of L2 reading attitude. This indicates that the questionnaire validly assesses EFL reading attitudes.

3.2.2. The Self-Regulated Foreign Language Learning Strategy Questionnaire (SRFLLSQ) (Habók & Magyar, 2018)

Habók and Magyar (2018) reconsidered Oxford's (1990) Strategy Inventory for Language Learning (SILL) in light of her newly improved Strategic Self-Regulation (S2R) Model (2011, 2017) and developed and validated SRFLLSQ empirically among lower secondary EFL students. This 34-item and 5-point scale questionnaire includes metacognitive, cognitive, sociocultural-interactive, meta-sociocultural-interactive, and meta-affective factors. It was adapted to EFL reading for the purpose of the study; for example, "I try to find out how to be a better learner of English," changed to "I try to find out how to be a better reader of English." To ensure that the translated questionnaire is readable, it was also piloted on 10 intermediate EFL students and had a reliability index of .75 (see Appendix B).

3.3 Data Collection

L2 Reading Attitude Questionnaire (Lee & Schallert, 2014) and SRFLLSQ (Habók & Magyar, 2018) were administered to the participants in two different sessions. Both of these measures had been translated to Persian and back-translated into English by a second translator to prevent any false interpretation by participants due to their deficient language ability. Before administering both questionnaires, necessary arrangements were made with the managers of institutes, and participants took part in the study willingly.

4. Results

To calculate the reliability of subscales in SRFLLSQ (Habók & Magyar, 2018), Cronbach's alpha was used. The predictive or criterion variables, meta-sociocultural-interactive, cognitive, sociocultural-interactive, metacognitive, and meta-affective scales, had acceptable reliability indexes of .80, .81, .84, .78, and .75 respectively. While controlling for other variables, one can use multiple regression analysis to see if either of the above-mentioned factors would significantly predict participants' attitudes toward EFL reading. For a regression model, five assumptions of homoscedasticity, multicollinearity, singularity, sample size, and linearity should be examined (Pallant, 2005).

There is a formula to calculate the sample size requirements study (Tabachnick & Fidell, 2001, as cited in Pallant, 2005), and based on it, the number of independent variables was also considered: $N > 50 + 8m$ (where m equals the number of independent variables). In this study, the calculation yielded $91 > 50 + 8 \times 5 = 90$, satisfying the requirement. Afterward, the data was tested for the intercorrelations and multicollinearity among the variables. As shown in Table 1, all predictors had acceptable variance inflation factors (VIFs) ($4.10 \sim 4.20 \sim 4.15 \sim 4.10 \sim 4.05 < 10$). These VIF values indicate that it is not necessary to delete any variable from the regression model for multicollinearity checking (Pallant, 2005). Likewise, the tolerance values for sociocultural-interactive, meta-sociocultural-interactive, cognitive, metacognitive, and meta-affective scales were .40, .45, .40, .45, and .50, respectively, all of which were greater than .1, rejecting the possibility of multicollinearity.

Table 1
Coefficients for the Regression Equation (Model) and Collinearity Statistics

Model	Unstandardized coefficient		standardized coefficient	t	Sig.	95.0% confidence interval for B		correlations			Collinearity statistics	
	B	Std. Error				Lower bound	Upper bound	Zero-order	partial	part	tolerance	VIF
Constant	0.35	0.15	0.30	0.30	0.01	0.10	0.40					
Metacognitive	0.45	0.12	0.40	0.40	<0.01	-0.25	-0.05	.888	.887	.455	0.45	4.10
Cognitive	0.30	0.10	0.30	0.30	0.03	0.02	0.22	.749	-.242	-	0.40	4.20
Meta-affective	0.25	0.10	0.25	0.25	0.01	0.00	0.16	.367	-.375	-	0.50	4.15
Meta-sociocultural-interactive	0.20	0.08	0.20	0.20	0.01	0.00	0.36	.555	.560	.521	0.45	4.10
Sociocultural-interactive	0.15	0.08	0.15	0.15	0.05	0.02	0.26	.510	-.114	.084	0.40	4.05

a. Dependent variable: attitude

Table 2

Correlation Between Attitude Toward EFL Reading and Metacognitive, Meta-Affective, Sociocultural-Interactive, Cognitive, and Meta-Sociocultural-Interactive Scales

