

## The Effect of Metacognitive Awareness of Reading Strategies and Reading Comprehension Self-Efficacy Perception on Reading Motivation

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The aim of this study is to determine the impact of fifth grade students' reading strategies, metacognitive awareness, and reading comprehension self-efficacy perceptions on their motivation to read texts, and to determine how these variables predict each other and to what extent their explanation rates are. The research group of the study is identified by simple random sampling method, one of the random sampling methods; the participants are 304 middle school students from a school in a province in northern Türkiye. The collected data is analyzed in accordance with structural equation modelling. In the research, hypothesis models established based on the literature were tested and all models are found to be valid. Five of the twelve hypotheses created regarding the models were supported by the data, and the other seven hypotheses are rejected. In models related to text types, reading strategies have a direct and high impact on metacognitive awareness and self-efficacy perception in reading comprehension in all text types. On the other hand, the direct effect of text types on the effect of metacognitive awareness of reading strategies and self-efficacy perception of reading comprehension on reading motivation is insignificant. As a result of the research, it is determined that metacognitive awareness of reading strategies do not have a direct effect on reading motivation, while the perception of reading comprehension self-efficacy has a direct and high effect on reading motivation.

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### Introduction

Reading, which is one of the most basic ways of acquiring knowledge, which is a vital tool for the continuity of an individual's existence, is a skill that directly affects students' entire lives, in addition to their academic success, maintaining their existence in living conditions and reaching their career goals (Clark & Andreasen, 2014; Shanmugam, 2020). Reading, which is a complex and multidimensional skill that contributes to character development and social harmony (Foncubierta, 2020; Oz & Celik, 2007) and encompasses all stages of education (Damaianti et al., 2020; Pickett, 2005), consists of cognitive, affective and psychomotor dimensions (Karimova & Csapó, 2021). Although cognitive and affective dimensions come to the fore in reaching the level of understanding and meaning creation of the act of reading (Okkinga et al., 2018; Wallace, 2001), all dimensions of reading are in relationship with each other and the change in one affects the other dimension and this interaction is reflected in the development of reading skills (Yapp et al., 2023). One of the

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affective variables that is effective in ensuring interest, desire and continuity in the reading process is reading motivation.

### ***Metacognitive awareness of reading strategies and reader self-perception***

Reading comprehension self-efficacy perception requires using strategies in the reading process (Guthrie et al., 2006). Reading strategies that increase reading comprehension (Belet, 2005; Chang et al., 2002) are effective in the development of self-efficacy perception (Demirel & Epcacan, 2012). Because the use of these strategies provides students with a sense of control of their learning behavior, in addition to the use of an effective strategy, it also affects the development of self-efficacy perception and ensures the repetition of strategic behavior (Karimova & Csapó, 2021). In the positive and significant relationship between reading strategies and reading comprehension self-efficacy perception, higher self-efficacy enables more active use of reading strategies (Okkinga, 2018; Tobing, 2013; Zare & Mobarakeh, 2011), and active use of reading strategies increases self-efficacy perception (Demirel & Epcacan, 2012; Henk & Melnick, 1995). Students with higher levels of this perception also have higher reading metacognitive awareness, frequency of use of reading strategies, and higher levels of reading comprehension. Because increasing knowledge of metacognitive reading strategies significantly increases the perception of self-efficacy (Baddareen et al., 2015). Based on these inferences, the following hypothesis was developed:

***H<sub>1a</sub>: Fifth grade students' reading strategies directly affect their metacognitive awareness and reader self-perceptions.***

### ***Motivation for reading and reader self-perception***

Self-efficacy belief has an effect that increases motivation (Isik, 2001) and is a motivational variable that has a key role in regulating motivation (Bandura, 1991). According to Wigfield and Guthrie (1997), reading motivation consists of three structures: the mechanism related to competence and efficacy belief, achievement values and goals, and the social aspect of reading. Reading self-efficacy, which is included in the mechanism related to reading competence and efficacy belief, is directly related to reading motivation (Guthrie et al., 2007). Readers with a high sense of reading self-efficacy are more easily motivated to read (Wigfield & Guthrie, 1997), and their motivation increases because they feel stronger with the beliefs they have developed about reading (Zimmerman et al., 1992). In other words, motivational behaviors have an increasing effect on students' reading self-efficacy and reading motivation (You et al., 2016). In addition, while supporting self-efficacy beliefs is effective in increasing motivation (Chapman & Tunmer, 2003), the perception of self-efficacy in reading comprehension is also effective in motivating students (Kargar & Zamanian, 2014). In light of the research based on the literature, the following hypothesis was created based on the relationship between the motivation to read texts and the perception of self-efficacy in reading comprehension.

***H<sub>1b</sub>: Fifth grade students' reader self-perceptions directly affect their motivation for reading.***

### ***Motivation for reading and metacognitive awareness of reading strategies***

Metacognition, which has a role in improving affective qualities as well as increasing cognitive knowledge, is directly related to motivation (Mokdari & Reichard, 2002). Active use of metacognitive reading strategies has the effect of increasing reading comprehension (Aysel & Metin, 2013) and reading motivation (Meniado, 2016). Readers who have metacognitive strategy knowledge, which enables the effective use of these strategies, are primarily motivated and focused on their goal (Dogan, 2013). Because the motivation of these

readers in using these strategies is an important affective factor (Santrock, 2004). When they pass to the phase of using the control mechanisms of metacognition, that is, when they become readers with motivational and metacognitive skills, they put their metacognitive reading strategies into action and use them more effectively (Karasakaloglu et al., 2012). Since these students, who are aware of their metacognitive skills, can evaluate their cognitive processes and control themselves during reading actions, their reading motivation also increases (Flavell, 1979). Studies at different sample levels examining the relationship between metacognitive awareness and reading motivation also support the positive relationship between these two variables (Ozturk, 2012; Ozturk & Uzunkol, 2015; Roeschl-Heils et al., 2003; Wang, 2009). Based on the research that reveals the relationship between these two variables, the following hypothesis is created:

**H<sub>1c</sub>:** *Fifth grade students' metacognitive awareness of reading strategies directly affect their motivation for reading.*

One of the components that affects reading comprehension is the text type. Although there are various classifications in the literature regarding text types, text types are divided into three in terms of fictionality: narrative, informative text and poetry. It is known that students have problems in terms of reading comprehension depending on text types in reading studies (Huang & Yang, 2015). In some studies, informative texts and in others narrative texts are defined as easier in terms of comprehensibility (Basaran & Akyol, 2009; Beishuizen et al., 2003; Temizyurek, 2008; Yildirim et al., 2010). However, these studies focus mostly on the process of reading comprehension, and studies on the relationship between affective or cognitive variables of reading and text types are limited. Yetgin and Katranci's (2021) study states that there is a significant, positive and weak relationship between metacognitive awareness and reading comprehension skills for informative and narrative texts. It is also suggested that this weak relationship between reading comprehension skills and metacognitive awareness is due to students not having sufficient knowledge about cognitive strategies for reading. Yet, in addition to the lack of cognitive strategies, lack of motivation is also an important reading problem in experiencing reading comprehension difficulties (Huang & Yang, 2015). Because, although the strategies that readers develop while reading the text vary (Liebfreund & Conradi, 2016), their reading motivations also vary according to text types (Guthrie et al., 2007). In addition, the perception of self-efficacy, which regulates motivational processes in the act of reading, is also an important factor (Bandura & Locke, 2003). Because, while the readers make a cognitive effort in this process of reconstructing the meaning, they also judge their reading skills in terms of their individual competence and develops beliefs about it (Ozturk, 2015). However, self-efficacy alone does not have a sufficient function in the process of reading comprehension. In the relationship between reading comprehension and self-efficacy, Ulper and Sirin (2019) consider that students' self-efficacy is higher in the surface text comprehension dimension and lower in the inference dimension, and the reason for this difference is an indicator of the immaturity of students' awareness. This result shows that only the beliefs developed by the individuals about themselves are not sufficient in the process of reading comprehension. Because understanding the text includes the cognitive competencies used in the reading process, as well as high-level cognitive skills that include awareness of knowing and using appropriate strategies to analyze the text (MEB, 2010). Using reading strategies to understand the text (Boulware-Gooden et al., 2007), advanced reading of the text, that is, using metacognitive strategies in the transition from surface structure to deep structure meaning (Cano et al., 2014; Channa et al., 2015; Mokhtari & Reichard, 2002). In order to control and regulate this process, it is necessary to develop metacognitive awareness of reading strategies. Because readers with metacognitive awareness determine their strategies according to the type, purpose and level of the text they

