

**READING COMPREHENSION AMONG PONTIAN GREEK STUDENTS FROM
THE FORMER SOVIET UNION DURING UPPER ELEMENTARY YEARS**

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Reading comprehension skills are viewed as essential not only to academic learning, but also to life-long learning. This study assessed reading comprehension among Pontian Greek elementary students from the Former Soviet Union (Greek FSU-Pontians), one the largest minority groups found in Greek schools frequently identified as demonstrating low academic performance. By assessing Greek FSU-Pontian students' reading comprehension, one potential contributing factor influencing their low academic performance was investigated. A matched sample of 188 students attending the highest three years of Greek elementary school participated: 94 Greek FSU-Pontian students (47 boys, 47 girls) and 94 Greek classmates (47 boys, 47 girls). Youth were assessed using a Greek language acquisition competence test that included two subtests of reading comprehension. Results indicated that these Greek FSU-Pontian students perform similarly to their Greek counterparts on standardized reading comprehension assessments and their proficiency with the Modern Greek language is comparable to native Greek-speaking peers. Implications for the future research are presented.

Keywords: *FSU-Pontian students, bilingualism, diglossia, reading comprehension*

INTRODUCTION

Pontian Greek students from the Former Soviet Union (Greek FSU-Pontians) constitute 1% of the total student population in Greece (Institute for the Greek Diaspora and Intercultural Studies, 2009). Although the overall percentage may be relatively low at the national level, this population is not evenly distributed throughout the country and the highest concentration is in Central Macedonia, part of Northern Greece (IGDIS, 2009; Gotovos & Markou, 2003). Motti-Stefanidi, Asendorpf and Masten (2012) stated that one of the largest immigrant populations in Greece is comprised of Pontian-Greek immigrants from the former Soviet Union whose school performance is just above the failing point.

Comprehension is essential to the development of children's reading skills and consequently to the ability to obtain an education, so reading comprehension is considered vital to both academic and life-long learning (National Reading Panel, 2000). Lesaux, Crosson, Kieffer, and Pierce (2010) report that although the late elementary years are when reading comprehension becomes central to academic achievement and existing research shows that

language minority students have difficulty in this domain, few studies have investigated reading comprehension for this group. The purpose of this study is to assess reading comprehension among Greek FSU-Pontian students in the upper elementary school age as well as the implications of bilingualism in second language literacy.

LITERATURE REVIEW

Immigrant Pontian Greeks from the Former Soviet Union

The Pontians are a group of ancient Greek origin traceable back to the 8th century BC, and who historically constitute one of the most ancient Greek settlements along the Black Sea coast (Χατζησαββίδης, 2012). Many of the Greek residents along the coast of the Black Sea migrated to the Russian Empire over the years of Ottoman domination, resulting in a scattering of the Pontian population across the territories of the Russian Empire where they continued to live up to the 1990s (Χατζησαββίδης, 2012). Following the reformation of the Soviet Union in 1986, about 1.5 million Pontians migrated from the Former Soviet Union to Greece (Papadopoulou & Pickersgill, 2003). Greek FSU-Pontians are a growing population with families still arriving in Greece from the countries of the Former Soviet Union. Due to insufficient instruction in the Greek language available in the Former Soviet Union and their isolation from the mainstream Greek everyday life, FSU-Pontians find it difficult to express themselves in Modern Greek or to interact with the native Greek population (Leze, 2000). Additionally, most Greek FSU-Pontians do not speak Modern Greek (Triandafyllidou, 2000); instead, the languages used to communicate on a daily basis are Pontian or/and Russian (Leze 2000; Papadopoulou & Pickersgill, 2003). The Pontian dialect is the language used by the Greek origin residents of the south coasts of the Black Sea, which has been spoken in the region from ancient times through the 1920's and continues to be used by the descendants of those residents mainly in Greece but in other places outside Greece as well (Χατζησαββίδης, 2012).

The Greek FSU-Pontian student population encounters serious language barriers (Motti-Stefanidi et al., 2012). As school competence heavily depends on the knowledge of the instruction language, insufficient knowledge of the Greek language and subsequent complications comprise one of the reasons behind low school achievement in this population (Motti-Stefanidi, Takis, Pavlopoulos, & Masten, 2008). Motti-Stefanidi et al. (2008) found that Greek FSU-Pontian students demonstrate lower school competence based on the overall measured academics, social competence, and affability behaviors when compared with second-generation immigrant students and their native Greek classmates.

