

## THE RELATIONSHIP OF METACOGNITIVE READING STRATEGIES USED BY SAUDI EFL LEARNERS AND THEIR EMOTIONAL INTELLIGENCE



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### ABSTRACT

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Reading comprehension is a complex process that is based on several factors such as emotion, intelligence, cognition, metacognition and like. It has been proved that there is a strong correlation between the use of metacognitive strategies and reading comprehension. This study investigated the relationship between Saudi EFL learners' emotional intelligence and using metacognitive reading strategies. The sample of the study consisted of 100 Saudi EFL learners across the age range of 18-35 who were selected randomly from different Saudi universities. The participants were homogenized through administering a reading comprehension test. The main instruments included Emotional Intelligence Questionnaire (Petrides, 2009) and Mokhtari and Sheorey (2002) Survey of Reading Strategies (SORS) that measured the use of metacognitive reading strategies. The results revealed a highly positive connection between the Saudi EFL students' emotional intelligence and the use of metacognitive reading strategies. Furthermore, practical implications were provided for EFL learners, teachers, and curriculum and program designers and developers.

**Contribution/ Originality:** In Saudi Arabia, there is a paucity of research on the correlation between Saudi EFL learners' emotional intelligence and their use of metacognitive reading strategies. Thus, the current study attempts to fill this gap by investigating such a relationship. The results of this study found that there is a highly positive correlation between the EFL students' emotional intelligence and their use of the metacognitive reading strategies.

## 1. INTRODUCTION

Reading is considered an interactive cognitive process due to the interaction that happens between readers and authors' perspectives. This interaction starts with a reader in which he/she forms a hypothesis, tests it, and then uses his/her linguistic knowledge to construct meaning (Zhang, 2001). Johnston (1983) highlights that reading is responsible for building a model of meaning. It includes great tasks such as understanding and remembering ideas, identifying significant information, monitoring and learning, collecting information, and critically assessing texts academically (Bernhardt, 2000). Moreover, effective reading skill plays an important role in empowering readers. This is because such readers interact with the text and their strategic behaviors effectively make their reading comprehensible (Maasum & Maarof, 2012). Accordingly, reading skill is regarded as a crucial input that influences language learners' verbal and written competencies (Krashen, 1982). Furthermore, reading comprehension is considered an essential source that provides learners with significant input (Harmer, 2007). Reading comprehension

is, in general, defined as a process that contributes to constructing meaning through cooperating several complicated processes such as reading and organizing texts (Paris, Carpenter, Paris, & Hamilton, 2005). Because of the significant role played by reading comprehension in L2 achievement, it is necessary to pay attention to the effective factors in this respect (Rastegar, Mehrabi, & Khabir, 2017).

It has been asserted that the background knowledge of readers and their ways to use suitable strategies such as making inferences, previewing a text, and using contextual hints are significant and influence reading comprehension (Sheorey & Mokhtari, 2001). Those strategies affect the way used by learners when interacting with written texts. They contribute to comprehending texts and, as a result, developing learners' language learning (Singhal, 2001). Accordingly, language learners have to be aware of using reading comprehension strategies to recognize the texts. As a result, those with low metacognitive knowledge usually find it difficult to deal with the written texts (Mokhtari & Sheorey, 2002). When the readers are aware of, and they monitor and regulate such strategies while reading, this is related to their metacognitive awareness (Anderson, 2002). Metacognitive awareness is considered to be one of the essential factors for the strategic reading to be proficient since the individuals' highly metacognitive awareness assists them to consciously use the strategies sufficiently while reading (Sheorey & Mokhtari, 2001).

Learners are different in the extent they are successful when learning a second language. Some of them can easily learn a second language but the others face difficulties. A variety of elements contributes to learning another language successfully such as motivation, attitudes, personality type, and social background. It has been said that intelligence is one of the crucial factors that have an essential role in learning a second language successfully (Aliasin & Abbasi, 2020). Emotional intelligence (EI), according to Goleman (1998) is the ability to understand one's emotions and those of others, to motivate oneself, and to manage feelings well in oneself and in his/her relationships. Additionally, he classifies emotional intelligence into four main components which are self-awareness, self-management, social awareness, and managing relationships.