will read (Rashtchi & Keyvanfar, 2002). Metacognitive awareness plays an important role in remembering the text (Heils et al., 2003) as well as associating new and old information (Perfetti, 2007). Based on these studies, it is seen that motivational (self-efficacy-motivation) and cognitive processes also come to the fore in students' participation in reading activities (Guthrie et al., 2007). In the studies conducted on text types related to reading strategies metacognitive awareness, motivation to read texts and self-efficacy perceptions of reading comprehension, various results have been reached regarding different text types in the bilateral relations between these variables. The hypotheses proposed to be tested based on the literature in order to determine the role of text types (narrative, informative, poetry) in the effect of fifth grade students' metacognitive awareness levels of reading strategies and self-efficacy perceptions of reading comprehension on their motivation to read texts are as follows:

**H<sub>2a</sub>:** *According to the model regarding the narrative text type, fifth grade students' reading strategies directly affect their metacognitive awareness and reader self-perceptions.*

**H<sub>2b</sub>:** *According to the model regarding the narrative text type, fifth grade students' reader self-perceptions directly affect their motivation for reading.*

**H<sub>2c</sub>:** *According to the model regarding the narrative text type, fifth grade students' metacognitive awareness of reading strategies directly affect their motivation for reading.*

**H<sub>3a</sub>:** *In the model regarding the informative text type, fifth grade students' reading strategies directly affect their metacognitive awareness and self-perception.*

**H<sub>3b</sub>:** *In the model regarding the informative text type, fifth grade students' self-perceptions directly affect their motivation for reading.*

**H<sub>3b</sub>:** *In the model regarding the informative text type, fifth grade students' reading strategies, metacognitive awareness and motivation for reading directly affect them.*

**H<sub>4a</sub>:** *In the model regarding the genre of poetry, fifth grade students' reading strategies directly affect their metacognitive awareness and reader self-perception.*

**H<sub>4b</sub>:** *In the model regarding the poetry genre, fifth grade students' reading strategies directly affect their metacognitive awareness and motivation for reading.*

**H<sub>4c</sub>:** *In the model regarding the poetry genre, fifth grade students' reading strategies directly affect their metacognitive awareness and motivation for reading.*

In research on reading, which is a multiple and complex process, examining not only one dimension but also the interaction of cognitive, affective, and psychomotor processes of reading simultaneously and evaluating these effects holistically will contribute to obtaining more effective results (Guthrie & Wigfield, 2005). Examining the relationship between metacognitive processes in the cognitive dimension of the reading action and motivation, one of the variables in the affective dimension, has enabled important steps to be taken in increasing the quality of reading (Yildizli & Saban, 2015). As stated in the literature review, there are various studies examining the bilateral relations of the variables of reading strategies, metacognitive awareness, reader self-perception of reading comprehension and motivation for reading. However, no research has been found that examines the relationship between these three variables and the effect of text types on this relationship. This research will also reveal the effect of a variable in the cognitive dimension of reading (reading comprehension metacognitive awareness) on variables in the affective dimension of reading (reader self-perception and motivation for reading). Thus, it is thought that this research will contribute to the definition of the relationship between the cognitive and affective dimensions of reading.

The most critical stage in acquiring reading skills and turning them into reading habits is the primary education level (Campbell & Kmiecik, 2004). If the acquisition of reading habits and

the development of reading comprehension skills are not achieved at this stage, it is very difficult to acquire these skills in the following stages. Research in the literature focuses mostly on the cognitive dimension of reading (Putman & Walker, 2010). However, by taking into account all variables in the cognitive, affective and psychomotor dimensions of reading, evaluations should be made in terms of all dimensions that contribute to the development of students' reading skills. Despite the importance of high reading motivation at the primary school level (Oz & Celik, 2007; Ozturk & Aydemir, 2013), reading motivation decreases depending on the grade level (Wigfield & Guthrie, 1997; Yildiz, 2013) and the perception of reading self-efficacy decreases depending on age (Smith et al., 2012). In addition, the primary education level is a very important stage in teaching metacognitive strategies and developing awareness about them (Housand & Reis, 2008; Senemoglu, 2011; Smith et al., 2012), and its relationship with motivation, one of the affective variables, is examined in the examination of metacognitive processes in the cognitive dimension of the reading act. Its examination has also enabled important steps to be taken in increasing the quality of reading (Yidizli & Saban, 2015). Based on the importance of the primary education level in the development of reading skills, which is also revealed in related studies, this research was carried out at the primary education level. As a result of the literature review on measurement tools, only the measurement tool adapted to Turkish by Ozturk (2012) was available for measuring the level of metacognitive awareness of reading comprehension strategies. Considering that the measurement tool for this variable is limited to the fifth grade level only, and that cognitive processes differ in terms of developmental characteristics of the fifth grade level in the use of metacognitive strategies, that is, it is the critical phase of the transition from the concrete operations period to the abstract operations period (McMaster et al., 2014), the research sample was limited to only the fifth grade level.

As a result of the relevant literature review, no research was found that reveals the relationship between metacognitive awareness of reading strategies, reading comprehension self-efficacy and reading motivation. The model created to examine the effects of metacognitive awareness of reading strategies and reader self-perception, the relationships between which were revealed as a result of the literature review, on reading motivation is presented in Figure 1.

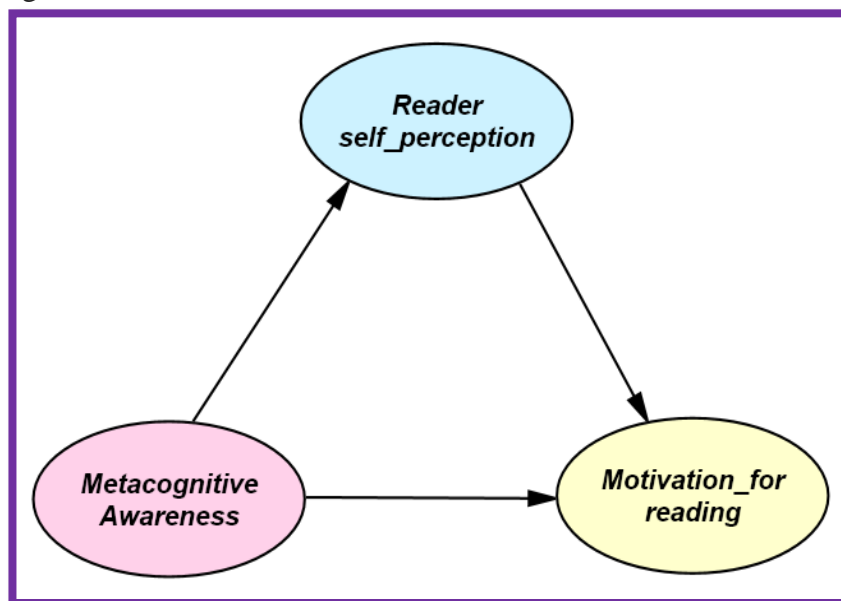


Figure 1. Research model (all sample, narrative, informative, poetry models)

## **Methodology**

### ***Research model***

This research was conducted in the relational scanning model, one of the scanning models (Cohen et al., 2000; Frankel & Wallen, 2006). In the study, this model was used due to the existence of the effect of fifth grade students' metacognitive awareness of reading strategies, motivation for reading, and reader self-perception on motivation for reading, the relationship between variables, the rates at which these variables explain each other, and the role of text types in this effect.