Bilingualism

Any bilingualism-related study is confronted with the problem of defining bilingualism (Kessler & Quinn, 1982). As a result, the term has not been used consistently in either research or theory. Definitions vary across disciplines and many are presented in an overly broad or narrow sense. In this study, bilingualism will be psychosociolinguistically defined as “the alternate use of two languages, either vernacular or standard varieties, manifested in complete and meaningful utterances in each of the languages” (Kessler & Quinn, 1982, p. 54). Another applicable term from sociolinguistics is *diglossia*. According to Ferguson (1959):

Diglossia is a relatively stable language situation in which, in addition to the primary dialects of the language (which may include a standard or regional standards), there is a very divergent, highly codified (often grammatically more complex) superposed variety, the vehicle of a large and respected body of written literature, either of an earlier period

or in another speech community, which is learned largely by formal education and is used for most written and formal spoken purposes but is not used by any section of the community for ordinary conversation. (p. 435)

Fishman (1967) expanded the concept of diglossia by proposing to trace the interaction of the two major concepts of bilingualism (psychology) and diglossia (sociology), and proposed four possible statuses categorizing the relationship between bilingualism and diglossia. The Greek FSU-Pontian population belongs to Fishman's first category in which bilingualism coexists with diglossia. Specifically, the population uses a Greek dialect and Russian as primary languages, whereas Modern Greek is the language of formal education and is used for written and formal spoken purposes (Νικολάου, 2011; Σ. Χατζησαββίδης, personal communication, January 11, 2013).

Reading Comprehension

According to the National Reading Panel (2000), reading comprehension is a cognitive process that integrates complex skills. As Francis (2012) stated, in reading comprehension a number of interacting competencies converge, and are assessed and coordinated very quickly. Additionally, this coordination is influenced by interfaces and processing mechanisms of a different kind; some may be specific to certain knowledge structures and others may be non-specific processors (Francis, 2012).

August et al. (2006) posited that all elements that compose reading comprehension are important -- and the absence or weakness of a single element can constrain the whole process, even if all other elements are abundant. Specifically, reading comprehension breakdowns can be caused by failures in (a) word reading automaticity, (b) familiarity with key vocabulary words in a text, (c) background knowledge presupposed in a text, (d) knowledge of discourse features used in a text, (e) interest in the topic, (f) inference, (g) formulation or recognition of the purpose for reading a text, or (h) lack in self-monitoring or self-correction techniques (August et al., 2006).

Given the multiple elements involved in reading comprehension and its subsequent importance in scholastic success in many content areas, assessing and monitoring students progress in reading is essential. In 2001, Greece took part in the Progress in International Reading Literacy Study (PIRLS), an international comparative study of young students' reading literacy, which evaluates the reading achievement, attitudes, and behaviours of fourth-grade students (or the equivalent) in the United States and other participating countries (Ogle et al., 2003). Results showed that the average score obtained by Greek students was significantly lower than U.S. average (Ogle et al., 2003).

Reading Comprehension and Bilingualism

Learning how to read in one's first language (L1) is a situation that many learners perceive as the norm, although this is not the case for bilinguals (Francis, 2012). As Francis (2012) suggests, for many investigators the circumstances of second language (L2) literacy present the most interesting cases, as they offer the opportunity to investigate linguistic and cognitive variables interacting with social relations.

First language and second languages as predictors of reading comprehension. To date, no studies have been published on how L1 and L2 affect Greek FSU-Pontian's performance in reading comprehension. Elsewhere, studies have been conducted in other bilingual or diglossic

populations on how the language factor affects reading comprehension, and some conclusions can be drawn from this international evidence. Overall, reading comprehension depends on general L2 proficiency (August & Shanahan, 2006). A systematic evaluation of literature by August and Shanahan (2006) suggested that although the relation between English language skills and acquisition of English literacy in bilingual students is much the same as it is for monolingual students, reading comprehension depends on broad English oral language skills (i.e., vocabulary, syntax). School-aged bilinguals may have developed only partial knowledge of the structure of L2 and may still exhibit substantial linguistic errors associated with tense, case, grammatical agreement, word order, pronunciation, and other aspects of the language structure (Mac Swason & Rolstad, 2010). Further, bilingual children may fail to develop fluency in reading skills as their knowledge of syntactic rules and vocabulary may be insufficient to make accurate predictions about the information presented in the text (Kaminsky, 1976).

