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Does the Simple View of Reading Explain Korean Elementary EFL Learners' Reading Comprehension?

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Numerous studies have supported the simple view of reading by showing the significant predictive roles of oral language comprehension ability and decoding skills in the reading comprehension of monolinguals and second language learners. However, little is known about its applicability to young foreign language learners who do not have much access to the target language and literacy input outside the school and especially those whose first and second languages are typologically different. This study was designed to examine the contribution of English oral language comprehension ability and decoding skills to the reading comprehension of fifth-grade Korean EFL learners. In doing so, the indirect effects of oral language ability and phonological awareness were also considered, and English reading fluency and Korean reading comprehension abilities were controlled for. The findings not only support the simple view of reading but also highlight the indirect effects of oral language comprehension ability and phonological awareness on reading comprehension abilities via the effects of decoding skills.

Key words: simple view of reading, elementary Korean EFL learners, reading comprehension, phonological awareness

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1. INTRODUCTION

Despite the wide acceptance of the simple view of reading (SVR), which explains reading comprehension as a product of one's decoding and oral comprehension abilities, its applicability for second language (L2) learners and the potential role of other literacy sub-skills, such as phonological awareness (PA), have received relatively less research attention. Although a few studies have identified the applicability of SVR to bilinguals or L2 learners in second language contexts, most of them focused on Spanish-speaking children learning English in English-speaking countries (Gottardo & Mueller, 2009; Hoover & Gough, 1990; Mancilla-Martinez, Kieffer, Biancarosa, Christodoulou, & Snow, 2011; Proctor, Carlo, August, & Snow, 2005), thus focusing on L2 learners learning two typologically similar languages in contexts where abundant target language exposure is available. For L2 learners in foreign language contexts where little such exposure is available outside classroom, and for whom L2 instruction begins after their L1 language and literacy skills are much more developed, whether and how SVR would explain their L2 reading comprehension is yet to be studied. Considering their relatively under-developed language and literacy skills in L2, it is likely that they might have to rely on other cognitive skills (i.e., PA) or oral language abilities more than monolinguals or bilinguals in second language contexts do (Yaghoub Zadeh, Farnia, & Geva, 2012).

This study was designed to investigate whether SVR explains reading comprehension of beginning Korean English as a foreign language (EFL) learners, and whether PA and/or L2 oral language comprehension abilities have any indirect effects while their L1 reading comprehension abilities and L2 reading fluency are also controlled for.

2. BACKGROUND

The SVR is now widely accepted as a model of reading comprehension. It was first proposed by Gough and Tunmer (1986), who explained reading comprehension as the joint product of decoding skills and linguistic comprehension abilities and highlighted both components as the essential requirements for successful comprehension. Most research on SVR has been conducted with monolinguals and has confirmed its adequacy in explaining reading comprehension (Cutting & Scarborough, 2006; Georgiou, Das, & Hayward, 2009; Johnston & Kirby, 2006; Joshi & Aaron, 2000; Savage, 2001, 2006; Tunmer & Hoover, 1992). For instance, Joshi and Aaron (2000) investigated elementary English-speaking children's decoding, listening comprehension abilities and reading fluency as potential predictors of reading comprehension and showed that decoding and listening comprehension abilities were both significant contributors, explaining 48% of variance,

and that reading fluency contributed an additional 10% of the unique variance. Similarly, Georgiou, Das, and Hayward (2009) investigated the role decoding and listening comprehension abilities play in explaining reading comprehension of English speaking children in Canada and demonstrated that about 45% of the variance in reading comprehension was explained by these two components.

Although relatively less research has been conducted to test the adequacy of SVR for explaining reading comprehension of bilinguals or L2 learners, most of these existing studies also highlight both decoding and linguistic comprehension as significant contributors to L2 reading comprehension (Droop & Verhoeven, 2003; Gottardo & Mueller, 2009; Mancilla-Martinez, Kieffer, Biancarosa, Christodoulou, & Snow, 2011; Nakamoto, Lindsey, & Manis, 2012; Proctor, Carlo, August, & Snow, 2005). In assessing the adequacy of SVR with bilinguals, for example, Gottardo and Mueller (2009) studied reading development of English-Spanish bilingual children longitudinally and found that among various literacy skills, English (L2) oral language proficiency and word decoding were the strongest predictors of reading comprehension in English. Similarly, Hoover and Gough (1990) confirmed the applicability of SVR for bilinguals by following English-Spanish bilingual children longitudinally from first to fourth grade.