### ***Study group***

The study group of the research was determined by simple random sampling method, one of the random sampling methods. The sample of the study was fifth-grade students at three secondary schools in a province in the north of Turkey, who participated in the research on a voluntary basis; it consists of a total of 304 students, 154 (50.65%) of whom are girls and 150 (49.34%) of whom are boys.

### ***Data collection tools***

The results of the validity and reliability studies of the measurement tools used in the research are presented below.

#### ***Motivation for reading questionnaire***

“Motivation for Reading Questionnaire” developed by Aydemir and Ozturk (2013) is a five-point Likert type. It consists of 22 items and a four-factor structure: “perception of reading difficulty”, “reading self-efficacy”, “effort/appraisal for reading” and “social aspect of reading”. Cronbach's Alpha internal consistency coefficient was .81 for the entire scale and .81 for the “perception of reading difficulty (POD)” sub-dimension; .72 for the “reading self-efficacy (RSE)” subscale; .61 for the “reading effort/appraisal for reading (EAR)” sub-dimension; for the “social aspect of reading (SAR)” dimension, it was found to be .82.

#### ***Reader self-perception scale***

“Reader Self-Perception Scale” developed by Epcacan and Demirel (2011) is a five-point Likert type. It was determined that it consists of 27 items and a three-factor structure: “textual and visual comprehension (TVC)”, “reader self-regulation (RSR)” and “reader high self-confidence (RSC)”. The Cronbach Alpha internal consistency coefficient of the scale is .96 for the entire scale; It was calculated as .92 for the “textual and visual comprehension” dimension, .89 for the “reader self-regulation” dimension, and .93 for the “reader high self-confidence” dimension.

#### ***Metacognitive awareness of reading strategies inventory***

Reading Strategies Metacognitive Awareness Inventory (MARSI), developed by Mokhtari and Reichard (2002), was adapted into Turkish by Ozturk (2012). This measurement tool, prepared in a five-point Likert type, consists of 30 items and a three-factor structure: “global strategies (GS)”, “problem solving strategies (PSS)” and “support reading strategies (SRS)”. Cronbach Alpha internal consistency coefficient was .93 for the entire scale

and .85 for the “global strategies” sub-dimension; For the second sub-factor “problem solving strategies” it was calculated as .76 and “support reading strategies” was calculated as .81.

### *Personal information form*

It was developed by the researcher to collect information about fifth grade students' age, gender, and their favorite text type (narrative, informative, poetry).

### *Data analysis*

SPSS 23 and AMOS 22.0 software were used to analyze the data. In the study, structural equation modeling (SEM) was used to calculate descriptive statistics for the variables and to evaluate the relationships between the variables (Chou & Bentler, 1995; Joreskog & Sorbom, 1993; Meydan & Sesen, 2011). Maximum Likelihood technique was preferred in the analyses regarding the estimation of parameters in SEM. As a result of the analyses, the most preferred values in the literature were used to determine the fit indices' fit levels to the model (Perfect Fit:  $0 \leq \chi^2/sd \leq 2$ ,  $RMSEA: 0 \leq RMSEA \leq .05$ ,  $0 \leq SRMR \leq .05$ ,  $0.95 \leq IFI < 1.00$ ,  $0.95 \leq IFI < 1.00$ ,  $0.95 \leq TLI < 1.00$ ,  $0.95 \leq CFI < 1.00$ ,  $0.95 \leq CFI < 1.00$ ,  $0.95 \leq GFI < 1.00$ ,  $0.95 \leq NFI < 1.00$ . Acceptable Fit:  $2 < \chi^2/sd \leq 5$ ,  $.05 < RMSEA \leq .08$ ,  $.05 \leq SRMR \leq .10$ ,  $0.90 \leq <IFI < 0.95$ ,  $0.90 \leq TLI < 0.95$ ,  $0.90 \leq CFI < 0.95$ ,  $0.90 \leq GFI < 0.95$ ,  $0.90 \leq NFI < 0.95$ .) (Baumgartner & Homburg, 1996; Bentler, 1980; Hu & Bentler, 1999; Kline, 2011; Klem, 2000; Marsh et al., 2006).

### **Findings**

The findings of the research are presented in two parts. In the first part, descriptive statistics are included, and in the second part, findings regarding the variables in structural equation modeling and the predictions of the relationships between these variables, the explanation rates of the variables and model fit are included.

### *Findings regarding the measurement model*

In line with the purpose of the research, the results of the tests of the models (all sample, narrative text, informative text, poetry) regarding the effect level of fifth grade students' reading strategies, metacognitive awareness levels and reader self-perceptions on their reading motivation are presented in Figure 2 (a, b, c, d).