In research conducted by Lesaux, et al. (2010), native Spanish speakers developing English literacy who were attending elementary school upper grades were assessed in order to investigate the effect of Spanish (L1) and English (L2) oral language and word reading skills on reading comprehension. The researchers concluded that L2 had a significant effect on L2 reading comprehension and that L2 oral language skills have a stronger influence than word reading on both L1 and L2 (Lesaux et al., 2010). They also found that the participants showed limited vocabulary knowledge on both L1 and L2, contributing to their reading comprehension difficulties (Lesaux et al., 2010). The findings align with the concept that reading comprehension depends largely on the child's vocabulary-concept knowledge, and with the universally high correlations found between vocabulary and reading comprehension (Cummins, 2001). In similar research by Gottardo and Mueller (2009), with Spanish-speaking children acquiring English, results showed that oral L2 skills have a large effect on L1 reading comprehension (Gottardo & Mueller, 2009).

Reading comprehension also has been studied in cases of diglossia in the Arab world. Reading difficulties in Arabic in elementary school are usually attributed to the diglossia of the Arabic language, as the spoken language is quite different from literary Arabic, the language of books and school instruction (Abu-Rabia, 2000; Zuzovsky, 2010a). Abu-Rabia (2000) examined the influence of exposure to literary Arabic on students' reading comprehension of literary Arabic. He found that early elementary children who were exposed to literary Arabic had better reading comprehension compared with those children who were exposed only to spoken Arabic. Similarly, in her research on the impact of socioeconomic and linguistic factors on achievement gaps in reading literacy between Hebrew-speaking and Arabic-speaking students in Israel, Zuzovsky (2010b) concluded that Arabic diglossia is the main cause for low reading attainment of Arabic speakers in Israel and indicated that the results can be generalized in other Arabic-speaking countries as well.

Sociocultural and Economic Factors as Predictors of Reading Comprehension.

The term 'sociocultural' comprises a broad and indefinite set of constructs. Research largely addresses sociocultural constructs' contribution to literacy attainment as the product of the interaction between children's home culture and the culture of the school (Goldenberg, Rueda, & August, 2006). Socioeconomic status (SES) seems to play an important role in language development trajectories. As Hoff (2013) stressed in her systematic review of the literature, children from low-SES homes have language development trajectories that are different from those children who come from middle-class homes.

Research on reading comprehension in language-minority children suggests SES is a competing explanation for many research outcomes given the fact that the majority of study participants came from low-income families (i.e., Lesaux et al., 2010). Generally, as noted by Hoff (2003), significant differences in vocabulary and language usage are detected between individuals from low-SES backgrounds and those from middle-class ones.

The Greek FSU-Pontian population lives under greater socioeconomic disadvantage than their Greek counterparts, and although Greek FSU-Pontian parents are relatively well-educated and could probably help their children, many often do not actively support school achievement (Motti-Stefanidi, Pavlopoulos, Obradovic, & Masten, 2008). Motti-Stefanidi et al. (2008) argue that Greek FSU parents are largely disengaged and not involved because parents consider the knowledge acquired at school useless in relation to their children's future employment or possibly because they also work long hours. Cummins and Swain (1986) discussed how a home-school language switch results in (a) high levels of functional bilingualism and academic achievement in middle-class majority-language children, but (b) inadequate command of both languages and poor academic achievement in many minority-language children. Specifically, certain reading comprehension challenges exist for children from low-SES families and for L2 learners as such children typically have smaller vocabularies, less prior knowledge relevant to the texts, and are less familiar with mainstream discourse patterns than higher SES or monolingual readers (August et al., 2006).