While the SVR framework has been quite successful in explaining reading comprehension abilities of both monolinguals and bilinguals, however, attention to how other potentially related sub-skills may play a role in this framework has been rare. Such research attention is pertinent especially for L2 learners, since "unlike children learning to read in their first language (L1), [English language learners (ELLs)] have, by definition, less developed oral language skills to draw on when they read for fluency and comprehension in their L2. Because reading fluency or comprehension may be a more challenging task for ELLs than for their monolingual counterparts, they may need to rely more heavily on basic cognitive skills such as phonological awareness . . . to support the decoding of written text" (Yaghoub Zadeh et al., 2012, p. 164). It would be even more so for L2 learners in foreign language contexts, since they have relatively very little exposure to the target language outside school. However, minimal research has included other literacy sub-skills such as phonological awareness (PA) in exploring reading comprehension process in the SVR framework for L2 learners in either second- or foreign language learning contexts.

The prominence of PA for successful reading development, and word decoding abilities in particular, across different languages has been documented in numerous studies (Aidinis & Nunes, 2001; Cho & McBride-Chang, 2005; Durğunoglu & Öney, 1999; Kang, 2012; McBride-Chang & Kail, 2002; Saiegh-Haddad & Geva, 2008; Wagner et al., 1997; Wesseling & Reitsma, 2001). Durğunoglu and Öney (1999), for example, studied the relationship between PA and emergent literacy skills with Turkish and English

monolingual children and found that PA in a language correlated with word decoding abilities in each language. In addition, studies have shown that different languages have different salient phonological units, reflecting language-specific differences in phonological systems (Caravolas & Bruck, 1993; Durgunoğlu & Öney, 1999; Kim, 2008). For example, Kim (2008) showed that body unit, compared to the rime unit which is the salient phonological unit for English-speaking children, was more accessible for Korean speaking children as beginning readers and that the growth rate of body awareness was much faster than rime awareness, reflecting the Korean language and orthographic characteristics. Such positive relationship between PA and reading abilities has been identified for bilinguals and L2 learners as well (Kang, 2012; Keung & Ho, 2009; Kim, 2008; Quiroga, Lemos-Britton, Mostafapour, Abbott, & Berninger, 2002; Saiegh-Haddad & Geva, 2008; Sparks, Patton, Ganschow, Humbach, & Javorsky, 2008; Wang, Park, & Lee, 2006). Furthermore, L2 learners' PA in L1 has been shown to have significant relationship to their L2 reading abilities beyond or together with L2 PA (Comeau, Cormier, Grandmaison, & Lacroix, 1999; Durgunoğlu, 1997; Kang, 2012; Quiroga et al., 2002; Saigh-Haddad & Geva, 2008; Sparks et al., 2008). For example, Kang (2012) investigated the relationship between young Korean EFL learners' PA in English and Korean and their English decoding abilities and demonstrated that despite the prominent differences in the saliency of phonological units between English and Korean (rime vs. body-coda awareness), L1 PA explained unique variance in their L2 decoding abilities above and beyond their L2 PA and other emergent literacy skills. This result supports the recent view that specific cognitive and linguistic processes, including PA, are shared across languages and are needed to be acquired only once in L1, as they facilitate reading in any languages (Durgunoğlu, 2002; Geva & Siegel, 2000).

Since dearth of studies has investigated the relationship between PA and reading comprehension in the SVR framework, especially for bilinguals whose two languages share little phonological properties, and since little is known about such potential relationship for L2 learners in foreign language contexts, further research is in great need to gain full understanding of reading comprehension process of L2 learners. Such learners in foreign language contexts may be more dependent on literacy subskills such as PA, due to their relatively limited oral language competence.

Another overlooked area in the research on SVR is the potential indirect effects of oral language comprehension abilities on reading comprehension through decoding abilities, although studies with young beginning readers have identified the significant supporting role oral language abilities play in word recognition abilities either together with or apart from phonological processing skills (Catts, Fey, Zhang, & Tomblin, 1999; Nation & Snowling, 2004; Oullette & Beers, 2010; Storch & Whitehurst, 2002). Studies have shown that "the amount of shared variance between [decoding skills] and [oral comprehension

abilities] increase with grade level" (Tunmer & Chapman, 2012, p. 454) in the SVR framework, and that young readers' oral language abilities not only have significant direct effects, but also have significant indirect effects via code-related skills on their reading comprehension (NICHD Early Child Care Research Network, 2005; Storch & Whitehurst, 2002). Based on similar findings demonstrated within the SVR framework, Tunmer and Chapman (2012) further argued that "although the fundamental two-component structure of the SVR model should remain unchanged, the independent components assumption of the SVR model may need to be relaxed somewhat, as [oral language comprehension] appears to influence [reading comprehension] not only directly but also indirectly through [decoding]" (p.464).