Regarding the significance of reading comprehension which is a complex process because of the interaction among so many factors such as cognition, emotion, and intelligence, this study seeks to explore the correlation between emotional intelligence and the use of metacognitive reading strategies. Therefore, the following major question and three sub-questions were presented:

1. Is there a significant correlation between Saudi EFL students' emotional intelligence and their use of metacognitive reading strategies?
  - a. Is there a significant correlation between Saudi EFL learners' EI scales and their use of global strategies?
  - b. Is there a significant correlation between Saudi EFL learners' EI scales and their use of problem-solving strategies?
  - c. Is there a significant correlation between Saudi EFL learners' EI scales and their use of support strategies?

## 2. LITERATURE REVIEW

### 2.1. Reading

Reading is defined as a cognitive enterprise that includes interacting with various individual elements, learning aptitude, reading materials, the background of the learners, and the like Sheorey and Mokhtari (2008). Several researchers, such as Anderson (2002) and Mokhtari and Sheorey (2002) assert that being aware of using reading strategies enables learners to understand the most of a text. In other words, for the strategic learner, reading results in improving the comprehension process (Rastegar et al., 2017).

However, there is a lack of agreement on the definition of the term 'reading strategies'. This is mainly because of various uses of this term depending on the contexts where it has been used such as in L1, L2, or FL learning (Cohen, 1998). Garner (1987) states that a reading strategy is an action or a set of actions used to build meaning.

Barnett (1989) indicates that the term 'reading strategies' is used to refer to the mental operations used and that readers can definitively approach any text to make what they read reasonable.

## 2.2. Metacognitive Reading Strategies

Past studies have proved a strong relationship between metacognitive strategies and reading comprehension. Metacognition is a term used to refer to people's knowledge, awareness, and control of learning (Maasum & Maarof, 2012). It is "thinking about thinking" (Anderson, 2003). Johnson-Glenberg (2005) calls it the knowledge of the mental processes that are included in various types of learning. It has two essential aspects, which are knowledge and cognition and self-directed thinking, that are controlled by evaluation, planning, and regulation activities. Niemi (2002) indicates that metacognition is defined as the use of knowledge of an individual's cognitive processes and sufficiently using this self-awareness to self-regulate such processes.

Metacognitive knowledge is suggested to affect the kinds of learning strategies chosen by learners (Richards & Schmidt, 2002). Metacognitive strategies are helpful for readers' attention to understand the context and associate the prior knowledge with the new one (Paris & Jacobs, 1984). They consist of three important techniques which are planning, monitoring, and evaluation (Cross & Paris, 1988). As a first step before reading a written piece, learners must know how to use such techniques. It is highly significant to enhance learners' questioning skills in the teaching process and metacognitive strategies (Huitt, 1997).

Metacognitive strategies include the ability to be aware of the learning process, to plan for learning, to control comprehension or production while it is taking place, and to self-evaluate after completing learning activities (O'Malley & Chamot, 1990). When reading academic texts, using metacognitive strategies lets learners focus on their thinking process (Phakiti, 2003) and monitoring their cognitive strategies in order to successfully perform tasks (Cubukcu, 2008). Language learners can enhance their reading skills by using good metacognitive reading strategies as tools in language reading (Anderson, 2008). They have to be aware of reading strategies since most of them might not know a lot about such strategies or they might not have been subject to the various types of reading strategies (Rabadi, Al-Muhaissen, & Al-Bataineh, 2020).

In the literature, there are various classifications designed for metacognitive reading strategies. This study uses a model proposed by Mokhtari and Sheorey (2002). They mention that the purpose of this model is to measure L2 learner's metacognitive reading strategies when he/she reads academic texts. This model is a survey that consists of three subcategories including 30 items; namely global reading strategies, problem-solving reading strategies, and support reading strategies. Global reading strategies should be thoroughly planned by students to organize and control their learning process. Problem-solving strategies are used by readers to tackle issues related to the comprehension that may happen during the reading task. Support strategies are employed to lead to comprehending the reading materials.

Rastegar et al. (2017) indicate that using global reading strategies including 13 items, such as focusing on the text features and guessing what the provided text explains. Such strategies prepare the reader to comprehend the text. Moreover, those researchers suggest that the use of problem-solving reading strategies including 8 items, such as re-reading to understand better and stopping and thinking about the text to solve any problem that the learner encounters while the text becomes complex to be understood. Such strategies assist the readers when reading a text and allow them to go deeply through the text skillfully. In addition, the support reading strategies consist of 9 items and let the readers boost responses to the reading text. Examples include utilizing outside reference materials, taking some notes, and underlining important information.