CURRENT STUDY

Assessing reading comprehension among Greek FSU-Pontian students is important for several reasons. First, this minority population is one of the largest found in Greek schools (IGDIS, 2009) and often these students are characterized by low academic achievement (Motti-Stefanidi et al., 2012). By assessing Greek FSU-Pontian students' reading comprehension, one possible explanation for their low academic performance is being investigated. Second, no prior published research has been done to explore this domain among these students. The proposed study targets elementary school students in the last three years of elementary school; a period when reading comprehension becomes crucial for mastering other subjects. Indeed, "learning is one of the most important things children accomplish in elementary schools, because it is the foundation for most of their future academic endeavors" (p.237) and for the rest of their academic career, as well as the rest of their lives, students will spend much time reading and learning from information presented as text (National Reading Panel, 2000). Any difficulties identified early can help inform educators about students' needs and serve as a target for intervention for this population.

The primary research question was to determine whether and to what extent bilingualism and diglossia affect L2 acquisition and L2 reading comprehension. More specifically the questions posited are: Have Greek FSU-Pontian youth achieved Modern Greek language proficiency, and how adequately can they read and comprehend a Greek text when compared to their native-Greek classmates?

To answer this, the following hypotheses were formulated. First, it was hypothesized that based on the students' characteristics (bilingualism and diglossia, socio-cultural factors), the Greek FSU-Pontian students would perform lower overall than their Greek peers on a Language Acquisition Competence Test. Second, it was hypothesized that the Greek FSU-Pontian students would obtain lower raw scores on the subtests of reading comprehension when compared with the native-Greek students. Overall, it was expected that the FSU-Pontians' language background

would have an impact on L2 language acquisition and L2 reading comprehension. A notable finding across many reading comprehension studies conducted on bilingual populations is a strong and significant correlation between L2 vocabulary knowledge and L2 reading comprehension for language minority learners (Lesaux et al., 2010). Thus, it is hypothesized that a strong correlational relationship would be found between the raw scores of reading comprehension and vocabulary for each group.

METHOD

Participants

A total of 188 public school students (94 males, 94 females) were recruited from Grades 4 through 6 in Thessaloniki, Northern Greece to participate in the study. Greek FSU-Pontian students who were recruited for the study had already been in the Greek educational system for a minimum of three years. The students formed two matched-pair groups: Greek FSU-Pontian ($n = 94$) and native Greeks ($n = 94$). The sample included 58 fourth-graders, 62 fifth-graders, and 68 sixth-graders. Sample demographics are further detailed in Table 1. According to the information gathered from the parents and the school, participants in both groups are from the same lower-SES community.

Table 1

Gender and Grade Distribution of the Greek FSU-Pontian and Greek Samples

	Grade 4		Grade 5		Grade 6	
	Males	Females	Males	Females	Males	Females
Greek FSU-Pontian	15	14	16	15	16	18
Greek	15	14	16	15	16	18

Note: Total sample $N = 188$.

Measures

Detroit Test of Learning Aptitude (DTLA-4) (Τζουριάδου et al., 2008). The Greek Standardized DTLA-4 was administered to rule out cognitive impairments among participants. The Greek version of DTLA-4 is standardized on the general population for children ages 8.0-15.11 and consists of nine subtests that provide an overall composite and domain composite scores. Language, attention, and manual dexterity tasks are included in the DTLA-4, and subsequent scores such as verbal, nonverbal, attention –enhanced, attention-reduced, and motor-enhanced, motor-reduced composite scores can be obtained. Internal consistency reliability coefficients range from .88 to .95 for the domain composites and it is .98 for the overall composite. Test-retest coefficients across a 3-month interval ranged from .75 to .87 for the domain composite scores and the coefficient for the overall composite was .87.

A-α-T-ω (L-a-T-o) Language Acquisition Competence Test, Level II (Τζουριάδου et al., 2008). Greek language acquisition and reading comprehension were assessed by administering A-α-T-ω, Level II. As there were no similar psychometric tests for use in Greek, the A-α-T-ω was developed and standardized in the Greek using a representative sample of Greek students

ranging from ages 4.0-15.11 years. The Λ - α -T- ω is a language acquisition test that measures the acquisition process in reception, organization and expressive language, and provides composites in the three language modalities: the conceptual, the grammatical, and the phonological. Level II is for children ages 8.0-15.11 years and consists of seven subtests including two subtests that assess reading comprehension and another two for vocabulary.