Although the contribution of oral language abilities to word reading for L2 speakers has received relatively less research attention, Erdos, Genesee, Savage, and Haigh (2011) found that Canadian French (L2) learners' oral language skills measured by receptive vocabulary in kindergarten was a significant predictor of L2 decoding abilities at first grade, over and beyond the effects of other print-related skills such as letter name knowledge and PA. Gottardo and Mueller (2009), on the other hand, investigated the role of L1 and L2 oral language proficiency on reading comprehension in the SVR framework, and showed that although SVR was valid in explaining Spanish-speaking English learners in first and second grade, their English oral language proficiency did not show indirect effects on reading comprehension via decoding skills. They attributed this to their reading instruction received in English, which suggests that different findings may be revealed with L2 readers in foreign language contexts where L2 reading instruction is conducted in L1 and whose L2 is under-developed due to the relatively scarce opportunities to encounter the target language outside school.

In fact, the relatively less research attention paid to the potential relationship between oral language abilities and decoding skills in explaining reading comprehension abilities in the SVR framework may partly be due to the phenomenon that most related research has examined monolinguals or bilinguals whose oral language proficiency in the target language has been developed to some extent. That is, for monolingual speakers, oral language abilities may not play as big of a role as decoding abilities in early grades, because relatively low language proficiency is required to comprehend simple text (Gottardo & Mueller, 2009). Although such low demand at the early stage of reading may still be sufficiently large for L2 learners (Gottardo & Mueller, 2009), those in second language contexts in which they have constant exposure and easy access to the target language outside school may assumingly have developed their oral language proficiency to some extent (Erdos et al., 2011; Gottardo & Mueller, 2009). For those in a foreign language contexts, on the other hand, where there are seldom opportunities to have target language exposure outside the classroom, their oral language proficiency is unlikely to

have developed as much, and thus may show to have different roles on reading development.

Korean EFL learners tend to have superior word decoding abilities compared to their underdeveloped oral language competence in English, probably due to the relatively abundant opportunities to develop literacy skills unlike the limited exposure to do so for their oral language. Also, their L1 decoding skills have supposedly been fully developed by second grade partly due to the transparent orthography, and such developed L1 decoding skills are expected to facilitate the same skills in L2 (Cummins, 1979). For such population, especially, oral language abilities, in addition to its direct effects on reading comprehension as proposed in the SVR framework, may also show significant indirect effects through decoding skills. That is because the reader needs to not only decode strings of words but also need to map them onto their mental dictionary and retrieve their meanings in order to enable successful comprehension, and such semantic processing is not usually transferred from L1 to L2 (Cobo-Lewis, Eilers, Pearson, & Umbel, 2002). Thus the reader's oral language abilities in the target language may indirectly influence the way his/her decoding skills contribute to comprehension. Since there has not been much research evidence with regards to this particular relationship, especially for L2 learners in foreign language contexts, further studies are warranted. In doing so, controlling for their L1 reading comprehension abilities and L2 reading fluency deems necessary, in order to take into account their developed L1 reading abilities and L2 phonics skills.

Overall, little is known about whether SVR is valid in explaining L2 learners in foreign language contexts, whose L1 and L2 are typologically distant, orthographically very different (transparent vs. opaque orthography), and phonologically distinct in terms of saliency of phonological units. Furthermore, consideration for additional relevant sub-skills, such as PA and the potential indirect influence of oral language abilities on reading comprehension while taking into account such readers' L1 reading abilities and L2 reading fluency has been rare. Thus, this study was designed to test whether SVR adequately explains reading comprehension of Korean EFL learners and also examine whether PA and oral language abilities play indirect roles through decoding skills while controlling for reading fluency and L1 reading comprehension abilities. The specific research questions this study aims to answer are:

1. Is the simple view of reading (SVR) applicable to the Korean learners of English as a foreign language (EFL) who have limited L2 oral language proficiency?
2. Within the SVR framework, do phonological awareness and oral language comprehension abilities have any indirect effects on L2 reading

comprehension for Korean EFL learners, when their L1 reading abilities and reading fluency are controlled for?

3. METHOD

3.1. Participants

The participants for this study were ninety-five Korean fifth graders (50 boys and 45 girls) from a public elementary school in Seoul, Korea. They had been learning English as a foreign language as a regular subject in school, for about two hours a week, for at least two years. They were from low-middle class families, and none of them reported having lived abroad. Although a small number of them reported having learned English outside school via private tutors and language schools, most of the participants had limited access to natural English exposure. The English classes the participants had experienced in and outside school had largely focused on teaching basic grammar and patterned dialogues. The reading instructions in English had had their emphasis on phonics, and they had had little opportunities to read extended texts in English. All of the participants were reading above or at grade level in Korean.

