

# STRUCTURAL RELATIONSHIP BETWEEN READING ATTITUDES, MOTIVATION AND STRATEGIES OF UNIVERSITY STUDENTS

EunJoo Kim<sup>1\*</sup>

<sup>1</sup>*Faculty of Liberal Arts, Eulji University, Seongnam, Korea  
kej70@eulji.ac.kr*

**Abstract**— The purpose of this study was to analyze the structural relationships among motivation, attitudes, and strategies to find ways to improve reading strategies for college students. **Research design, data, and methodology:** To verify the relationship among measurement variables, 600 model four-year colleges located in the Seoul metropolitan area were tested using a model. **Results:** The results showed that reading motivation had more direct influence on strategy than the mediating effect of university student motivation. Therefore, it was found that reading attitude is important, but it is more necessary to increase reading motivation in order to increase the reading strategy of college students.

**Keywords**— University Student, Reading Motives, Strategies, Attitudes

## 1. INTRODUCTION

With the advent of the Fourth Industrial Revolution, there is a flood of knowledge and information. However, if you do not have the motivation to read this valuable knowledge and information and make it your own, even though there is so much at hand, it is useless. You need a clear purpose and an incentive to read for yourself to attain knowledge. Reading is highly recommended in universities for the purpose of cultivating culture. Reading enables the creation of new knowledge through critical thinking, exploration, and knowledge acquisition.

The average number of books read annually by people aged 13 and older as recorded by the National Statistical Office was 10.8 in 2009, 12.8 in 2011, 11.2 in 2013, 9.3 in 2015, and 9.5 in 2017. Reading is important, as Bill Gates said, "What is more important than a Harvard diploma is the habit of reading." In particular, in college, reading is the most basic method for learning, and the development of thought through writing is the most typical knowledge activity, an act of social participation and cultural creation [1]. That is to say, reading is the basic act of cultivating thinking power and culture and creating new knowledge.

Reading at university is an activity that allows students to understand rapidly changing social situations through intellectual reflection and to actively recognize social problems. In particular, learning in college requires a reading strategy in the process of reconstructing meaning by adding new knowledge to the existing knowledge that one has. Reading strategies are also possible through the reconstruction of the meaning of knowledge and deep thinking. These reading strategies are one way to effectively study in college.

According to studies by Charles (1996) and Wood (1992), college students can use books according to their needs as mature readers and judge for themselves what to read [2].

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\* Corresponding Author



Wood (1992) was able to find the reference materials needed for university assignments in the functional literacy with which college students can read and write [3]. In particular, we know that reading for appreciation and reading for learning are different from each other [4]. However, many college students tend not to prefer reading as they are accustomed to using the Internet and SNS(Social Network Service). Also, if university students do not have the motivation and attitude to read, it is difficult to use a reading strategy, which is the ability to read books.

The motivations for reading are relevant to learners' reading attitudes, consistency in reading performance, reading efficacy, etc., and allow learners to perform and sustain their performance [1]. Reading attitudes are analyzed as cognitive, affective, and behavioral factors, first of all, reading attitudes as cognitive factors represent beliefs or opinions about reading, reading attitudes as defining elements represent feelings or assessments of reading, and reading attitudes as behavioral factors indicate practical reading behavior and reading intent [5, 6].

Logan (2011), who studied children during a study involving reading motivations, confirmed that reading motivations are a predictive growth factor for reading strategies, in addition to cognitive abilities [7]. A study by McGeown *et al.*, (2015) showed that reading strategies and reading attitudes, confidence and performance are correlated [8]. In their study of university students' reading attitudes and strategies, Hong (2006) determined that university students should be able to select and utilize books for various purposes based on knowledge already acquired, and strategically select and read books as needed [9].

Most of the preceding research related to university students' motivation for reading has been centered on primary and secondary school students. Further, most of the preceding research conducted on university students analyzed one-dimensional relationships between reading motivations, reading attitudes and reading strategy factors, and analysis of multidimensional relationships among the three factors is insufficient. Thus, the structural relationship between the three factors is analyzed in this study, and study of the effect of the reading attitude of university students on reading strategy is meaningful.