	Attitude toward EFL Reading	Metacognitive	Meta-affective	Sociocultural-interactive	Meta-sociocultural-interactive
Attitude toward EFL Reading	-				
Cognitive	0.44**	-			
Metacognitive	0.49**	0.54**	-		
Meta-affective	0.34**	0.39**	0.54**		
Meta-sociocultural-interactive	0.24**	0.29**	0.39**	0.54**	-
Sociocultural-interactive	0.19*	0.24**	0.34**	0.44**	0.54**

The correlation between the dependent variable and independent ones (i.e., $r < .7$) also showed there was no multicollinearity. As shown in Table 2, all of the scales, metacognitive, cognitive, sociocultural-interactive, meta-affective, and meta-sociocultural-interactive, correlated with attitude toward EFL reading, $r(91) = .49, .44, .19, .34,$ and $.24$, respectively, $p < .01$.

Figure 1 shows the residuals of the regression standardized were normal; points were nearly aligned in a straight line. Likewise, Figure 2 also depicts the scatterplot of standardized residuals of independent and dependent variables, i.e., residuals were distributed almost in a rectangular shape, and most scores fell in the middle. Thus, assumptions of linearity and homoscedasticity were all supported (Pallant, 2005).

As depicted in Table 3 and Table 4, it was also discovered that cognitive ($M = 3.5, SD = 0.7; \beta = 0.30, p = 0.01$), metacognitive ($M = 3.60, SD = 0.8; \beta = 0.40, p < 0.01$), meta-affective ($M = 3.4, SD = 0.6; \beta = 0.30, p = 0.03$), meta-sociocultural-interactive ($M = 3.2, SD = 0.7; \beta = 0.20, p = 0.01$), and sociocultural-interactive ($M = 3.1, SD = 0.5; \beta = 0.15, p = 0.05$) collectively predicted 40% of the variance of participants' attitude toward EFL reading ($M = 20, SD = 3$); $F(6, 85) = 10.25, p < 0.05, R^2 = 0.4$ and adjusted $R^2 = 0.36$).