3.2. Measures

The measures administered in this study included PA tasks, receptive vocabulary, word- and pseudoword reading, oral language comprehension, and reading fluency in English. The participants' Korean reading comprehension abilities and Korean PA in rime and phoneme units were also assessed in order to control for L1 reading abilities and to examine whether L1 PA has any indirect effects on their L2 reading, respectively. Among PA in different phonological units, rime and phoneme units were selected since they are the most salient phonological units for reading in English (Durgunoğlu & Öney, 1999) and since significant correlations between L1-L2 PA have been observed in the same phonological units (Durgunoğlu, 1997; Kang, 2012).

3.2.1. Phonological awareness tasks

The standardized rime matching task (PAL-RW; Berninger, 2001) and phoneme matching task (CTOPP; Comprehensive Test of Phonological Processing; Wagner et al., 1997) were administered to test children's rime and phoneme awareness in English, respectively. Both assessments comprised 10 test items and required them to pick a picture

that rhymed with the word spoken to them (for rime awareness task) and that had the same initial sound as the word spoken to them (for phoneme awareness task) among three different choices. Each correct answer received one point, and the maximum score they could get for both English PA tasks was ten. The reported reliability estimates are above .95 (Wagner et al., 1997).

To assess the participants' Korean PA, rime and phoneme awareness tests were administered. Due to the absence of standardized measures of Korean PA, the PA test battery that was developed by Kim (2008, 2009) and was successfully implemented previously with Korean EFL learners (Kang, 2012) was adapted. The test battery comprises oddity tasks for the two phonological units examined in this study. Each set of tests asked the students to choose the odd word that carried a different sound from the three word choices spoken to them in the target phonological units. For example, for the rime awareness task, they had to choose one word among the three choices of /kal/, /som/, and /kom/, that had a different rime; for the phoneme task, similarly, they were asked to choose the word that had the different beginning sound among three words of /bul/, /bal/, and /tal/. Each word in the test items was shown in pictures (For more detailed explanation and examples, see Kim, 2008 or Kang, 2012). Each of these Korean PA sub-tests contained 15 test items, and each correct answer was given one point. The maximum score one can get for each test was 15. The reported Cronbach's alpha for these two tests were above .87.

3.2.2. Vocabulary

In assessing the students' receptive vocabulary knowledge in English, The Peabody Picture Vocabulary Tasks-III (PPVT-III; Dunn & Dunn, 1997) was employed. Students were instructed to choose the correct picture, among four picture choices, that corresponded to the target word spoken to them. The test was stopped when the student made incorrect choices five times in a row. Each correct item received 1 point. The reported reliability of this test (internal consistency of items) is above .90 (Dunn & Dunn, 1997).

3.2.3. Word reading and pseudoword reading

Word Identification and Word Attack sub-tests of the Woodcock Reading Mastery Tests-Revised (Woodcock, 1987) were used to test the participants' English word- and pseudoword-reading, respectively. After seeing one word at a time, the students were asked to decode the word by reading it out loud. There were 50 test items on the real word reading task and 40 items on the pseudoword reading task. Each correct response was

given one point for both tests. Both sub-tests were terminated upon five consecutive errors. The reported internal consistency reliability coefficients are above .91 (Woodcock, 1987).

3.2.4. Oral language comprehension

The Oral Comprehension subtest of the standardized Woodcock-Johnson III Diagnostic Reading Battery (WJIII; Woodcock, Mather, & Schrank, 2004) was administered as a measure of English oral language comprehension abilities. For this test, the students heard oral passages that range from a short sentence to a short paragraph, presented in order of increasing length and difficulty, and were asked to provide a one-word oral response to complete each unfinished sentence. For example, for a given cloze, "A bird flies, a fish _____", they were to provide "swims" as a correct response. There were a total of 34 test items, and each correct test item gained one point. Responses that were grammatically incorrect (e.g., "swim" instead of "swims"), received partial credits of .5. The test was stopped when they made six consecutive errors. The reported reliability estimates are above .90 (Woodcock, Mather, & Schrank, 2004).

3.2.5. Reading fluency

In assessing students' another print-related skill, namely reading fluency, the Reading Fluency subset of the Woodcock Johnson Diagnostic Reading Battery (Woodcock, Mather, & Schrank, 2004) was administered. This standardized reading fluency test asked the students to read 98 English sentences as quickly as they could and answer either yes or no, pertaining to the truth value of each sentence. Each correct response was credited one point, and the total score was computed by adding the correct number of responses. The reported reliability estimates are above .90 (Woodcock, Mather, & Schrank, 2004).