## 2. RESEARCH METHOD

This study was conducted with a total of 600 people for about two months from May 1, 2019 to June 31, 2019. Of these, data from a total of 505 respondents were used for the analysis, excluding those with high missing values.

To measure a college student's reading attitude and strategy, a tool developed by Hong (2006) was used to secure validity and reliability. The reading attitude assessment consisted of nine questions, including the value of reading, reading behavior, other people's judgment of their reading ability, their own judgment of their reading power, and the use of various reference books [9]. The reading strategy assessment consisted of a total of 19 questions with three subfactors: 3 questions on reading strategy before reading, 6 questions on reading strategy during reading, and 9 subfactors on reading strategy after reading. The measure of the tool is a four-point Likert scale which consists of a maximum of four points, indicating "very much", from a minimum of one point, indicating "not at all."

The Motivations for Reading Questionnaire (MRQ) developed by Wigfield and Gutier (2004) was used to measure the motivations for reading in university students [10]. The motivations for reading consisted of eight variables: curiosity, immersion, challenge, recognition, sexuality, sociality, competition and conformity. Also used in this study, the tools developed by Wang and Guthire (2004) consisted of 39 questions in total, using seven variables of curiosity, immersion, challenge, acknowledgement, sociality, competition and conformity, excluding the grades unfit for the subject of college students [10]. Among the seven variables, the inner motives comprise three sub-variables seven questions of curiosity, five questions of immersion and five questions of challenge and the external motives consist of four sub-variables five questions of recognition, six questions of social nature, six

questions of competition, and three questions of conformity. The tool's scale is a four-point Likert scale, consisting of a maximum of four points, indicating "very much", from a minimum of one point indicating "not at all."

To solve this research problem, for the analysis of the collected data we used PASW Statistics 18.0 and AMOS 18.0 programs. First, frequency analysis and technical statistics analysis were conducted to examine the average and standard deviation of the demographic and social factors of those surveyed. In addition, correlations were determined to examine the relationship between the measurement variables, and multiple coherence, which means high interrelationships among the independent variables, was confirmed. In addition, the goodness-of-fit index presented in college student's reading attitude, reading strategy, and model verification using a structure model between reading drivers showed how well the theoretical model described the data compared to the absolute equivalence index ( $\chi^2$ , RMSEA) and the worst independent model (NFI, IFI, TLI, CF)[11]. In order to evaluate a research model properly, it is necessary to select a model that is well matched to the data without being affected by the size of the sample, while at the same time being concise.

To solve this research problem, sub-factors of university students' reading attitudes, reading strategies, and reading drivers were modeled using structural equation models as a group index. By combining several questions, the grouping index has the advantage of increasing the range of the index scores, making it more likely to achieve normal distribution, and become a more reliable indicator. It also has the advantage of reducing the estimated error by reducing the number of parameters that are estimated to less than that from the use of individual questions [12, 13]. In addition, for parametric estimates we adopted the Maximum Likelihood Estimate (ML).

### 3. RESULT ANALYSIS

A structural model was established based on prior research to analyze the structural relationship between university students' reading attitudes and motivations and the influence on their reading strategies. To verify this, a bundle indicator [14] was used, which is used as an average value by linking the measurement variables to reduce the estimated error caused by a large number of measurement questions depending on each potential factor and to ensure multivariate normality. The initial research model is shown in [Figure 1], and the results of the suitability analysis are shown in Table I.