The first reading comprehension subtest required students to read seven short passages. The second reading comprehension subtest was comprised of two parts and it evaluated comprehension at the sentence level. The first part required the students to read words presented in a random order and put together sentences. The second part asked the students to read sentences and transform present tense to past tense. Students were asked to respond to five multiple-choice questions for each passage. During the first vocabulary subtest, the students were presented with two words and asked to describe similarities between these words. The second vocabulary task required students to provide definitions for words of increasing difficulty.

Internal consistency reliability coefficients for Level II ranged from .86 to .94 for the domain composites to .97 for the overall composite. Test-retest coefficients ranged from .74 to .85 across a 3-month interval for the domain composite scores, and for the overall composite score the test-retest coefficient was .86. Content validity was initially demonstrated through careful documentation of subtest and item selection and analysis. The developmental nature of the criterion is demonstrated by the positive significant correlations between subtests and chronological age.

Procedure

For the data to be collected, informed consent was obtained from parents prior to the assessment procedure and parents were encouraged to share their current employment information. Students attending public schools in the urban area of Thessaloniki, Greece were asked to participate in the study. The neighbourhoods in which the schools were located are underprivileged or lower socioeconomic status. Data collection was initiated in February 2010 and was completed in February 2013. In the first stage, demographic information about the Greek FSU-Pontian students was collected and the criterion of being in the Greek educational system for at least 3 years was set in place (Cummins, 1996). In a second stage, Greek FSU-Pontian students and their native Greek classmates were administered DTLA-4 in order to check for any intellectual disabilities or learning difficulties. The students who scored average and above were then administered Λ - α -T- ω . The collected data provided the extant database used for this study.

The extant data included a total of 235 cases with 129 Greek, 96 Greek FSU-Pontian, and 10 Albanian students. First, the Albanian participants (10) were eliminated, as were Greek (17) and Greek FSU-Pontian (2) students whose IQ score fell above the High Average range (IQ score ≥ 120) or below the Low Average range (IQ score ≤ 80). Further, Greek students (4) who were identified as having Learning Disabilities were also excluded from the analyses. The next step was to match the Greek FSU-Pontians with the Greek comparison group on the variables of gender and grade level, with an effort to keep the two groups' mean overall DTLA-4 score approximately equivalent. From the 108 Greek students that met the above criteria, 94 were selected as a match for one of the Greek FSU-Pontian participants.

RESULTS

To answer the first hypothesis regarding the extent to which the Greek FSU-Pontians acquired Modern Greek language proficiency in comparison to their native-Greek classmates, an ANCOVA was conducted on the $\Lambda\alpha\tau\omega$ overall scores. Ethnicity with two levels (Greek and Pontian) was the between-subjects factor, and to account for any differences in cognitive ability the student's DTLA-4 overall score was used as a covariate. No statistically significant interaction between ethnicity and DTLA-4 overall score emerged, indicating that the within regression lines have the same slope across the two groups. Moreover, the assumption of homogeneity was met, Levene's $F = .311, p = .578$. As the ANCOVA assumptions were met, a main effects analysis was conducted. Mean scores showed that Greek FSU-Pontians obtained slightly lower scores ($M = 89.14$) than their Greek classmates ($M = 94.31$); however, the main effect for ethnicity on $\Lambda\alpha\tau\omega$ scores was not statistically significant, $F(1,185) = 3.092, p = .08$.

To answer the second hypothesis of how Greek FSU-Pontians' reading comprehension differed when compared to their native Greek classmates, ANCOVA was again applied. Ethnicity with two levels was the between-subjects factor and the student's DTLA-4 overall score was used as a covariate to account for any differences in cognitive ability on the reading comprehension subtests scores. First, an ANCOVA was conducted for the two individual subtests. An interaction between the covariate (DTLA-4 overall score) and ethnicity was not found for both reading comprehension subtests, indicating that the within regression lines have the same slope across the two groups for both subtests. Moreover, the assumption of homogeneity was met for both reading comprehension subtests, Levene's $F = 1.177, p = .279$ and Levene's $F = 0.87, p = .769$ for the first and second subtests, respectively. As the ANCOVA assumptions were met, a main effects analysis was conducted. Main effects for ethnicity on the two reading comprehension tasks were not statistically significant, indicating that the mean score differences were equivocal, $F = .952, p = .331$ and $F = 1.735, p = .189$ respectively. Moreover, the mean scores showed that Greek FSU-Pontians obtained lower scores ($M = 20.32$) than their Greek classmates ($M = 21.63$) on one subtest of reading comprehension whereas they obtained higher scores ($M = 6.00$) than their Greek classmates ($M = 5.69$) on the other subtest. Further, the raw scores of the two subtests were transformed into z scores and were summed and averaged to provide an overall reading comprehension composite.