A study conducted by Barnett (1989) on the second language reading revealed that the less proficient readers were not aware of using metacognitive reading strategies as compared to the readers who were more proficient. Chern (1993) emphasized a positive correlation between the readers' awareness of using metacognitive reading strategies and their reading comprehension process in EFL/ESL. In addition, it has been revealed that when

readers apply the metacognitive strategies, they focus more on controlling, monitoring, and evaluating the reading process Pressley (2000).

Sheorey and Mokhtari (2001) indicated that there is a correlation between more proficient students and their highly frequent use of such strategies. Wen (2003) demonstrated that most of comprehension activities of sufficient readers occurred at the metacognitive level. Senay Sen (2009) and Zhang and Seepho (2013) highlighted that there is a statistically significant correlation between reading comprehension achievement scores and the metacognitive reading strategies use. In her study, Takallou (2011) investigated the impact of using metacognitive strategies, when teaching, on EFL learners' reading comprehension performance and their metacognitive awareness. The findings revealed that the experimental groups that were instructed using the metacognitive strategies got higher scores in the reading comprehension test than the control group did.

Singh (2019) examined the effect of utilizing a metacognitive strategy training approach in the second language reading instruction. His findings revealed that using metacognitive strategies while teaching is an effective tool to develop the second language reading ability. Moreover, Ahmadi, Ismail, and Abdullah (2013) illustrated that less successful readers cannot use metacognitive reading strategy in their reading comprehension as the more successful readers can.

Recently, within the field of the reading comprehension research in L1/L2, one's metacognitive awareness, when he is reading, has been paid considerable interest (Alhumsi, Alshaye, & Sendi, 2021; Anderson, 2002; Mokhtari & Sheorey, 2002; Sheorey & Mokhtari, 2001). In their study, Sheorey and Mokhtari (2001) examined how much both native and non-native English readers differ in their cognitive, metacognitive, and support strategy use while reading. They found that the more skillful readers were able to reflect on and control their cognitive reading process while reading. Anderson (2002) concluded that second language readers usually tend to use problem-solving strategies such as adjusting reading rate, rereading complex texts, and stopping to think about the meaning of the provided text.

However, several studies (e.g., (Maccann et al., 2020; Perikova & Bysova, 2018)) about L2 metacognitive reading strategies indicate that there is a positive correlation between metacognitive awareness of readers and their success in L2 reading comprehension and performance. Moreover, it has been demonstrated that reading proficiency and second language overall proficiency are related to improving the metacognition of readers (Anderson, 2002; Sheorey & Mokhtari, 2001; Usman, Susilo, Suwono, & Corebima, 2021). Besides, it has been suggested that more skilled readers are highly aware of their metacognitive knowledge than less skilled ones (Phakiti, 2003).

The findings of the studies discussed above emphasize the positive relationship between using metacognitive reading strategies and learners' reading achievement. Thus, the significant role played by metacognition that contributes to success in the reading skill has been shown. Therefore, programs designed and directed to improving L2 learners in reading should focus on using metacognitive reading strategies. Moreover, there is considerable evidence that there is a difference between more skilled students and less skilled ones when using strategies to overcome reading comprehension difficulties (Anderson, 1991; Brantmeier & Dragiyski, 2009).

Several studies in this domain emphasize the significant role of metacognition that contributes to developing learners to be proficient readers. However, having metacognitive awareness is associated with or may influence one's use of reading strategy and his/her reading performance. Moreover, having the metacognitive awareness while L2 reading process is more important. This means that learners should be aware of their reading objectives, monitor the reading process, check whether they comprehend what they read, arrange such strategies if needed, self-evaluate their strategy use, and, then, modify their strategy if necessary (Maasum & Maarof, 2012).

Being aware of metacognitive awareness leads learners to have not only declarative knowledge about what strategies they can use or procedural knowledge about how they are supposed to use such strategies, but also to have conditional knowledge about why, when, and where they should use them as well as to be able to evaluate

their efficacy (Anderson, 2002). Having looked at several studies conducting to investigate the perspectives on metacognitive reading strategies, it has been significantly revealed that metacognitive awareness has a vital role in improving reading comprehension, and accordingly, developing reading learning and teaching (Baker, 2008).

### 2.3. Emotional Intelligence

Emotional intelligence (EI), according to Goleman (1998), is the ability to understand one's emotions and those of others, to motivate oneself, and to manage feelings well in oneself and in his/her relationships. Bar-On (2007) states that EI is associated with emotional, social, personal, and survival aspects of intelligence. There is no agreement on a precise definition of emotional intelligence because researchers believe that some variables influence EI definition which is what the exactly correct term is to be used and how much of one's behavior can be affected by EI (Aliasin & Abbasi, 2020). Recently, there are three primary models of EI:

1. The ability model of EI: It is suggested by Salovey and Mayer (1990). This model highlights that emotions are considered valuable sources of information that lead to social interactions and relationships. Moreover, this EI model views that individuals are different in how much they are able to process emotional information and associate such information to the whole cognitive process.