Figure 1

The Normality of the Regression Standardized Residuals

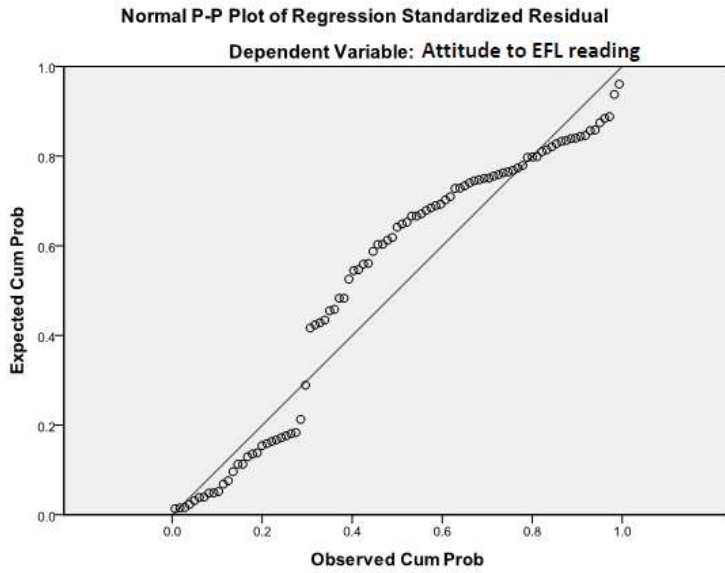


Figure 2

Scatterplot of the Standardized Residuals

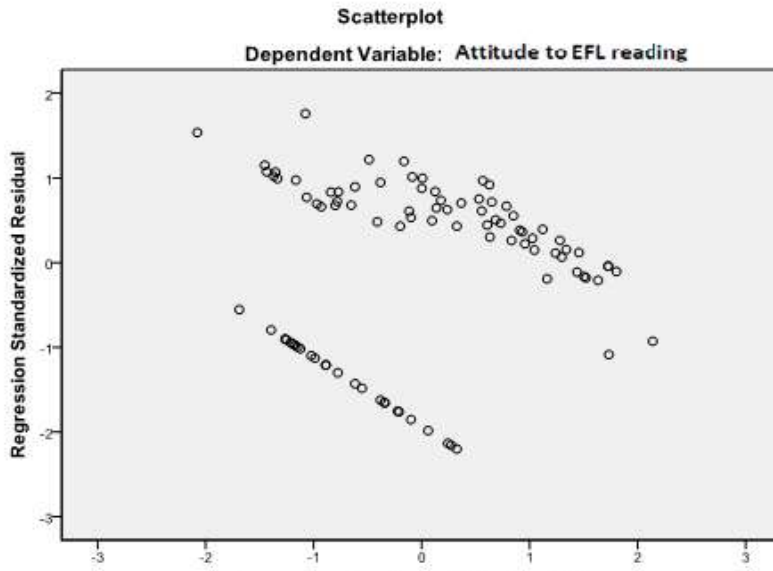


Table 3

ANOVA for Multiple Regression Analysis of Self-Regulation Predicting Attitude Toward Reading

Model		Sum of Squares	df	Mean Square	F	p
1	Regression	16395.768	2	8197.884	10.25	.005
	Residual	24042.060	88	267.134		
	Total	40437.828	90			

a. Predictors: (Constant), cognitive, metacognitive, meta-sociocultural-interactive, meta-affective, sociocultural-interactive,

b. Dependent Variable: attitude

Table 4

Summary of the Standard Multiple Regression Analysis

Predictor	B	SE B	β	t	p
Cognitive	0.35	0.15	0.30	2.50	0.01
Metacognitive	0.45	0.12	0.40	3.20	<0.01
Meta-affective	0.30	0.10	0.30	3.00	0.03
Meta-sociocultural-interactive	0.20	0.08	0.20	2.50	0.01
Sociocultural-interactive	0.15	0.08	0.15	1.88	0.05
Constant	2.50	0.30	-	8.00	<0.001

Note: $R^2 = 0.4$ & adjusted $R^2 = 0.36$

In other words, metacognitive, meta-affective, cognitive, meta-sociocultural-interactive, and sociocultural-interactive strategies were positively correlated with attitudes toward EFL reading, increasing by 0.40, 0.30, 0.30, 0.20, and 0.15 for every point in the attitude toward EFL reading, respectively. The metacognitive variable predicted 16% of the variance in the attitude toward EFL reading. Cognitive strategies predicted 9% of the variance in the attitude toward EFL reading. The meta-affective variable also predicted 9% of the variance in the attitude toward EFL reading. Sociocultural-interactive strategies explained 2.25% of the variance in the attitude toward EFL reading. Meta-sociocultural-interactive strategies explained 4% of the variance in the EFL reading attitude.

The effect of cognitive, sociocultural-interactive, metacognitive, meta-affective, and meta-sociocultural-interactive strategies was significant, $t(85) = 2.50$, $p = 0.01$, $t(85) = 1.88$,

$p = 0.05$, $t(85) = 3.20$, $p < 0.01$, $t(85) = 3.00$, $p = 0.03$, and $t(85) = 2.50$, $p = 0.01$, respectively. The size of SE B also shows that the values were clustered around the regression line, so it cannot be concluded that the significance was less probable. Overall, the results suggested that the metacognitive factor most strongly predicted attitude toward EFL reading, followed by cognitive, meta-sociocultural-interactive, and meta-affective factors. The sociocultural-interactive factor, albeit still relevant, was the weakest predictor of attitude toward EFL reading.

5. Discussion

It has been found that all self-regulation components of SRFLLSQ (Habók & Magyar, 2018) emerged as predicting L2 reading attitudes. In other words, the metacognitive factor most strongly predicted attitude toward EFL reading, followed by cognitive, meta-sociocultural-interactive, and meta-affective factors. The sociocultural-interactive factor, albeit still relevant, was the weakest predictor of attitude toward EFL reading. The findings underscore the significance of self-regulation in EFL learners' attitudes toward L2 reading and the significant predictive association between intermediate learners' self-regulation strategies and their EFL reading attitude. This implies that learners who are better at regulating their emotions while learning are more likely to have a favorable attitude toward EFL reading.