The reading comprehension composite score was analysed in a third ANCOVA to determine whether the performance of the two groups was significantly different. No interaction were found between the DTLA-4 overall scores and the overall reading comprehension composite score, suggesting that the within regression lines have the same slope across the two groups. Additionally, as the homogeneity assumption was met, Levene's $F = .582, p = .446$, the ANCOVA assumptions were met for this analysis. No significant difference was found between the two groups, $F = .749, p = .338$.

Table 2
ΛαΤω Overall Score's and Reading Comprehension Subscores' Means and Standard Deviations for the Greek FSU-Pontian and Greek Samples

Ethnicity	Reading Comprehension Subtest					
	ΛαΤω Overall		1		2	
	Greek FSU- Pontian	Greek	Greek FSU- Pontian	Greek	Greek FSU- Pontian	Greek
<i>M</i>	89.14	94.32	20.32	21.63	6.00	5.69
<i>SD</i>	13.07	14.94	4.68	5.74	3.20	3.39

Note. Respective means are for 94 matched pairs, total *N* = 188.

The relationship between the vocabulary and reading comprehension subtests' scores within each group was investigated using Pearson's correlation coefficients (*r_x*) as presented in Table 3. Based on these analyses, a strong, statistically significant correlation (*p* < .01) was found between all four subtests for both groups.

Table 3
ΛαΤω Scores' Pearson's Correlation Coefficients (r_x) for the Greek FSU-Pontian (n = 94) and Greek Groups (n = 94) by Vocabulary and Reading Comprehension Subtest

		1	2	3	4
1.	Association Vocabulary	--	<i>.507**</i>	<i>.336**</i>	<i>.405**</i>
2.	Oral Vocabulary	<i>.573**</i>	--	<i>.511**</i>	<i>.564**</i>
3.	Reading Comprehension Subtest 1	<i>.460**</i>	<i>.466**</i>	--	<i>.551**</i>
4.	Reading Comprehension Subtest 2	<i>.472**</i>	<i>.400**</i>	<i>.551**</i>	--

Note. Greek FSU-Pontian students' coefficients are italicized and above the diagonal; Greek students' coefficients are below the diagonal.

. **p* < .05, ***p* < .01 (two tailed).

In order to measure the effect of gender within each group and between groups, a 2 x 2 factorial ANOVA was conducted. Effects of ethnicity (2) and gender (2) on the overall reading comprehension score were estimated. The requirement of proportional frequencies and the assumption of homogeneity were met, Levene's *F* = .732, *p* = .534. No significant interaction was found between the variables of ethnicity and gender, *F* = 1.237, *p* = .268. The database was then split by ethnicity and a one-way ANOVA was conducted to measure the main effect of gender on the overall reading comprehension composite across the two levels of ethnicity. No main effect of gender across levels of ethnicity on reading comprehension emerged.

DISCUSSION

The results of the study indicate that the Greek FSU-Pontian youth sampled have achieved Modern Greek language proficiency comparable to their native Greek classmates and they can adequately read and comprehend a Greek text. Results do not align with Motti-Stefanidi et al. (2012) statement that this student population encounters serious language barriers, at least when assessed by standardized measures of language acquisition and competency.