2. The trait model of EI: It is popularized by Petrides and Furnham (2001). According to this model, the ability model is related to the cognitive ability while the trait model belongs to the realm of personality. It has been proposed that a constellation of emotional self-perceptions is located at the lower levels of personality hierarchies (Petrides, Pita, & Kokkinaki, 2007).

3. The mixed model of EI: This model is proposed by Goleman (1995) in which he combines the first EI model with the second EI model. In other words, this model investigates cognitive mental capabilities and metacognitive personality traits. It is categorized into five key components as follows:

- a. Self-awareness: it refers to when one knows his/her emotions, goals, values, strengths, and weaknesses and uses intuition to make decisions.
- b. Self-regulation: it means when someone monitors his/her emotions and impulses adapting to different situations.
- c. Social skill: it is used to control relationships to direct people to the desired direction.
- d. Empathy: it refers to considering one's emotions when making a decision.
- e. Motivation: it means that an individual has to be motivated for the sake of achieving.

Generally speaking, many studies emphasize that emotional intelligence significantly influences L2/FL learning (Petrides & Furnham, 2000; Pishghadam, 2009). Although several researchers note that emotional intelligence is considered a new concept, this concept has received great attention. For example, Pishghadam (2009) implemented a study to investigate the effect of emotional intelligence, verbal intelligence, and psychometric intelligence on the achievement of ELT college students in Iran. The results showed that academic achievement is strongly related to various aspects of emotional dimensions which are interpersonal, stress management, and general mood competencies. In their study, Motallebzadeh and Azizi (2012) explored the correlation between emotional intelligence of the advanced-level EFL learners and their performance on TOEFL/PBT in Iran. They reported that there is a strong and positive relationship between them. In another study, Moafian and Ghanizadeh (2009) investigated the relationship between the EI of the Iranian EFL teachers and their self-efficacy. They found out that there is a strong relationship between these two elements. However, many researchers examined the correlation between emotional intelligence and academic performance and between emotional intelligence and metacognitive awareness. They emphasized the positive relationship between EI on one side and academic achievement and metacognitive awareness such as Pishghadam (2009); Hasanzadeh and Shahmohamadi (2011); Hashemi and Ghanizadeh (2011); Ebrahimi, Khoshsima, Zare-Behtash, and Heydarnejad (2018); Taheri and Zade (2018); Ates (2019); Taheri, Sadighi, Bagheri, and Bavali (2019) and Mohammadi, Saeidi, and Ahangari (2020).

Mohammadi et al. (2020) confirm that, among the elements of self-regulated learning, cognitive and metacognitive strategies are controlling predictors of reading comprehension and problem-solving. Tabrizi and Esmaeili (2016) examined the correlation between emotional intelligence and reading comprehension between impulsive and reflective Iranian EFL learners. They concluded that the relationship between these two variables was positive. Furthermore, they reported that the impulsive EFL female learners having a high level of EI exceeded in performance the reflective learners on reading comprehension. In their study, Dehkordi and Shirani Bidabadi (2015) found out the EI degree is strongly linked to using reading strategies. Other studies concentrated on EI/metacognitive strategies and their relationship with one of the four language skills in an L2 learning context (Aliasin & Abbasi, 2020). Although the studies mentioned above have proved the positive correlation between using metacognitive reading strategies and reading comprehension achievement, the current research aims at investigating this relationship in the Saudi context. More specifically, in the Saudi EFL learning context, reading skill is one of the greatly important language skills that has been one of the main objectives of EFL learning in the Saudi L2 learning curriculum. In Saudi Arabia, there is a paucity of research on the correlation between Saudi EFL learners' emotional intelligence and their use of metacognitive reading strategies. Thus, the current study attempts to fill this gap by investigating such a relationship. Regarding reading metacognitive strategies, it has been focused in this study on global, problem-solving, and support metacognitive strategies in reading.

### 3. METHODOLOGY

#### 3.1. Participants

This study was conducted at different Saudi Universities. The convenience sample consisted of 100 Saudi EFL students who voluntarily participated in this study. Their English level ranged from beginners to advanced, according to the results of the reading comprehension test provided to them. Additionally, the participants' age ranged between 18 to 35 years old.