Given that self-efficacy is an important element of self-regulation ability (Zimmerman, 2000), the findings are generally in line with Schunk's (1991) idea that self-efficacy shows itself in students' attitudes before and during the task. Besides, given the significant role of EFL reading attitudes (e.g., Mori, 2004; Yamashita, 2013), the findings can act as an impetus for learners and teachers to employ self-regulatory processes to instill a positive EFL reading attitude in learners.

In addition, the results are congruent with McKenna's (2001, as cited in Grabe, 2009) assertion that attitude to reading is derived from personal and educational experiences and Woolley's (2011) statement that poor readers with negative experiences may develop negative attitudes. In other words, considering the fact that training EFL learners in self-regulation of EFL reading has proved to have a positive effect on EFL reading capability (e.g., Maftoon & Tasnimi, 2014; Morshedian et al., 2016), it can be said that learners who reported self-

regulatory strategies more frequently had positive EFL reading experiences. This empirically proved Day and Bamford's (1998) assertion that positive or negative experiences with reading in L2/EFL contribute to the formation of attitudes to EFL/L2 reading.

On the one hand, attitude to reading is linked with affective responses to situations and tasks (McKenna, 2001, as cited in Grabe, 2009). On the other hand, SRL entails self-regulation of affect (Pintrich et al., 1993). Thus, it can be concluded that the study proved this link between self-regulation and positive L2/EFL reading attitude which, according to Bernhardt (2011), is included in the nonlinguistic factors explaining L2/EFL reading along with linguistic knowledge.

These findings extend the results that self-regulation of L1 reading comprehension can lead to enhanced positive attitudes to reading (e.g., James, 2012; Swalander & Taube, 2007) in EFL reading, as well. In addition, the obtained results echo the contentions that self-regulation turns learners into autonomous ones (Schunk & Zimmerman, 1997), and as a result, they are in control of their learning which leads to a more positive attitude to reading (Bandura 1993, as cited in Woolley, 2011). However, the obtained results are not in agreement with those achieved by Turkyilmaz (2015), who found that self-regulation did not significantly predict L1 reading attitude. This discrepancy can be attributed to the facts that Turkyilmaz's (2015) research delved into L1 reading, his population was secondary school students, and he used different instruments, i.e., Attitude Scale of Reading Attitude developed by Turkyilmaz and Aydemir (2014, as cited in Turkyilmaz, 2015) and Self- Regulation Scale for Adolescents by Moilanen (2007, as cited in Turkyilmaz, 2015).

The strong association between meta-affective, metacognitive, and cognitive factors to EFL reading highlights the importance of students' ability to utilize effective reading strategies and the significance of their emotions and beliefs about their cognitive abilities. This result aligns with other research results about the importance of metacognitive awareness in learning a language (e.g., Borkowski et al., 1987; Victori & Lockhart, 1995). Moreover, the results support Dörnyei's (2005) assertion that cognitive abilities affect learners' self-perceptions and motivation. This is also consistent with findings of earlier research about the weight of cognitive processes, e.g., comprehension and interpretation, in learners' proficiency and

attitude (Zimmerman, 2000). To sum up, explicit instruction and targeted interventions are needed to enhance learners' cognitive and metacognitive skills which may lead to enhanced attitude and then better reading performance.

The finding that the meta-affective factor also plays the same role as the cognitive one in predicting attitude toward EFL reading may suggest that emotions about reading, as well as awareness of these emotions (meta-affect), can impact attitude toward EFL reading. This also supports the literature emphasizing the role of affective determinants in learning a language (Pekrun, 2006), and parallels the research highlighting the importance of emotions, beliefs, and self-efficacy in learning a language (Aragão, 2011; Papi, 2010). On the whole, EFL learners' understanding of their reading competence and their emotional responses to EFL reading can affect their attitude toward it. After all, affective determinants such as motivation, anxiety, and self-confidence can impact learners' attitudes toward EFL reading (e.g., Ainley et al., 2002; Dörnyei & Csizér, 2002).