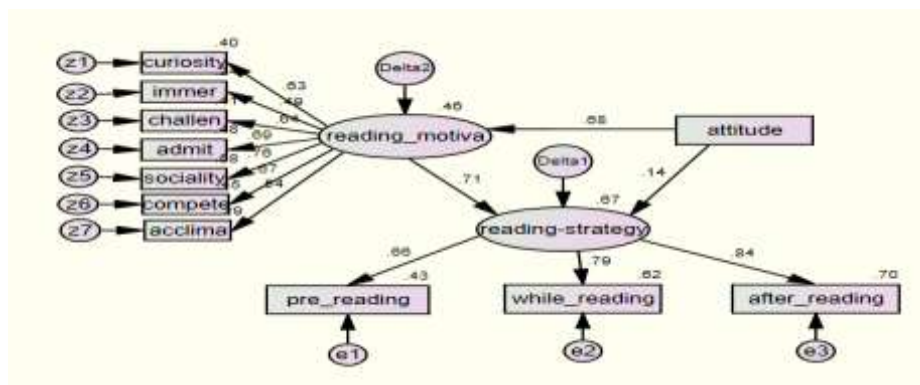


Fig. 1 Early Research Model

Table I. An Analysis of Suitability of Early Research Models

	$\chi^2(p)$	df	RMSEA	NFI	IFI	TLI	CFI
Research model	328.855(.000)	42	.116	.899	.898	.900	.887
Acceptance criteria	$p > .05$		$< .10$	$> .9$	$> .9$	$> .9$	$> .9$

The suitability test for the structural model rejected the null hypothesis that the model would be consistent with the data at a significance level of .05. The RMSEA value of .166 in this study is not a good fit, as claimed by Steiger (1990), who evaluated it as a good fit if it is .05 or less and the best fit if it is .01 or less. Therefore, some modifications were made to the research model by reflecting the theory for good practice in order to explore models that could better reflect the characteristics of the data. To modify the research model, the correction index ‘Modification indices’ was checked, where a larger correction index indicates that the item needs modification. Therefore, it was necessary to examine the appropriateness of the model by sequentially modifying the items shown in the ‘Modification indices’.

An analysis of the correction index shows that the correction that sets the correlations between the error terms "z1" and "z2", "z1" and "z3", and "z6" and "z7" of reading motivation increases the degree of conformance. The implication of this is that the subfactors of reading motivations, curiosity, immersion, and challenge all fall within the internal motivations of reading motivations, without measuring each unique content, which can be said to be meaningful in the correlations between the pairs of error terms.

Therefore, the correction model was designed and reanalyzed by setting the correlations between the error terms ‘z1’ and ‘z2’, ‘z1’ and ‘z3’, and ‘z6’ and ‘z7’ of the reading motivation according to the result of the correction index analysis. The most suitable model based on these results is given in [Figure 2], which shows the direct and indirect effects between variables. The conformity results for this model are given in Table II.

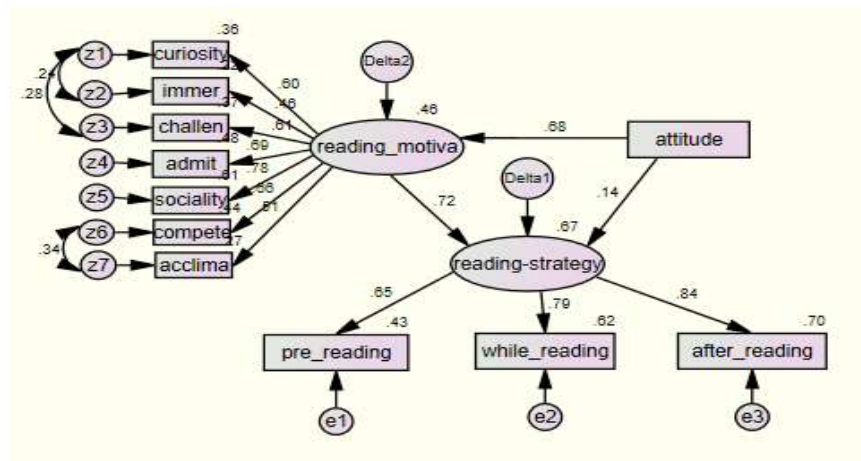


Fig. 2 Modification Model of University Student's Reading Attitude, Motivation, and Relationship of Reading Strategy (Standardization Factor)