#### 3.2. Instruments

##### 3.2.1. Reading Comprehension Test

An intermediate-level reading text taken from britishcouncil.org was employed to evaluate the reading comprehension of the participants. This serves the purpose of homogenizing the participants regarding their reading comprehension to reduce the influence of the proficiency when using metacognitive reading strategies. This text comprised of a written text followed by six indirect questions that examined the understanding of the participants. They were required to choose the best answer among the choices (a, b, c, or d). To validate the reading comprehension test, the Pearson correlation coefficient was calculated as shown in Table 1:

**Table 1.** Pearson correlation for reading test items with the test total score.

Attention-relevance		Confidence-satisfaction	
Items	Pearson correlation	Items	Pearson correlation
1	0.555**	4	0.454**
2	0.709**	5	0.746**
3	0.666**	6	0.475**

Note: \*\*. Correlation is significant at the 0.01 level.

Moreover, for the purpose of checking the reliability of the reading comprehension test, Alpha Cronbach's coefficient was used, and the test was reliable at 0.81.

##### 3.2.2. Survey of Reading Strategies (SORS)

A survey was originally designed by Mokhtari and Sheorey (2002) for measuring the awareness of native English speaking learners and using reading strategies recognizably when they are reading various texts. It

depends on the Metacognitive-Awareness-of-Reading-Strategies Inventory (MARSİ). These two researchers, to validate MARSİ, used a large native speaker population (N = 825) representing students who have many reading abilities that were ranged from middle school to college. Moreover, in order to check the internal consistency reliability coefficients for the three subscales of the survey, they used Cronbach's Alpha and the results were as the following: Global Reading Strategies (0.92), Problem Solving Strategies (0.79), and finally Support Strategies (0.87). Furthermore, the overall scale was reliable at 0.93.

In order to evaluate the same purpose for what MARSİ was designed to be used but with non-native English adult students, SORS was developed. This required the researchers to refine the wording of various items to be easily understandable by ESL/EFL students. Moreover, they added two significant strategies that could be used by L2 learners only and not the L1 ones. These strategies were translating from one language to another and thinking in the native and target language when reading. Finally, they removed two items related to summarizing information and discussing what has been read with others. In addition, SORS was field-tested by using it with various native and non-native students. It showed having well-designed psychometric properties (Mokhtari & Sheorey, 2002). The SORS measure three categories which are Global reading strategies, Problem-solving strategies, and Support strategies. Global reading strategies should be deliberately regulated by students in order to organize and control their learning process. Problem-solving strategies should be used by readers to tackle problems related to the comprehension that may happen during the reading task. Support strategies should be employed to lead to comprehending the reading materials. The SORS contains 30 items using a 5-point Likert scale ranging from 1, which means 'I never do this', to 5, which means 'I always or almost do this' (Mokhtari & Sheorey, 2002). It is worth mentioning that the reliability of the subscales of this survey was checked by using Cronbach's Alpha that was turned out to be 0.92 for global reading strategies, 0.91 for problem-solving reading strategies, and 0.88 for support reading strategies. Regarding the reliability of the overall survey, it was 0.964 which meant it was reliable. Moreover, the Pearson correlation was used to check the validity of each item included as shown in Table 2 as well as the validity of the three main categories as appeared in Table 3.

### 3.2.3. Trait Emotional Intelligence Questionnaire – Short Form (TEIQue-SF)

The Trait Emotional Intelligence Questionnaire (short form) (TEIQue-SF) was used to evaluate the participants' emotional intelligence. This questionnaire was originally developed by Petrides (2009). It is a 30-item questionnaire that evaluates global trait EI and four trait EI factors which are emotionality, self-control, well-being, and sociality. According to him, the items that are only used to evaluate global trait EI are only 3, 14, 18, and 29. Tables 2 and 3 show that all the items of the reading strategies questionnaire are significant at the level of 0.01.

Table 2. The validity of each item included in the survey (SORS).

Global reading strategies		Support reading strategies		Problem-solving strategies	
Items	Pearson correlation	Items	Pearson correlation	Items	Pearson correlation
1	0.760**	2	0.754**	7	0.717**
3	0.631**	5	0.677**	9	0.833**
4	0.763**	10	0.745**	11	0.882**
6	0.537**	13	0.738**	14	0.873**
8	0.381**	18	0.774**	16	0.507**
12	0.656**	22	0.628**	19	0.765**
15	0.738**	26	0.802**	25	0.889**
17	0.783**	29	0.586**	28	0.813**
20	0.654**	30	0.767**	-	-
21	0.716**	-	-	-	-
23	0.898**	-	-	-	-
24	0.901**	-	-	-	-
27	0.845**	-	-	-	-

Note: \*\*. Correlation is significant at the 0.01 level.