3.2.6. Reading comprehension

In assessing the students' reading comprehension in English, the Passage Comprehension subtest of the Woodcock Reading Mastery Test-Revised (WRMT-R; Woodcock, 1987) was used. On this cloze-type test, the students were required to read passages silently one at a time, and to provide a response to each unfinished sentence. There is a total of 68 test items, and each correct response scored one point. The test was terminated when the students provided six consecutive incorrect answers. The reported internal consistency reliability coefficients are above .91 (Woodcock, 1987).

In order to control for the participants' L1 reading comprehension in discerning the potential relationship of reading subcomponents to their L2 reading comprehension, a test

of Korean reading comprehension test, Diagnostic Reading Tests for Differentiated Instruction (Kim et al., 2001) was administered. The students were asked to read a 5th grade level narrative passage consisting of 100 words and were asked ten comprehension questions that include both factual and inferential questions. Each correct answer was given one point and thus the maximum possible score one could earn on this test was 10.

4. RESULTS

The descriptive statistics (see Table 1) show that the elementary Korean EFL learners performed well on PA tasks in both Korean and English, answering more than 89% and 86% of the test items correctly, respectively. They also displayed good grasp of decoding skills, reading almost 80% (grade equivalent of second grade) and 63% (grade equivalent of third grade) of the words and pseudowords correctly in English, respectively. Yet, the relatively large standard deviations suggest large variations among the participants' decoding abilities. On the other hand, they seem to have struggled with vocabulary, listening comprehension, and reading comprehension tasks in English. Their average vocabulary knowledge was fairly low, its score being age equivalent of below 3-year-old for English-speaking children. Although we cannot make any direct comparison to English speakers, it should still be pointed out that one cannot expect to comprehend much of reading texts with such small vocabulary size even in L2. Their listening comprehension test score was also strikingly low, answering only 1.67 items correctly on average — despite the low score, however, the skewness was within the acceptable range of normal distribution. On the other hand, they scored an average of 22.72 on the reading fluency test, which is grade equivalent to grade 2.7 for English-speaking children. Thus,

TABLE 1

Means and Standard Deviations of Language and Literacy Measures

Tested Variables	*M* (*SD*)	Minimum	Maximum
Phonological awareness			
Korean phoneme	14.37 (1.44)	7	15
English rime	9.35 (1.77)	0	10
English phoneme	8.63 (2.38)	0	10
English oral comprehension	1.67 (2.32)	0	11
English vocabulary	34.51 (14.53)	8	63
English decoding			
Word reading	39.77 (11.94)	0	50
Pseudoword reading	25.08 (11.22)	1	40
English reading fluency	22.72 (8.80)	7	46
English reading comprehension	9.42 (3.29)	2	22
Korean reading comprehension	9.07 (.93)	5	10

overall, the Korean elementary EFL learners in this study showed fairly well-developed English print-related skills compared to relatively under-developed oral language skills. On the English reading comprehension task, on average, the students answered about 9 test items correctly. On the other hand, they answered over 90% of the test items, on average, on the Korean reading comprehension test correctly, which identifies them as fluent and proficient L1 readers.

TABLE 2

Correlations of Among the Tested Language and Literacy Variables

	1	2	3	4	5	6	7	8	9	10
L2 Phonological awareness										
1. Rime awareness										
2. Phoneme awareness	.50***									
L1 Phonological awareness										
3. Rime awareness	.20*	.26*								
4. Phoneme awareness	.07	.16	.57***							
L2 Language and reading measures										
5. Listening comprehension	.08	.23*	.06	.07`						
6. Vocabulary	.01	.21*	.23*	.16	.33**					
7. Word reading	.16	.32**	.41***	.32**	.27**	.50***				
8. Pseudoword reading	.04	.29**	.31**	.26*	.26*	.45***	.79***			
9. Reading fluency	-.06	.20*	.50	-.01	.16	.13	.25*	.31**		
10. Reading comprehension	-.06	.16	.26*	.06	.17	.56***	.62***	.58***	.33**	
11. L1 Reading comprehension	.11	.03	-.05	-.06	.17~	.09	.16	.11	-.15	-.04

~ p<.10 *p<.05 **p<.01 ***p<.001

Next, correlation analysis was conducted in order understand the potential relationships among the tested variables. As can be seen in Table 2, between the two English PA measures, only phoneme awareness showed significant correlations with both word and pseudoword reading in English. Of interest to note is that neither English PA measures was significantly correlated with reading comprehension. The two Korean PA measures, rime and phoneme awareness, showed significant relations with English word and pseudoword reading. Contrary to the case of English PA, both measures of Korean PA showed significant positive relationships with English reading comprehension. Their English vocabulary knowledge, on the other hand, was significantly related to English decoding

skills, oral comprehension, and reading comprehension abilities. Oral comprehension ability showed significant positive relationships not only with decoding abilities measured through word- and pseudoword-reading, but also with reading comprehension abilities. Their performance on the reading fluency test was significantly related to English print-related measures including word reading, pseudoword reading, and reading comprehension, while it did not show any significant correlations to any oral comprehension.