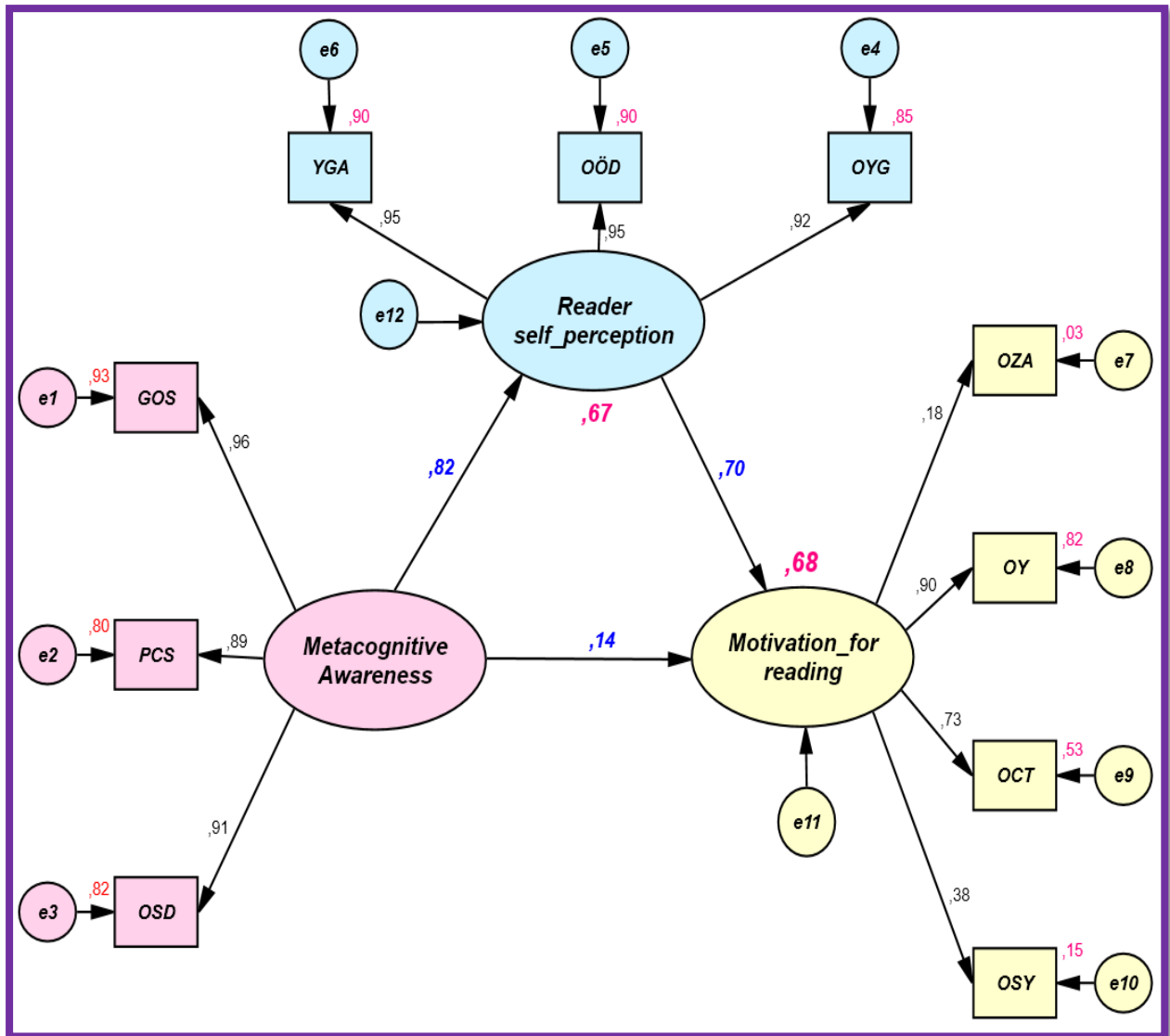


Figure 2a<sup>1</sup>. Model for all sample

<sup>1</sup> Notes: Motivation for reading questionnaire: Perceptions of difficulty (POD), Reading self-efficacy (RSE), Effort/appraisal for reading (EAR), Social Aspect of Reading (SAR); Reader Self-perception Scale: Textual and visual comprehension (TVC), Reader self-regulation (RSR), Reader high self-confidence (RSC); Metacognitive Awareness of Reading Strategies Inventory: Global strategies (GS), Problem solving strategies (PSS), Support reading strategies (SRS).