This questionnaire uses a 7-point Likert scale that ranges from 1, which means 'strongly disagree', to 7, which means 'strongly agree'.

**Table 3.** The validity of the three main categories included in the survey (SORS).

Dimensions	Pearson correlation
Global reading strategies	0.962**
Support reading strategies	0.945**
Problem-solving strategies	0.957**

Note: \*\*. Correlation is significant at the 0.01 level.

It is worth mentioning that the reliability of the categories of this questionnaire was calculated by using Cronbach alpha and turned out to be 0.81 for emotionality, 0.784 for self-control, 0.781 for well-being, 0.70 for sociality, and 0.703 for global trait EI. The overall reliability of the questionnaire was 0.945 which meant that the questionnaire was statistically reliable. Regarding the validity, it was approved by calculating Pearson correlation as shown in the following tables (Table 4 and Table 5):

**Table 4.** The validity of the TEIQ-SF items.

Emotionality		Self-control		Well-being		Sociality		Global trait EI	
Items	Pearson correlation	Items	Pearson correlation	Items	Pearson correlation	Items	Pearson correlation	Items	Pearson correlation
1	0.585**	4	0.463**	5	0.413**	6	0.563**	3	0.646**
2	0.766**	7	0.807**	9	0.740**	10	0.806**	14	0.714**
8	0.800**	15	0.775**	12	0.623**	11	0.557**	18	0.451**
13	0.628**	19	0.784**	20	0.780**	21	0.737**	29	0.747**
16	0.776**	22	0.681**	24	0.708**	25	0.763**	-	-
17	0.668**	30	0.625**	27	0.819**	26	0.334	-	-
23	0.562**	-	-	-	-	-	-	-	-
28	0.461**	-	-	-	-	-	-	-	-

Note: \*\*. Correlation is significant at the 0.01 level.

**Table 5.** The validity of the TEIQ-SF five main categories.

Categories	Pearson correlation
Emotionality	0.943**
Self-control	0.939**
Well-being	0.968**
Sociality	0.876**
Global trait EI	0.934**

Note: \*\*. Correlation is significant at the 0.01 level.

Tables 4 and 5 show that all the items of the TEIQ-SF are significant at the level of 0.01.

### 3.3. Procedure

Before the administration of the three tests, required instructions were given to the participants. They were assured that their identities would be dealt with confidentially. They were provided with a brief explanation about this study that examined the correlation between their emotional intelligence and metacognitive reading strategies. Furthermore, they were informed about what this study expected from them. The three instruments were all administered to the participants in a single session. First, demographic data was required such as their gender, their age, and the university they belong to. Second, the reading comprehension test was administered to them taking 15 minutes to be answered. Next, the survey of metacognitive strategies (SORS) was given to the subjects. Fifteen minutes were allocated for answering this survey. Finally, the Petrides (2009) emotional intelligence questionnaire was administered to the students. However, the reading comprehension test was used to homogenize the participants. To achieve the study's objectives and to analyze the data collected, the following statistical measures were calculated by SPSS (version 25.0):

1. Frequencies and percentages to perceive the participants' responses to the instruments of the study.
2. Pearson's correlation coefficient to validate the instruments and to recognize the correlation between metacognitive reading strategies used by Saudi EFL learners and their emotional intelligence.
3. Cronbach's Alpha coefficient to check the reliability of the instruments used.
4. Mean and standard deviation to indicate the participants' responses.

## 4. DATA ANALYSIS RESULTS

### 4.1. Demographic Data

The data collected showed that the majority of the respondents were females with a percentage of 96%; the total number of them was 96. 4 respondents were males constituting 4% of the participants. Regarding the ages of the participants, 46% of the participants were aged 21 years old or less; the total number of them was 46. The age of 32 of them was 22 years old constituting 32%, and 22% were aged 23 years old and above; the total number of them was 22.

### 4.2. Metacognitive Reading Strategies

To discover the reading strategies used by students, the mean and standard deviation of the individuals' responses were calculated. The data revealed that the learners occasionally used reading strategies with a total mean of  $(3.25 \pm 0.87)$ . In this context, *problem-solving strategies* were highly used and ranked first with a total mean of  $(3.42 \pm 0.96)$  followed by *global reading strategies* with a total mean of  $(3.20 \pm 0.91)$ . In the last place, *support reading strategies* came with a total mean of  $(3.13 \pm 0.85)$ .