Overall, English reading comprehension was significantly correlated to English vocabulary knowledge, decoding skills, oral language comprehension abilities and Korean PA, but not to any of the English PA measures. Interesting to note is the significant correlations both Korean PA measures had with English reading comprehension while there was no such correlations observed between English PA and reading comprehension. That is, there was significant cross-language influence of PA on reading comprehension.

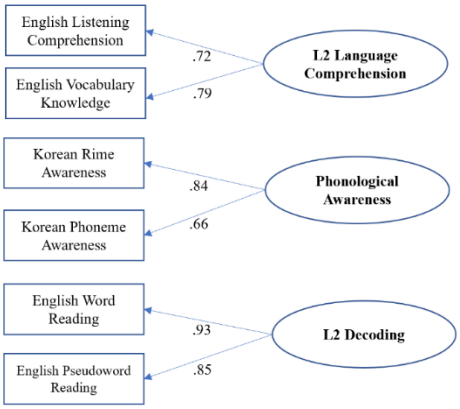
Then structural equation model (SEM) was utilized in order to get an accurate understanding regarding the potential indirect effects PA and oral language abilities may have on reading comprehension and also to assess the adequacy of SVR. Before testing the structural equation model to examine the predictive relationships among oral language comprehension abilities, decoding skills, and reading comprehension abilities, a measurement model using a confirmatory factor analysis was assessed to determine whether the observed variables served as adequate indicators of the latent variables. In this study, three latent variables were considered in the measurement model: PA in L1, L2 oral language comprehension, and L2 word reading. Each latent variable comprised two measures. An alternative model which includes L2 PA as a separate independent construct was also considered, but due to their poor fit, only L1 PA as a latent construct is included in the final model. Considering previous research findings that have identified L1 PA as a stronger predictor compared to L2 PA for L2 reading (Kang, 2012) or as a mutually shared skillset that facilitates L2 reading (Durgunoğlu, 2002; Geva & Siegel, 2000), and also taking into account the stronger correlations L1 PA had with L2 decoding and reading comprehension in this study, this model is deemed suitable in explaining Korean EFL readers' reading comprehension.

All relevant measures loaded significantly on each of the respective latent variables. The fit indices that are less sensitive to sample size were used to assess goodness of fit for the tested model. It is considered a good fit when the ratio between chi-square and degrees of freedom is less than 3 (Cole, 1987; Kline, 2010), and this ratio was .76 for the measurement model in this study. The root mean square of approximation (RMSEA) which indicates a good fit when less than .06 (Hu & Baker, 1999) was .00, and the comparative fit index (CFI), model goodness of fit (GFI), and adjusted goodness of fit (AGFI) which values of .90 or higher indicate a good fit of a model, were 1.00, .98, and .94, respectively, for the measurement model in this study. Thus the fit indices of the

measurement model indicate that the model fit the data well and that the observed variables were adequate indicators of the latent constructs to be tested in the full model.

FIGURE 1

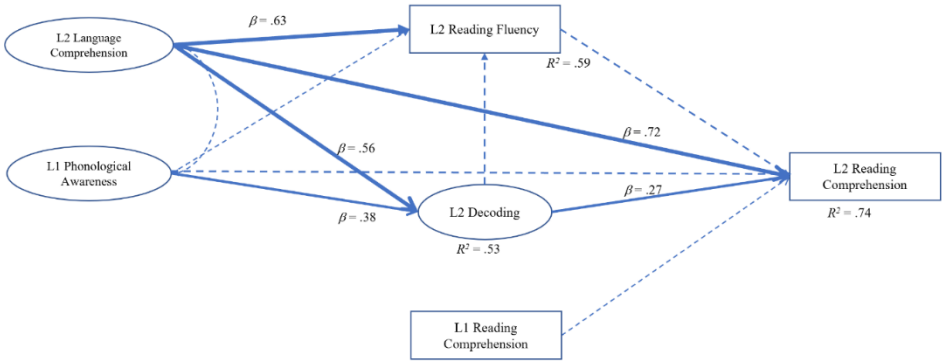
Confirmatory Factor Analysis for the Measurement Model