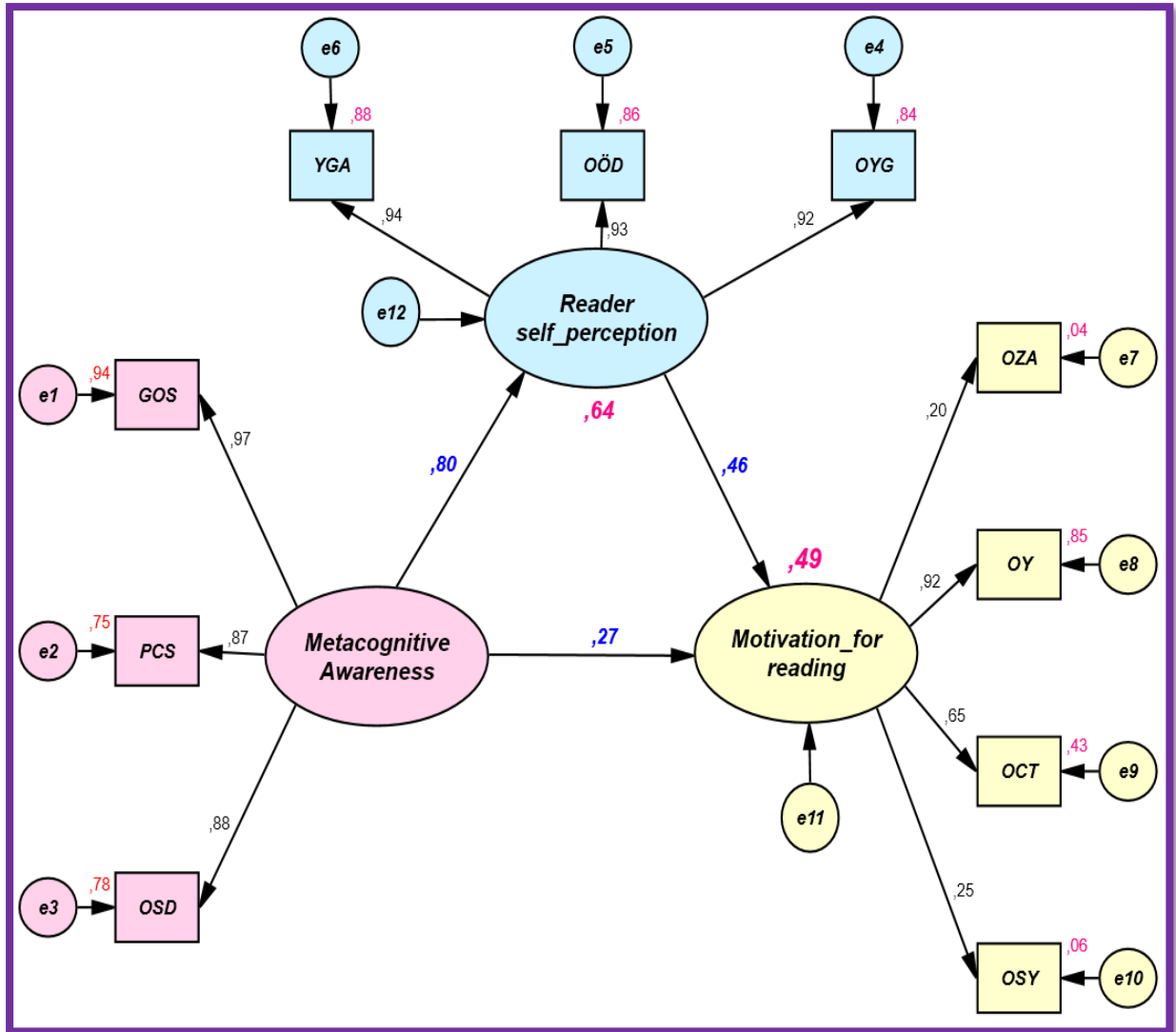


Figure 2b. Model for narrative text type

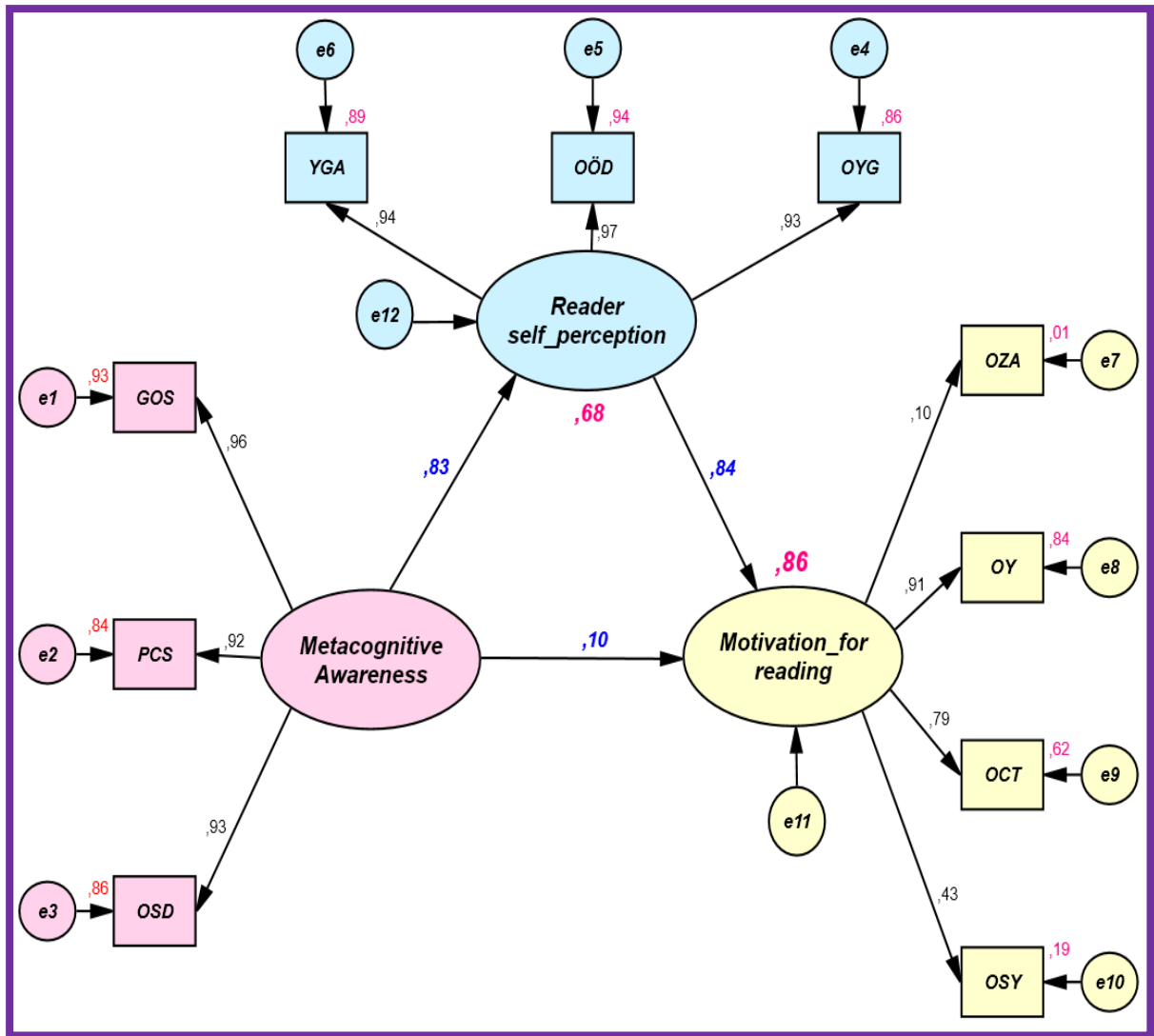


Figure 2c. Model for informative text type

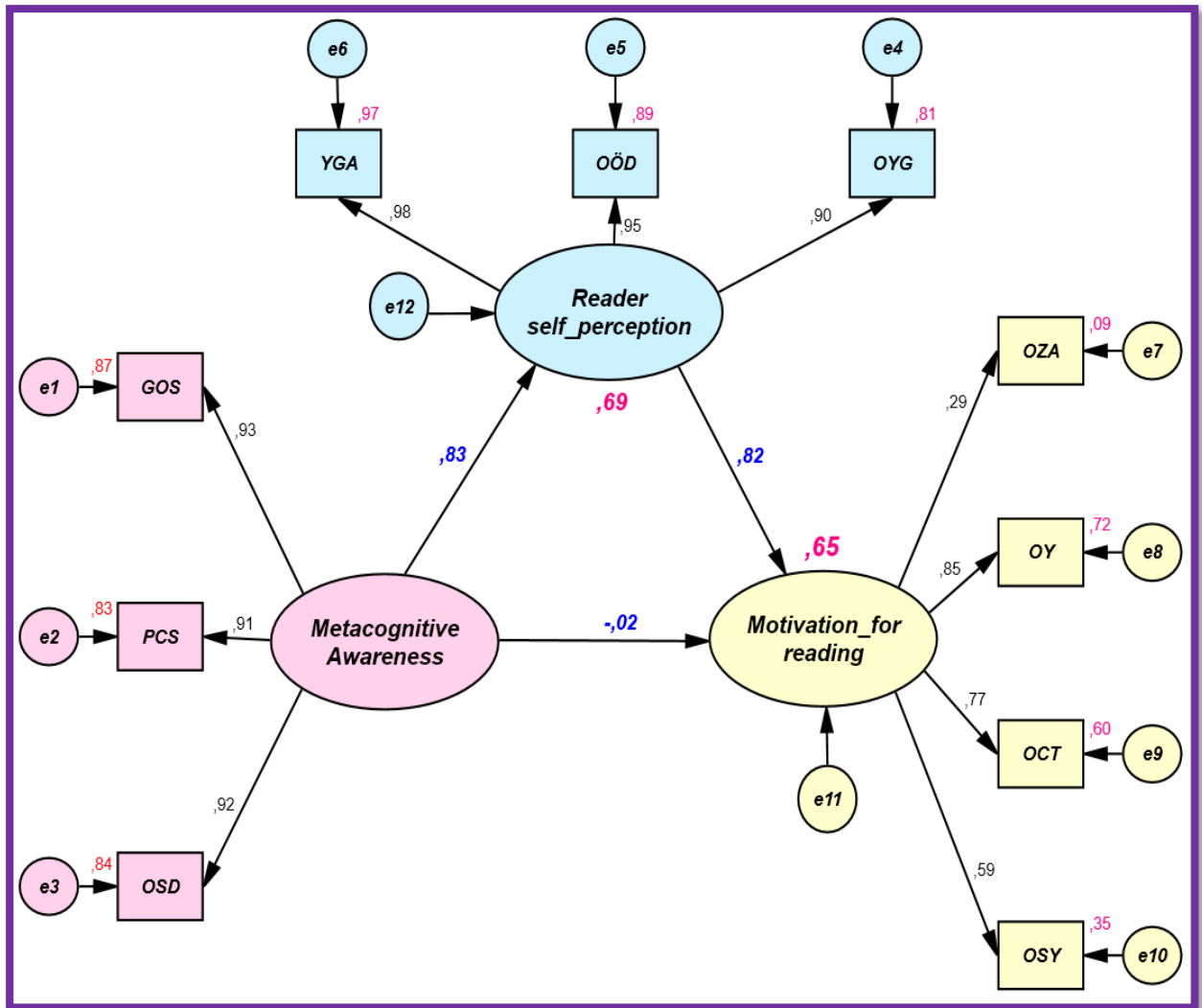


Figure 2d. Model for poetry

As a result of the structural equation modeling created to determine the effect of reading strategies metacognitive awareness and reading comprehension self-efficacy perceptions on reading motivation for texts, the goodness of fit indices were found to be in the model established for the whole sample ( $\chi^2/df=2.03$ ; GFI=.95; CFI=.98; TLI=.98; NFI=.97; IFI=.98; RMSEA=.05 and SRMR=.02), in the model established for narrative text type ( $\chi^2/df=1.31$ ; GFI=.94; CFI=.99; TLI=.99; NFI=.96; IFI=.99; RMSEA=.04 and SRMR=.03), in the model established for informative text type ( $\chi^2/df=2.05$ ; GFI=.90; CFI=.97; TLI=.96; NFI=.95; IFI=.97; RMSEA=.09 and SRMR=.04) and in the model established for the poetry genre ( $\chi^2/df=1.95$ ; GFI=.79; CFI=.93; TLI=.90; NFI=.86; IFI=.92; RMSEA=.04 and SRMR=.08) can be said to be at an acceptable level. As a result of the test of the structural model, the factor loadings of the reading strategies metacognitive awareness latent variable were .89 to .96 in the model for the whole sample, .87 to .97 in the model for narrative text type, .92 to .93 in the model for informative text type, and .91 for the model for poetry genre. It was observed that it varied between .93 and .93. The latent variable of perception of reading comprehension self-efficacy varied between .92 and .96 in the model for the whole sample, between .92 and .94 in the model for narrative text type, between .93 and .97 in the model for informative text type, and between .90 and .98 in the model for poetry genre. has been

observed. It was observed that the latent variable of reading motivation for texts varied between .18 and .96 in the model for the whole sample, between .20 and .92 in the model for narrative text type, between .10 and .91 in the model for informative text type, and between .29 and .85 in the model for poetry genre. The results of the structural equation models are presented in Table 1.

Table 1. Standardized regression weight results on the effect of reading strategies, metacognitive awareness and reader self-perception on motivation for reading

		Path	Read Coefficient ( $\beta$ )	Standardize Forecast (Estimate)	Standard Error (S.E)	Critical Ratio (C.R)	Significance Value (p)
Whole Sample		Metacognitive Awareness → Reader self_perception	.82	.47	.02	19.13	***
		Metacognitive Awareness → Motivation_for reading	.14	.01	.00	1.53	.12
		Reader self_perception → Motivation_for reading	.70	.10	.03	2.81	***
Text Type	Narrative	Metacognitive Awareness → Reader self_perception	.80	.45	.03	12.08	***
		Metacognitive Awareness → Motivation_for reading	.27	.02	.01	1.49	.13
		Reader self_perception → Motivation_for reading	.70	.08	.04	1.85	.06
	Informative	Metacognitive Awareness → Reader self_perception	.83	.46	.03	12.74	***
		Metacognitive Awareness → Motivation_for reading	.10	.00	.00	.72	.46
		Reader self_perception → Motivation_for reading	.84	.07	.06	1.07	.28
	Poem	Metacognitive Awareness → Motivation_for reading	.83	.51	.07	6.91	***
		Metacognitive Awareness → Motivation_for reading	-.02	-.00	.03	-.07	.93
		Reader self_perception → Motivation_for reading	.82	.17	.10	1.65	.09

\*\*\*significant in  $p < .01$  value.