### 4.3. Emotional Intelligence

To determine the level of emotional intelligence among Saudi EFL students, the mean and standard deviation of the individuals' responses were calculated. The analysis revealed that the level of emotional intelligence among Saudi EFL students was moderate with a total mean of  $(3.83 \pm 1.30)$ . In this context, *self-control* was ranked first with a total mean of  $(4.0 \pm 1.40)$ . It was followed by *well-being* with a total mean of  $(3.99 \pm 1.50)$ . In the third place, *global trait EI* came with a total mean of  $(3.89 \pm 1.40)$  followed by *sociality* with a total mean of  $(3.74 \pm 1.30)$ . In the last place, *emotionality* came with a total mean of  $(3.51 \pm 1.30)$ .

### 4.4. Results of Research Questions

#### 4.4.1. The Main Question

The main question of this study aimed to investigate the relationship between Saudi EFL students' emotional intelligence and their use of metacognitive reading strategies. To determine the correlation between Saudi EFL students' emotional intelligence and using metacognitive reading strategies, Pearson correlation was calculated. The results are presented in Table 6.

**Table 6.** The relationship between Saudi EFL students' EI and their use of metacognitive reading strategies.

		Emotional intelligence	Metacognitive reading strategies
Emotional intelligence	R	1	0.689**
	Sig	-	0.000
	N	100	100
Metacognitive reading strategies	R	0.689	1
	Sig	0.000	-
	N	100	100

Note: \*\*. Correlation is significant at the 0.001 level.

Table 6 reveals that the correlation between Saudi EFL students' emotional intelligence and their use of metacognitive reading strategies ( $r = 0.689$ ,  $n = 100$ ,  $p < 0.001$ ) is highly positive. This result indicates that the students with a high level of emotional intelligence have a high level of metacognitive reading strategies.

#### 4.4.2. The First Sub-Question

The first sub-question of this study sought to explore the correlation between Saudi EFL students' emotional intelligence and their use of global metacognitive reading strategies. To identify the relationship between these two variables, the Pearson correlation was calculated as shown in the Table 7.

**Table 7.** Pearson correlation for Saudi EFL students' EI and their use of global strategies.

		Emotional intelligence	Global strategies
Emotional intelligence	R	1	0.668**
	Sig	-	0.000
	N	100	100
Global strategies	R	0.668	1
	Sig	0.000	-
	N	100	100

Note: \*\*. Correlation is significant at the 0.001 level.

Significantly, a high positive association was found between Saudi EFL learners' emotional intelligence and their use of global strategies ( $r = 0.668$ ,  $n = 100$ ,  $p < 0.001$ ). This indicates that the students with a high level of emotional intelligence have a high ability to use global strategies.

#### 4.4.3. The Second Sub-Question

The second sub-question of this study sought to explore the relationship between Saudi EFL students' emotional intelligence and their use of problem-solving metacognitive reading strategies. To indicate the correlation between these two variables, the Pearson correlation was calculated as shown in Table 8.

Table 8 presents a high positive relationship between Saudi EFL students' emotional intelligence and their use of problem-solving strategies ( $r = 0.675$ ,  $n = 100$ ,  $p < 0.001$ ). This proves that students with a high level of emotional intelligence have a high ability to use problem-solving strategies.

**Table 8.** The relationship between Saudi EFL students' EI and their use of problem-solving strategies.

		Emotional intelligence	Problem-solving strategies
Emotional intelligence	R	1	0.675**
	Sig	-	0.000
	N	100	100
Problem-solving strategies	R	0.675	1
	Sig	0.000	-
	N	100	100

Note: \*\*. Correlation is significant at the 0.001 level.

#### 4.4.4. The Third Sub-Question

The third sub-question of this study sought to explore the relationship between Saudi EFL students' emotional intelligence and their use of support metacognitive reading strategies. To determine the correlation between these two variables, the Pearson correlation was calculated as shown in Table 9.

Table 9 presents a high positive correlation between Saudi EFL students' emotional intelligence and their use of support metacognitive reading strategies ( $r = 0.689$ ,  $n = 100$ ,  $p < 0.001$ ). Accordingly, it can be said that the students with a high level of emotional intelligence have a high ability to use support strategies.