Upon confirmation of an adequate measurement model, the structural model was tested to examine the predictive relationships among oral language comprehension abilities, PA, decoding skills, reading fluency and reading comprehension abilities (see Figure 2). Reading comprehension was measured with one observed variable (Woodcock Passage Comprehension). Direct paths were drawn from English decoding abilities, English oral language comprehension abilities and reading fluency to reading comprehension, and indirect paths were included from PA and English language comprehension abilities through English decoding abilities and through English reading fluency. The fit indices (CFI = 1.00, RMSEA = .00, GFI = .96) and the ratio between chi-square and degrees of freedom (.86) indicated that the proposed model fit the data well ($X^2_{19} = 16.41$, $p = .63$).

FIGURE 2

Structural Model of English Reading Comprehension of Korean Elementary EFL Learners



While the two control variables, L1 reading comprehension and L2 reading fluency, did not show any significant effects on L2 reading comprehension, it was significantly predicted by both L2 language comprehension abilities and L2 decoding abilities, as suggested by the SVR (All path coefficients presented are standardized). However, decoding skills (ß = .27, $p < .01$) were relatively less predictive of reading comprehension than oral language comprehension abilities (ß = .72, $p < .001$). In addition, the relationship between L2 language comprehension abilities and reading comprehension was direct and was also mediated through decoding skills. That is, L2 language comprehension made an additional indirect contribution to reading comprehension through decoding skills aside from its direct contribution, while English reading fluency did not show any significant contribution when direct and indirect effects of L2 language comprehension as well as direct effects of decoding abilities and L1 reading comprehension abilities were controlled for. About 74% of the variance in students' L2 reading comprehension was explained by the latent regressions.

For English decoding skills, the paths from L2 language comprehension and L1 PA were both significant, with slightly stronger predictive power of L2 language comprehension compared to L1 PA (ß = .56, $p < .001$; ß =. 38, $p < .01$, respectively). In other words, the relationship between L1 PA and L2 reading comprehension and the relationship between L2 language comprehension and L2 reading comprehension were mediated through decoding abilities, thus showing significant indirect effects on reading comprehension through decoding abilities. About 53% of the variance in English decoding abilities were predicted by PA and L2 language comprehension abilities.

5. DISCUSSIONS AND CONCLUSIONS

This study was conducted in order to confirm the adequacy of SVR for Korean EFL learners and to investigate the potential indirect effects oral language comprehension abilities and L1 PA have on their reading comprehension abilities, when their reading fluency and L1 reading comprehension abilities are taken into consideration. The findings confirm that SVR is applicable to Korean elementary EFL learners, as both decoding skills and oral language comprehension abilities were significant indicators of their reading comprehension. Between the two main component skills, however, oral language comprehension abilities were relatively more predictive compared to decoding skills. This finding is in accordance with previous studies that showed similar results with readers in upper grades or with fluent decoding skills (Carver, 1997; Chen & Vellutino, 1997; Droop & Verhoeven, 2003; Gough, Hoover, & Peterson, 1996; Hoover & Gough, 1990; Proctor et al., 2005; Vellutino, Tunmer, Jaccard, & Chen, 2007). For example, Hoover and Gough (1990) demonstrated that for upper-grade students, linguistic comprehension abilities continued to be a strong predictor of reading comprehension in later years unlike decoding skills which had lesser effects. In the same line, Proctor and colleagues (2005) showed that oral proficiency of fourth grade Spanish-English students displayed a more predictive power, compared to decoding skills, in explaining their reading comprehension abilities in English. Thus, past research has evidenced that oral language comprehension abilities play a relatively bigger role compared to decoding skills in explaining reading comprehension of readers who are older and thus have more mature and developed oral language abilities, or those with a good grasp of decoding skills (Lee & Wheldall, 2009). Although the Korean EFL learners in this study were at the very early stage of EFL education, they have developed strong decoding skills, presumably due to the relatively more available opportunities to develop phonics abilities and also to their full development of L1 decoding skills which is known to facilitate the same abilities in L2 (Cummins, 1979). The imbalance between the development of decoding skills and oral language proficiency in English, due to the language learning contexts, may explain the relatively bigger role oral language comprehension plays in reading comprehension for Korean EFL learners. This population is peculiar in that although they are in upper-elementary level and have developed and matured language and literacy skills in L1, their L2 oral language proficiency is remarkably under-developed, while their L2 decoding abilities may be compatible with their English-speaking counterparts in the same grade.