According to Table 1, five of the twelve hypotheses evaluated within the framework of the models were supported by the data, while the other seven hypotheses were rejected. In the model for all samples, it was seen that metacognitive awareness of reading strategies had a positive and significant effect on reader self-perception ( $\beta=.82$ ,  $p<.01$ ) and the H<sub>1a</sub> hypothesis was accepted. It was observed that reader self-perception had a positive and significant effect on motivation for reading ( $\beta=.70$ ,  $p<.01$ ) and the H<sub>1b</sub> hypothesis was accepted. It was observed that metacognitive awareness of reading strategies did not have a positive and significant effect on motivation for reading ( $\beta=.14$ ,  $p>.05$ ) and the H<sub>1c</sub> hypothesis was rejected.

In the model related to the narrative text type, it was seen that metacognitive awareness of reading strategies had a positive and significant effect on reader self-perception ( $\beta=.80$ ,  $p<.01$ ) and the H<sub>2a</sub> hypothesis was accepted. It was seen that reader self-perception did not have a positive and significant effect on motivation for reading ( $\beta=.70$ ,  $p>.05$ ) and the H<sub>2b</sub> hypothesis was rejected. It was observed that metacognitive awareness of reading strategies did not affect motivation for reading positively and significantly ( $\beta=.27$ ,  $p>.05$ ) and the H<sub>2c</sub> hypothesis was rejected.

In the model regarding the informative text type, it was seen that metacognitive awareness of reading strategies had a positive and significant effect on reader self-perception ( $\beta=.83$ ,  $p<.01$ ) and the H<sub>3a</sub> hypothesis was accepted. It was observed that reader self-perception did not have a positive and significant effect on motivation for reading ( $\beta=.84$ ,  $p>.05$ ) and the H<sub>3b</sub> hypothesis was rejected. It was observed that metacognitive awareness of reading strategies did not affect motivation for reading positively and significantly ( $\beta=.10$ ,  $p>.05$ ) and the H<sub>2c</sub> hypothesis was rejected.

In the model regarding the poetry genre, it was seen that metacognitive awareness of reading strategies had a positive and significant effect on the perception of self-efficacy in reading comprehension ( $\beta=.83$ ,  $p<.01$ ) and the H<sub>4a</sub> hypothesis was accepted. It was observed that reader self-perception did not have a positive and significant effect on motivation for reading ( $\beta=.82$ ,  $p>.05$ ) and the H<sub>4b</sub> hypothesis was rejected. It was observed that metacognitive awareness of reading strategies did not affect motivation for reading positively and significantly ( $\beta=-.02$ ,  $p>.05$ ) and the H<sub>2c</sub> hypothesis was rejected.

The path analysis results regarding the total, direct and indirect effect levels between the variables in all models examined within the scope of the research are presented in Table 2.

Table 2. Standardized direct, indirect and total effect sizes

		Estimated	R <sup>2</sup>	Estimator	Standardized Directly	Estimates Indirect	Total
Whole sample		Reader self perception	.67	Metacognitive awareness	.82	---	.82
		Motivation for reading	.68	Metacognitive awareness Reader self perception	.14 .70	.57 ---	.72 .74
Text type	Narrative	Reader self perception	.64	Metacognitive awareness	.80	---	.80
		Motivation for reading	.49	Metacognitive awareness Reader self perception	.27 .46	.37 ---	.64 .46
	Informative	Reader self perception	.68	Metacognitive awareness	.82	---	.82
		Motivation for reading	.86	Metacognitive awareness Reader self perception	.09 .84	.69 ---	.79 .84
Poem	Reader self perception	.69	Metacognitive awareness	.83	---	.83	
	Motivation for reading	.65	Metacognitive awareness Reader self perception	-.01 .82	.68 ---	.66 .82	

According to Table 2, in the model for the entire sample, it was seen that the level of metacognitive awareness had a direct and total high effect ( $d=.82$ ) on reader self-perception and explained 67% of the total variance regarding reader self-perception. While the reader self-perception has a high direct ( $d=.70$ ) and total ( $d=.74$ ) effect on motivation for reading, the direct effect of the metacognitive awareness level is insignificant ( $d=.14$ ) and indirectly affects motivation for reading ( $d=.57$ ) affects. These two variables explain 68% of the variance in text reading motivation. In other words, in the model for the entire sample, it can be said that the main variable affecting motivation for reading is reader self-perception, and the level of metacognitive awareness indirectly affects motivation for reading through its interaction with the reader self-perception. In the model related to the narrative text type, it was observed that the level of metacognitive awareness had a direct and total high effect ( $d=.80$ ) on reader self-perception and explained 64% of the total variance. On the other hand, the direct ( $d=.46$ ) and indirect effects of reader self-perception on motivation for reading are

insignificant. Although the direct effect of the metacognitive awareness level on motivation for reading is insignificant ( $d=.27$ ), it indirectly affects motivation for reading ( $d=.37$ ). Additionally, it was seen that these two variables explained 49% of the variance regarding text reading motivation. In other words, in the model related to the narrative text type, it can be said that the level of metacognitive awareness and reader self-perception do not affect motivation for reading, but the level of metacognitive awareness indirectly affects motivation for reading in its interaction with reader self-perception.

In the model regarding the informative text type, it was observed that the level of metacognitive awareness had a direct and total high effect ( $d=.82$ ) on reader self-perception and explained 68% of the total variance. On the other hand, the direct ( $d=.84$ ) and indirect effects of reader self-perception on motivation for reading are insignificant. Although the direct effect of the level of metacognitive awareness on motivation for reading is insignificant ( $d=.46$ ), it indirectly affects motivation for reading ( $d=.69$ ). In addition, it was seen that these two variables explained 65% of the variance regarding motivation for reading. In other words, in the model regarding the informative text type, it can be said that the level of metacognitive awareness and reader self-perception do not affect motivation for reading, but the level of metacognitive awareness indirectly affects motivation for reading in its interaction with reader self-perception.

In the model regarding the poetry genre, it was observed that the level of metacognitive awareness had a direct and total high effect ( $d=.83$ ) on reader self-perception and explained 69% of the total variance. On the other hand, the direct ( $d=.84$ ) and indirect effects of reader self-perception on motivation for reading are insignificant. Although the direct effect of the metacognitive awareness level on motivation for reading is insignificant ( $d=.46$ ), it indirectly affects motivation for reading ( $d=.68$ ). In addition, it was seen that these two variables explained 86% of the variance regarding motivation for reading. In other words, it can be said that in the model regarding the type of poetry, the level of metacognitive awareness and reader self-perception do not affect the motivation for reading, but the metacognitive awareness level indirectly affects motivation for reading in its interaction with reader self-perception.

## **Discussion**

The hypotheses created in this research, which examined the effect level of fifth grade students' reading strategies, metacognitive awareness, and reader self-perception on their motivation for reading, and the role of text types (narrative, informative, poetry) in this effect, were examined through structural equation modeling. As a result of the research, the hypothesis model established based on the relevant literature was tested and it was concluded that all models were valid. Five of the twelve hypotheses created in the study were supported by the data, while the other seven hypotheses were rejected.