**Table 9.** Pearson correlation for Saudi EFL students' EI and their use of support strategies.

		Emotional intelligence	Support strategies
Emotional intelligence	R	1	0.689**
	Sig	-	0.000
	N	100	100
Support strategies	R	0.986	1
	Sig	0.000	-
	N	100	100

Note: \*\*. Correlation is significant at the 0.001 level.

## 5. DISCUSSION

The data analyzed showed that there was a high positive correlation between the participants' emotional intelligence and using the metacognitive reading strategies. It was noticed that the students used the metacognitive reading strategies because of their emotional, cognitive, and metacognitive abilities that they intentionally or unintentionally used to improve their learning. This suggests that it is highly significant to provide EFL/ESL learners with various activities and learning strategies that contribute to developing the metacognitive capabilities. This goes with what [Cross and Paris \(1988\)](#) stated that metacognition is the way how readers plan, monitor, and repair their own comprehension. It has thus been identified that metacognition is a highly intellectual activity that includes one's ability to evaluate and regulate his/her learning process.

Furthermore, the components of emotional intelligence, which are *emotionality*, *self-control*, *well-being*, *sociality*, and *global trait EI*, were found to be highly correlated to the metacognitive reading strategies. *Well-being* had the highest correlation (0.968) with the metacognitive reading strategies followed by *emotionality* (0.943) and *self-control* (0.939) respectively. Then, *global trait EI* was found to be linked to such strategies with 0.934. Finally, *sociality* came with the least correlation among the other components (0.876). This finding is consistent with the previous result mentioned by many researchers such as [Dehkordi and Shirani Bidabadi \(2015\)](#); [Tabrizi and Esmaeili \(2016\)](#) and [Mohammadi et al. \(2020\)](#). In their studies, they reported that there was a significantly positive relationship between EFL students' emotional intelligence and their reading comprehension. Moreover, other studies asserted that there is a positive correlation between the learners' emotional intelligence and different aspects of FL/L2 learning as well as using different learning strategies such as [Zafari and Biria \(2014\)](#) and [Mirghasempour and Rajabpour \(2016\)](#).

It is worth mentioning that, among the three categories of the metacognitive reading strategies, the most frequently used strategies were the *problem-solving metacognitive reading strategies* with a total mean of 3.42. These strategies consist of 8 out of 30 items mentioned in the survey. They include several procedures which are slow and careful reading, trying to concentrate, adjusting reading speed, paying closer attention if the text is difficult, thinking about what has been read, visualizing information, rereading the complex texts, and guessing the meaning of unknown words and phrases. In the second place, *global reading strategies* came with an overall mean of 3.20. These strategies consist of 13 items out of 30 on the 5-point Likert scale and include having a purpose for reading, thinking about what is known, viewing the whole text, thinking about the suitability of the text content, reviewing the text, deciding what to read, using tables, figures, context clues, and typographical features, critically analyzing and evaluating information, checking understanding, trying to speculate what the content of the text is about, and checking whether the guesses are right or not. Finally, *support reading strategies* came with a total mean of 3.13. These strategies, which comprised 9 items out of 30 on the scale, included several actions such as taking notes, reading aloud if the text is difficult, underlining or circling the information, using reference materials, paraphrasing, trying to find the relationships among ideas of the text, asking questions, and translating the text from the English language to the mother tongue, and thinking about the information in both languages.

## 6. CONCLUSION

The results of this study found that there is a highly positive correlation between the EFL students' emotional intelligence and their use of the metacognitive reading strategies. However, this study offers some practical

implications for EFL learners, teachers, and curriculum and program developers and designers, and people who are interested in this field. Since metacognitive reading strategies is highly important, EFL learners should be trained to use these strategies while reading. Accordingly, their emotional intelligence and how they use such strategies will develop. Moreover, EFL teachers should put into consideration that their students have different levels of emotional intelligence. Therefore, they have to create a suitable educational environment that contributes to improving the students' sociality, well-being, emotionality, and self-control.

Additionally, due to the differences of the students' EI levels, EFL teachers should vary when using teaching methods to improve the use of the metacognitive reading strategies. Regarding the curriculum and program developers and designers, they should concentrate how much emotional intelligence and its positive relationship with the metacognitive reading strategies are important. This can be emphasized by providing different activities that serve this purpose in EFL syllabuses.

However, based on the findings of this study, it is clear that research remains to be conducted in this area in the Saudi context. Repeating this study with a new or larger sample size may provide extra results of related investigations. Moreover, other generalizations can be made depending on synthesizing relevant studies conducted under different circumstances.

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