While meta-sociocultural-interactive and sociocultural-interactive factors emerged as weaker predictors compared to meta-affective, cognitive, and metacognitive ones, the former, including emotional experiences and self-perceived ability, also play a role in shaping attitudes toward EFL reading, and their roles should not be overlooked. These factors include elements such as social interaction, cultural background, and collaborative learning, which have been recognized as influential in learning a language (Lantolf, 2000). However, despite what Yamashita (2004) asserted about the context-bound research on reading attitudes because reading attitudes are formed socially, the weaker prediction observed may show that these factors have a more indirect part in shaping attitudes toward EFL reading, possibly by influencing meta-affective, metacognitive, and cognitive processes.

Moreover, the role of meta-sociocultural-interactive and meta-affective factors in predicting EFL learners' reading attitudes highlights the multi-faceted nature of self-regulation, which is in line with Al-Homoud and Schmitt's (2009) findings about the importance of various aspects of self-regulation in the EFL reading to improve learners' attitudes toward reading. The finding that the sociocultural-interactive factor, including social and cultural aspects of learning, showed a relatively minor impact on attitude toward EFL reading might result from

the participants' cultural homogeneity or limited variability in cultural and social experiences, reducing the influence of these elements on their attitude. This result necessitates addressing the cultural and social dimensions of reading, such as the role of teachers, peers, and the learning environment in fostering a positive attitude toward EFL reading (Grabe & Stoller, 2013).

6. Conclusion

Overall, the results provided insights into the processes impacting attitudes toward EFL reading and have implications for EFL reading teachers and curriculum designers. In other words, the findings underlined the necessity of enhancing self-regulation skills and cultivating a positive attitude toward L2 reading in EFL contexts. EFL reading teachers should provide targeted support to learners with negative attitudes and create a positive learning environment that prompts learners to self-regulate effectively, particularly in cognitive, metacognitive, and social reading strategies; for example, scanning, self-monitoring, and help-seeking.

When designing reading activities and interventions, EFL reading curriculum developers should not only consider developing cognitive and metacognitive skills but also address the sociocultural-interactive and meta-affective aspects of reading. This holistic approach may cultivate positive attitudes toward EFL reading, leading to higher reading proficiency and overall learning of a language. In addition, EFL educators should consider the sociocultural context where learners are reading English and create a supportive and inclusive environment that values and acknowledges various EFL reading experiences and backgrounds.

It should be noted that this research had some limitations. First, the research on reading attitude is context-bound because reading attitudes are formed socially (Yamashita, 2004), so a questionnaire of attitude to EFL reading as devised considering the Iranian social context should have been utilized but was non-existent. This reminds the researcher of the necessity of a research study devising and validating such a questionnaire. Second, as girls had more favorable attitudes to L1 reading as a result of self-regulation ability (e.g., Swalander & Taube, 2007), and generally, females had more favorable attitudes to EFL reading (e.g., Crawford Camiciottoli, 2001; Yamashita, 2004), future research is necessary to scrutinize the possible predictive link between self-regulation ability and both male and female learners' attitude to

EFL reading. The next limitation was that the data was self-reported, which may have been affected by social desirability or participants' biases.

Future longitudinal or experimental studies could examine the causal interaction between self-regulatory strategies and attitudes toward EFL reading, using the instruments of the study or interview and think-aloud protocols. Qualitative research methods could reveal learners' perceptions and experiences of self-regulation and attitudes toward EFL reading. In addition, researchers could investigate the role of other factors, including learners' motivation, self-efficacy, language proficiency, and different educational settings, in forming a link between attitudes toward EFL reading and self-regulation. Another extension of the study is to probe into how SRFLLSQ (Habók & Magyar, 2018) and EFL reading comprehension are related, which could provide insights into how self-regulation strategies are related to learners' EFL reading comprehension.

The small role of sociocultural-interactive in predicting attitudes toward EFL reading does not indicate that sociocultural and interactional factors are unimportant; rather, cultural and social considerations could be also considered in research design and data analysis to generalize results across different cultural contexts. In other words, further research can examine the interplay of these factors in various populations, considering the influence of social and cultural experiences and probable cross-cultural differences on learners' attitudes toward EFL reading.