Thus, although the Korean EFL learners were only at the early stage of English instruction, their oral language comprehension abilities deemed to make a more significant contribution to reading comprehension, which is a pattern similar to L1 children's reading development at later grades. As Storch and Whitehurst (2002) explained, "the association

between language and reading performance is greater for older children than for children in the early stages of learning to read . . . As children progress and attempt to comprehend units larger than individual words, oral language skills, particularly semantic knowledge, become increasingly important" (p.935). Thus, the finding from this study shows that SVR not only applies to foreign language learners but also that oral language comprehension abilities has relatively bigger effects on reading comprehension than decoding skills for foreign language learners who has advanced decoding skills and under-developed oral language proficiency.

Another important finding from this study is the significant indirect effects Korean EFL learners' L1 PA have on reading comprehension abilities. This finding is in agreement with previous research findings that showed significant cross-language effects of L1 PA (Erdos et al., 2011; Kahn-Horwitz, Shimron, & Sparks, 2008; Nakamoto, Lindsey, & Manis, 2012), while it contradicts that from Gottardo and Mueller's study (2009). Gottardo and Mueller argued that the lack of significant predictive power of L1 PA on Spanish English learners' L2 reading development in their study is due to the language of reading instructions (L2). However, others identified significant cross-linguistic influence of L1 PA on L2 reading for L2 learners in immersion programs in second language context (Erdos et al., 2011) or did not find any differences in predictors of reading comprehension across different instructional programs (transitional bilingual, English immersion, and dual language programs) (Nakamoto et al., 2012). Based on their analysis, Nakamoto et al. (2012) explained that language of instruction did not contribute independently to the prediction of English and Spanish word decoding skills when oral language and PA were controlled for. In addition, such cross-language influences have also been observed in Hebrew-speaking EFL learners in Israel (Kahn-Horwitz et al., 2008). Then, there may be other explanations for the discrepancies, such as the language in which PA is attained first (Leafstedt & Gerber, 2005; Nakamoto, Lindsey, & Manis, 2012). For example, the EFL learners in this study and Kahn-Horwitz et al.'s study (2008) and the Spanish English learners in Erdos et al.'s study (2011) have already developed PA in their L1 before L2 instruction (in the case of the Korean and Hebrew EFL learners and Spanish English learners in transitional bilingual program) or at least received initial literacy instruction in L1 (in case of Spanish English learners in dual language program in Nakamoto et. al's study). Yet, further studies are warranted to arrive at a firm conclusion regarding the role of L1 PA on reading comprehension abilities in the SVR framework.

Of further interest is the significant indirect effects of oral language comprehension on reading comprehension abilities through decoding skills. The Korean EFL learners' oral language comprehension abilities had both direct and indirect effects on reading comprehension. What is more, their oral language comprehension abilities showed bigger predictive power than PA on word recognition. These findings are in agreement with past

studies that identified oral language abilities as independent predictor of reading achievement apart from PA (Catts et al., 1999; Erdos et al., 2011; Nation & Snowling, 2004; NICHD Early Child Care Research Network, 2005) and those that highlighted the significant indirect effects oral language abilities have on reading comprehension (NICHD Early Child Care Research Network, 2005; Storch and Whitehurst, 2002; Tunmer & Chapman, 2012). At the same time, however, the findings from this study are discrepant from Gottardo and Mueller's (2009) study which did not find any significant indirect effects of oral language abilities and from the general consensus that "phonological processing skills (including phonemic awareness and rapid automatized naming) and measures of working memory in English tend to be more robust and consistent predictors of English word and pseudoword reading skills, and [that] they explain a larger proportion of unique variance than do measures of English oral language proficiency" (Geva, 2006, p. 127). It should also be noted that such consensus are "drawn with more certainty for younger than for older English-language learners. However, the relationship between English oral proficiency and word reading skills (both real words and pseudo-words) has been found to be variable, due, at least in part, to factors related to the assessment of oral proficiency" (pp. 127-128). Thus, the differences in age and measures of oral language abilities, as well as language learning context and language of instruction may explain the discrepancies.

One limitation of this study was that it did not explore the direct effects PA could have had on reading comprehension due to the relatively modest sample size. A further look into both indirect and direct effects PA have on reading comprehension will not only add more evidence to the existing literature on the relationship between the two, but also complement the simple view of reading model by providing a more complete picture of reading comprehension process.

Nevertheless, this study has confirmed the validity of SVR for elementary Korean EFL readers and also identified the significant role L1 metalinguistic awareness (PA) plays in L2 reading. In addition, the significant effects L2 oral language comprehension abilities have on reading comprehension abilities for foreign language learners whose decoding skills are highly advanced in comparison to their under-developed language proficiency has been demonstrated.

Applicable levels: Elementary

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