Table II. Conformity of Modification Model

	$\chi^2(p)$	df	RMSEA	NFI	IFI	TLI	CFI
Research model	328.855(.000)	42	.116	.899	.898	.900	.887
Modification model	194.401(.000)	39	.079	.919	.934	.906	.934
Acceptance criteria	$p > .05$		$< .08$	$> .9$	$> .9$	$> .9$	$> .9$

Table II shows that the value of the index fit indicator is 194.401, the significance probability is .49, and the close fit indicator, RMSEA, of .079 can be evaluated as indicating a good revised model. The relative convergence indices NFI, IFI, TLI, and CFII all conform to acceptance criteria and can be evaluated as indicating a good model. The effectiveness factor of the revised model for reading strategies is shown in Table III.

Table III. Coefficient of Effect of Modified Model

Path of Modification Model			Estimate	S.E.	C.R.	p
Motivation	←	Reading Attitude	.677	.042	14.95***	.000
Strategy	←	Motivation	.714	2.496	2.16*	.023
Strategy	←	Reading Attitude	1.00			

\*\*\* $p < .001$

From the C.R. value, as shown in Table III, all of the path coefficients between potential variables were significant ( $p < .001$ ). As shown in Table III, the estimated path coefficients and path coefficients among the variables set in the revision model were of statistically significant probability levels in ‘Reading attitude→Motivation’, ‘Motivation→Strategy’, and ‘Reading attitude→Strategy’.

Also, when the motivation for reading was used as a parameter, the direct and indirect effects of university students' reading attitude on strategy were examined. The methods Sobel Verification, Aroian Verification, Goodman Verification, and Bootstrapping are used for testing the significance of indirect effects. In this study, Bootstrapping was adopted for estimating the sample distribution of parametric estimates and treating arbitrary samples of data as the whole of the population. The method used for calculating the significance of indirect effects was the Bias-Corrected Percentile method with a high degree of bias. In Table IV, an analysis based on the bootstrapping method is presented.

Table IV. Direct and indirect effects of the measurement model on the modified model (standardization factor)

Path type	Path Engagement		Direct effects	indirect effect (reading motive)	Full effect
Independent variable→Parameter	Reading Attitude	– Motivation	.676***	-	.676***
Independent variable→Dependent variable	Reading Attitude	– Strategy	.139**	.487***	.626***
Parameter → Dependent variable	Motivation	– Strategy	.721***	-	.721***

\*\* $p < .01$ , \*\*\* $p < .001$

If you look at the total effects as shown in Table IV, first, college students' reading attitudes motivated by reading (.676,  $p < .001$ ) showed a total effect. Second, the motivation for reading showed a total effect on reading strategy (.721,  $p < .001$ ). Third, college students' reading attitude showed indirect effects on strategy with motivation (.487,  $p < .01$ ), and total effect (.626,  $p < .001$ ). Therefore, it was found that the motivation for reading is directly more influential on reading strategy than the attitude of reading students who use motivation as a medium. Therefore, it is necessary to first raise the motivation for reading, although reading habits are also important in order to enhance the reading strategy of university students.

#### 4. CONCLUSION

In this study we analyzed the structural relationship between reading attitudes and motivations that affect a college student's reading strategy. In particular, the structural

relationship between reading attitude and reading-attitude-affected strategy was analyzed through the medium of motivation. The study results are summarized as follows.

The reading strategy of university students shows that the motivation of reading is directly more influential on the reading strategy than the attitude of university students who use reading motivation as a medium.

These findings are supported by studies by Wigfield and Guthrie (1997) and Guthrie and Wigfield (2000) which showed that students' high motivation to read increases the volume and scope of reading, and that they exercise a reading strategy [15, 16].

Therefore, it is necessary to promote awareness of the importance of university students' reading motives through this study and further study toward the development of various programs to improve and support the reading environment in universities. In particular, empirical research on the motives of reading by university students will be needed, and a study will be conducted to provide basic data on reading strategies and attitudes. Accordingly, we can expect to foster creative talent, with sound personalities and critical thinking skills, that will lead the era of the Fourth Industrial Revolution [17].

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