Conflict of interest

The author(s) certify/certifies that they have no affiliations with or involvement in any organization or entity with any financial interest (such as honoraria; educational grants; participation in speakers' bureaus; membership, employment, consultancies, stock ownership, or other equity interest; and expert testimony or patent-licensing arrangements), or non-financial interest (such as personal or professional relationships, affiliations, knowledge or beliefs) in the subject matter or materials discussed in the present research paper.

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Appendices

Appendix A

Self-Regulated Foreign Language Learning Strategy Questionnaire (SRFLLSQ) (Habók & Magyar, 2018): Adapted to Reading

When I read in English,

Metacognitive

I think of the relationships between what I already know read and new things I learn read in English.

I first skim an English passage, then go back and read carefully.

I look for opportunities to read as much as possible in English.

I write notes, messages, letters, or reports in English.

I plan my schedule so I will have enough time to study read English.

I pay attention when someone is speaking i am reading English.

I make summaries of information that I hear or read in English.

Cognitive

While reading English, I connect the sound of a new English word and an image or picture of the word to help me remember the word.

After reading an English text, I use the English words I know have learned in different ways.

While reading English, I find the meaning of an English word by dividing it into parts that I understand.

While reading English, I use new English words in a sentence so I can remember them.

While reading English, I try to find patterns (grammar) in English.

While reading English, I try not to translate word for word.

Meta-affective

I notice if I am tense or nervous when I am studying or using reading English.

I encourage myself as I learn read English so that I can learn read what I would like.

I read in English as a leisure-time activity.

I organize my English language learning reading so that I always enjoy doing it.

I plan my English language learning reading so that I can perform better.

I have more success learning reading English when I feel like doing it.

I give myself a reward or treat when I do well in reading English.

I try to relax whenever I feel afraid of using reading English.

Meta-sociocultural-interactive

I try to learn read about English-language cultures and/or other cultures through English.

I look for people I can talk to in English about my reading activities in English.

I look at English-language TV shows, movies (with English subtitles) or websites to get to know the cultures of English native speakers and/or other cultures through English.

I choose leisure reading activities where I encounter English-language cultures and/or other cultures through English as well.

I plan what I want to find out about the cultures of English speakers and/or other cultures through reading English.

I practice reading English with my peers.

I look for similarities and differences between my own culture and the cultures of English native speakers and/or other cultures through reading English.

Getting to know English-language cultures helps me to learn read the language.

Sociocultural-interactive

I start conversations reading in English.

I make up the meaning of new words in English texts if I do not know the right meaning ones.

When I speak with highly proficient speakers of English, I think it is important to get acquainted with their culture of reading in their native language.

I encourage myself to speak read English even when I feel afraid of making a mistake.

Appendix B

L2 reading attitude questionnaires (Lee & Schallert, 2014)

Cognitive attitude:

I can acquire English vocabulary if I read English.

Reading English is useful to get a good job in the future.

I can acquire broad knowledge if I read English.

I can develop my English reading ability if I read English.

I can develop my English writing ability if I read English.

I can become more knowledgeable if I read English.

Reading English is useful to get a good grade in class.

I can improve my sensitivity to the English language if I read English.

Negative affect

If I do not understand content in reading, I skip the part.

Reading English is troublesome

Reading English is dull.

I don't mind even if I cannot understand the book content entirely.

I feel tired if I read English.

I do not want to read in English even if the content is interesting.

When I read in English, I find it difficult to concentrate.

Conative attitude

If someone tells me that he or she likes an English book very much, I am going to read it too.

I get to know different values if I read English.

I want to avoid reading in English as much as possible.

During my vacation I want to read at least one English book.

I want to read many English books in the future.

I try to find time for reading in English.

I sometimes visit English websites and read them on the Internet.

I go to a library to borrow or read English books.

I like to read English books in my spare time.

Anxiety

I sometimes feel anxious that I may not understand what I read.

I feel anxious if I don't know all the words in reading passages.

I feel overwhelmed whenever I see a whole page of English in front of me.

Self-assessment

I am good at reading in English.

My grades for English reading tests at middle school are very good.

I feel confident when I am reading in English.