In the model for the entire sample, metacognitive awareness of reading strategies and reader self-perception perception explain 68% of the variance in reading motivation. In the models related to text types, metacognitive awareness of reading strategies and reader self-perception explain 49% of the variance in motivation for reading in the model related to narrative text type, 65% in the model related to informative text type, and 86% in the model related to poetry type. Based on this, it was determined that reading strategies, metacognitive awareness and reader self-perception had a high rate of explaining motivation for reading in all models, and this rate was highest in the poetry type. Since this explanation rate is lowest in the

narrative text type, it can be said that other variables other than metacognitive strategies and reader self-perception affect motivation for reading in this text type. However, it can be said that the relationship created by these two variables when used together has a very important role in increasing motivation for reading in the model for the entire sample and in the model for informative texts. Metacognitive awareness of reading strategies accounts for 67% of the variance in reader self-perception in the model for the entire sample; It explains 64% in the model for narrative text type, 68% in the model for informative text type, and 69% in the model for poetry type. This high rate of explanation shows that there is a strong relationship between metacognitive reading strategies, reader self-perception and motivation for reading, and although this rate is highest in the poetry type, in all models, metacognitive awareness of reading strategies is a variable that explains the reader self-perception at a high rate and it can be said that this explanation rate does not differ much according to text types. In other words, while reading strategies are an effective variable on metacognitive awareness and reader self-perception, they do not have a direct effect on motivation for reading.

When the findings are evaluated in terms of the relationship between metacognitive awareness of reading strategies and reader self-perception; It has been observed that all sampling, narrative text, informative text and poetry type have a positive direct effect and explanation rate in the model. In Baddareen et al.'s (2015) study, it was determined that students' reading metacognitive awareness and reader self-perception increased significantly with metacognitive reading strategies training. In Kolic-Vehovec and Bajanski's (2006) study, it was determined that there was a significant relationship between reading monitoring, which is one of the metacognitive processes, and reading comprehension. In Yetgin and Katranci's (2021) study, the relationship between metacognitive awareness and reading comprehension skills for informative and narrative texts was examined and it was observed that there was a significant, positive, and weak relationship between these two variables. It has been inferred that the reason for this weak relationship is that since reading metacognitive awareness primarily requires knowledge of cognitive strategies, students do not have sufficient knowledge about these strategies. As a matter of fact, metacognitive strategies are effective in increasing the use of reading strategies (Karasakaloglu, 2012) and in the development of goal setting, planning, controlling oneself and the process, and self-evaluation skills in the process of reading comprehension (Cakiroglu & Ataman, 2008). "Self-evaluation" in this research overlaps with the perception of self-efficacy in reading comprehension, which is developing beliefs about reading, and with metacognitive awareness, which is self-regulation skills, albeit with a different discourse. Moreover, based on this relationship between cognition and metacognition, the studies in the literature mostly support that reading strategies improve reader self-perception (Chang et al., 2002; Demirel & Epcacan, 2012; Schunk & Rice, 1993; Tobing, 2013; Zare & Mobarakeh, 2011). Studies on the use of metacognitive reading strategies mostly focus on the positive effect of these strategies on the level of reading comprehension (Ahmadi et al., 2013; Ismail & Tawalbeh, 2015; Korotaeva, 2012; Memis & Bozkurt, 2013; Pammu et al., 2014; Pei, 2014). The results obtained from this study regarding the high impact of metacognitive awareness of reading strategies on reader self-perception coincide with the interaction of cognitive strategies and metacognitive strategies, which is knowing and using these strategies effectively, in the studies in the literature. Because reading comprehension is a strategy-based process, increasing students' metacognitive awareness of reading comprehension, which enables them to recognize and use reading strategies and to control their comprehension processes and regulate them, when necessary, increases their perception of reading self-efficacy, which is directly related to the development of reading skills (Cho et al., 2015). In other words, as students' metacognitive awareness of reading strategies increases, their reader self-perception

also increases. It can be said that this awareness, which enables them to read strategically according to text types, has a high impact on this increase. In the study of Diliduzgun et al. (2019), it was revealed that the use of metacognitive reading strategies, in which reading methods and techniques are applied according to text types, is a necessity for the reading action to achieve its purpose. Based on these results, it can be said that students' use of metacognitive reading strategies according to text types during the reading process and increasing their awareness of this will improve students' self-perception.

Although the effect of metacognitive awareness of reading strategies on reader self-perception is high in all text types, the highest effect appeared in the poetry genre. It can be said that this situation arises from the difference in the language and expression characteristics of the poetry genre from other text types. It supports that the poetry genre is a filtered and crystallized form of discourse and is a type of text that is revealed with a more subtle use of language. Compared to other text types, poetry provides higher level thinking as it brings together the reader with a language structure woven with sensitivity and meticulousness at the intersection of sound quality and word pleasure, emotion and mind, with rich symbols, rhythmic words and harmony of sounds (Kaya, 2013). It is seen that the model created for the informative text type has the highest impact after the poetry genre. In this case, it can be said that it originates from terminological expressions and scientific language in the informative text type. Because in this type of text, the words are more specific, not repeated and have a technical structure; The topics are more abstract and come to the fore with their ability to provide new experiences and expand knowledge, and this causes the reader to concentrate more on the subject (Akyol, 2006). Although the narrative text type comes last in this interaction, it also creates a high impact in this text type.

When the findings were examined in terms of the relationship between reader self-perception and motivation for reading, it was determined that reader self-perception had a positive and direct high impact on motivation for reading in the model for the entire sample. In other words, as students' sense of reader self-perception increases, their motivation for reading also increases. Self-efficacy belief has a motivation-increasing effect (Bandura, 1991). Since reading self-efficacy is a unit of reading motivation, reading self-efficacy is a motivational variable related to reading motivation (Guthrie et al., 2007). Research showing that an increase in reading self-efficacy perception increases motivation also supports this result (Wigfield & Guthrie, 1997; Kargar & Zamanian, 2014). The results are similar in terms of reader self-perception, which is related to reading self-efficacy perception. In Koca's (2020) research conducted with fourth grade students, it was observed that reader self-perception had a significant and positive predictive effect on reading motivation and that there was a high-level ( $r=.81$ ) relationship between these two variables. Okur's (2017) study on the fourth-grade primary school sample concluded that there was a positive, significant and moderate relationship between reader self-perception and reading motivation. In Ulper and Sirin's (2019) study, it was determined that reading motivation increased reading comprehension and that reader self-perception had a mediating effect on this increase. Conway (2017) also found that reader self-perception predicts reading comprehension skills entirely through reading motivation. The direct relationship between reader self-efficacy perception and reading motivation (Innali, 2014; Sahin, 2019; Okur, 2017) coincides with the motivation-increasing effect of self-efficacy perception (Synder & Lopez, 2002). Self-efficacy belief, which forms the basis of reader self-perception, has an important place in the development of reading skills (Pajares, 2003), and there is a positive and moderate relationship between reader self-perception and reading comprehension skills (Conway, 2017; Ulper & Sirin, 2019), and it directly affects reading comprehension skills, which is the essence of the act of reading. Aslan



et al. (2016) examined the effects of texts supported by motivational expressions on the perception of self-efficacy. It was determined that the relevant texts did not have an improving effect on the perception of self-efficacy. When these results are evaluated as a whole, although there are exceptional studies, it can be said that reading comprehension self-efficacy perception and reader self-perception have an increasing effect on motivation for reading. When the relationship between these two variables is examined in terms of the results of the models created for the effect of text types, the direct effect of reader self-perception on motivation for reading is insignificant in the model related to narrative text, informative text and poetry type. In other words, it can be said that students are motivated to read and desire to read more if they consider themselves competent to read, regardless of text type.

When the relationship between metacognitive awareness of reading strategies and motivation for reading is examined in terms of effects, the direct effect of the level of metacognitive awareness on reading motivation is insignificant in the model for the entire sample. On the other hand, in the study conducted by Bozkurt and Memis (2013) with fifth grade students, it was determined that there was a low relationship between metacognitive reading comprehension awareness and motivation for reading and its sub-dimensions. In addition, in studies conducted in the literature, there is a direct positive relationship between metacognitive awareness of reading strategies, which includes advanced reading processes such as making inferences and evaluations from texts (Mokhtari & Reichard, 2002), and reading motivation (Meniado, 2016; Mokdari & Reichard, 2002; Ozturk, 2012; Ozturk & Uzunkol, 2015; Roeschl-Heils et al., 2003; Wang, 2009). In addition, metacognitive awareness of reading comprehension has the feature of controlling and supervising metacognitive processes during the reading process. Studies reveal that metacognitive strategies related to metacognitive awareness are also variables that have an enhancing effect on reading performance (Muhtar, 2006; Wright & Jacobs, 2003). Baki's (2019) research also showed that metacognitive reading strategies explained 20% of motivation for reading and had a high level of impact on motivation for reading. In addition to the direct relationship between reading strategies and reading motivation in the reading process (Sani et al., 2011) and their motivation-enhancing effect (Basaran, 2013; Cantrell et al., 2016; Caliskan & Sunbul, 2011), the increase in motivation also contributes to the learning of effective strategies (Schraw, 2002). Based on this spiral relationship, when the research is evaluated as a whole, the strategic behaviors used in the reading process and awareness of these behaviors create a cyclical transformation that has a motivation-enhancing effect. As a matter of fact, as motivation for reading increases, reading comprehension skills increase (Bastug, 2012; Yildiz, 2010, 2013). Despite these results, in this research, when the relationship between metacognitive awareness of reading strategies and motivation for reading is examined in terms of models related to text types, the direct effect of the level of metacognitive awareness on reading motivation is insignificant in all models related to narrative text type, informative text type and poetry type. Contrary to this result, studies have shown that readers with metacognitive awareness determine their strategies according to the type, purpose and level of the text they will read (Rashtchi & Keyvanfar, 2002), and that there is a significant, positive and weak relationship between metacognitive awareness and reading comprehension skills for informative and narrative texts (Yetgin & Katranci, 2021), and also there are also studies showing that text types are an effective variable on reading motivation (Guthrie et al., 2007). From another perspective, text types do not have a direct effect on motivation for reading of the metacognitive awareness of reading comprehension, which enables the recognition, organization and control of mental tools that enable a deep understanding of texts.

## **Conclusion**

When the relationships between the variables in the study are evaluated as a whole, the perception of self-efficacy in reading comprehension has a direct high effect on reading motivation, while the direct effect of metacognitive awareness of reading strategies on reading motivation is insignificant. In Pierce's (2003) study, it was determined that metacognition affects motivation through self-efficacy. In this study, since metacognitive awareness of reading strategies has no direct effect on reading motivation, and self-efficacy perception of reading comprehension has a direct high effect, it can be said that self-efficacy perception of reading comprehension is an important predictor of reading motivation. In other words, as students believe that they will succeed in reading and develop these beliefs, it is thought that their interest, curiosity and desire for reading will increase. Based on the high effect of metacognitive awareness of reading strategies on self-efficacy perception of reading comprehension, it can be said that since the development of metacognitive awareness of reading strategies will increase the perception of self-efficacy in reading comprehension, it can be said that in addition to providing the necessary information about metacognitive strategies and their use in reading studies, the perception of self-efficacy will also increase with awareness-raising studies that will ensure the monitoring and improvement of these strategies. Based on the effect of metacognitive awareness on self-efficacy perception and the effect of self-efficacy on motivation, it can be said that it is necessary to develop metacognitive awareness of reading strategies, which latently affects the increase in reading motivation. It can be said that by increasing metacognitive awareness of reading strategies, which is one of the key skills of self-awareness, that is, the state of consciousness in which the student is aware of his/her own cognitive processes during the reading process, students can be ensured to see themselves as sufficient in terms of reading comprehension and to continue these activities. In summary, metacognitive awareness of reading strategies, which is a cognitive variable centered on self-awareness and knowing in the reading process, shows that the regulation of cognitive processes during the reading process is effective in developing personal beliefs towards reading comprehension, based on the direct effect of self-efficacy perception, which is another affective variable centered on knowing and knowing one's own beliefs. Based on these results, when students' reading activities are structured in a way that they know reading strategies and use them effectively, their beliefs towards reading comprehension will develop, and the development of this belief will increase reading motivation. In summary, it can be said that in order for the interest and love towards reading to increase, students should see themselves as sufficient in terms of their reading comprehension skills and that this belief can be achieved by increasing their knowledge level regarding reading strategies and using this knowledge effectively, that is, by knowing, controlling and organizing their thought processes.

Based on the models regarding text types, it was concluded that while text types are an effective variable on the perception of self-efficacy in reading comprehension, which is a cognitive strategic variable, metacognitive awareness, in the interaction of affective variables (self-efficacy-motivation), students' belief that they will succeed in the reading activity is more important than external variables such as text type.

## **Limitations**

As a result of the literature review on measurement tools in the study, only the Metacognitive Awareness of Reading Strategies Inventory adapted to Turkish by Ozturk (2012) could be accessed for the reading strategies metacognitive awareness variable. Since this measurement tool is limited to the fifth-grade level only, the research was limited to this



grade level. It can be said that there is a need to repeat this research with a larger sample group and with classes at different levels at the secondary school level in order to test the validity of the model and the results. In this way, a contribution to the literature can be made by both testing the model and eliminating the limitations of the research.

### **Suggestions**

Suggestions for future research and applications based on the results of the research are as follows:

#### ***Recommendations for research***

- (1) In addition to studies at different sample levels (primary school, secondary school, university) examining the effect of reading comprehension self-efficacy perception and reading strategy metacognitive awareness on text reading motivation, the validity of the model and the generalizability of the findings can be tested with studies consisting of samples that will represent the universe.
- (2) Since the direct effect of reading strategy metacognitive awareness on reading motivation is insignificant in all models, the model can be retested with other variables that may affect the model to determine the variables that affect reading motivation.
- (3) Since the direct effect of reading comprehension self-efficacy perception on text reading motivation is insignificant in models related to text types, the model can be retested with other variables that may affect the model to determine these variables.
- (4) Considering that the main variable affecting reading motivation as a result of the research is reading comprehension self-efficacy perception, the reasons that reveal the interaction between these two variables can be examined in depth with qualitative research and action research.

#### ***Suggestions for practices***

- (1) In order to increase reading motivation, the Turkish Language Course Curriculum should be structured according to practices that will allow students to recognize metacognitive reading strategies used according to text types and to be at the level of awareness to use them actively.
- (2) Based on the high effect of metacognitive awareness of reading strategies on self-efficacy perception of reading comprehension revealed in models related to all text types, studies on the use of metacognitive reading strategies in reading activities and the development of awareness regarding them can be included in classroom practices.
- (3) Based on the high effect of self-efficacy perception of reading comprehension in the model related to the entire sample in the increase of reading motivation and reading activities, studies and practices that will enable students to see themselves as competent in reading activities and support and strengthen their personal beliefs in reading should contribute to the increase of their reading motivation.
- (4) In order to increase students' reading motivation, especially in poetry and informative text types, studies should be prioritized to increase their awareness of the use of metacognitive reading strategies and their self-efficacy perception of reading comprehension.
- (5) In class practices, emphasis should be placed on the use of metacognitive strategies for reading comprehension according to text types and techniques to be used to increase

awareness on this issue, as well as techniques to be used to increase self-efficacy perception for reading comprehension.

### **Statements and Declarations**

Ethical Approval Information: This research obtained ethics approval by Recep Tayyip Erdogan University's Ethics Committee (Approval number: 2020/73, Date of approval: 09 July 2020)

### **Competing interest**

No potential conflict of interest was reported by the author.

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### **Availability of data and material**

The data associated with this research are not available due to participants' consent.

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