Language and Reading Comprehension Outcomes

Current results reveal that differences between these ethnic groups on the overall $\Lambda\alpha\tau\omega$ score are not significant, and that after controlling for cognitive ability and SES, Greek FSU-Pontian students have acquired Modern Greek language at the same level as their native Greek classmates. Moreover, when controlling for the same confounding variables, Greek FSU-Pontian students performed at the same levels as their Greek counterparts on reading comprehension tasks. Prior work by Zuzovsky (2010b) provides two possible explanations for the observed poor reading literacy in Arabic-speaking students in Israel compared to Hebrew-speaking students: socioeconomic factors and diglossic, language-related factors. Her research found that after controlling for several socio-economic variables, Arabic-speaking students still demonstrated poorer reading literacy than the Hebrew-speaking students, although the achievement gap had decreased. Current findings show that after controlling for SES, reading comprehension and language acquisition scores do not differ significantly. The results do not confirm the hypotheses originally posited. Notably, as Montrul and Potowski (2007) argue, the language acquisition process and outcomes for bilingual children are not direct and clear-cut as may be presented in theory. For example, this may be due to reasons such as the sociopolitical status of the languages that are investigated that can affect the linguistic environment and the input to which children are exposed. Additionally, Zuzovsky (2010b) argued that a large body of research supports socioeconomic variables as a primary reason for the existence of reading literacy deficits.

Vocabulary

Prior research has repeatedly indicated that reading comprehension largely depends on the child's vocabulary-concept knowledge, and that high correlations are to be found between vocabulary and reading comprehension (Cummins, 2001). The results of this study confirm the third research hypothesis and align with this literature as the two vocabulary subtests and the two reading comprehension subtests were highly correlated with one another for each of the two groups. Further, the results align with other findings that a strong and significant correlation exists between L2 vocabulary knowledge and L2 reading comprehension for language minority learners (Lesaux et al., 2010).

Limitations

Several limitations characterize this study. Student's first language competency was not assessed -- more specifically, the extent of L1 attrition or incomplete L1 acquisition was not available. Montrul (2008) argues that some language minority children can be characterized as having an incomplete L1 acquisition while others could switch their language use completely to their L2, thus almost completely losing their L1. One potential explanation for the results is first language attrition. If L1 is not supported through schooling -- as occurs for the student population of this study -- language minority children have different language experiences in

their L1 compared to their peers who speak the same L1 in the country of origin (Paradis, Emmerzael, & Sorenson Duncan, 2010). Eventually, students become dominant in the L2 through a process that depends on the size of the L1-speaking community as well as the age of onset for L2 (Montrul, 2008). If there were data collected on all languages, then a determination of which language was the dominant language for this sample could have been made and that could possibly have contributed to better understanding and interpretation of the findings.

Another limitation is the sample size of the study. With the matched sample of 94 students in each group across three grades, data analyses showed that grade level did not affect the results as no significant interaction between grade and other variables emerged. Moreover, no information regarding student's current academic performance (i.e., grades, achievement measure scores) or teacher input was available to this researcher.

FUTURE RESEARCH

Additional studies that can determine the proficiency level of every language used by the students, as well determine which language is the dominant, would be beneficial. Determining the dominant language could have further implications for this student population that currently is believed to encounter serious language barriers (Motti - Stefanidi et al., 2012). Another dimension that could have promising outcomes with respect to this population's schooling is to investigate their academic achievement and teacher perceptions about their educational as well as socio-emotional functioning. Given that the school performance of this population is considered just above the failing point (Motti-Stefanidi et al., 2012), it would be interesting to investigate these variables that in the educational literature are associated with underachievement.

Another direction for future research is repeating this study with other language minorities that are found in the Greek educational system (e.g., Albanian) or with special populations such as children diagnosed with a specific learning disability. The goal would be to compare the student subgroups and see if there are any differences between outcomes. Finding differences or not in outcomes may help to identify challenges specific to each group and provide a better understanding on how to approach them.

CONCLUSION

This study focused on assessing Greek FSU-Pontians' reading comprehension performance and investigating their Greek language competency in comparison with their Native Greek classmates'. Findings indicate that FSU-Greek Pontian students attending late elementary school can perform as well as their Greek counterparts on reading comprehension standardized assessment tasks after controlling for cognitive ability and SES. Further, evidence suggests this language minority group has achieved Modern Greek language proficiency given that they perform at similar levels to their native Greek classmates. This finding does not align with prior findings that Greek FSU-Pontians face substantial language barriers. As predicted, the vocabulary subtests had high correlations with the reading comprehension subtests, aligning with previous similar findings. Finally, gender did not significantly affect the students' performance on the reading comprehension tasks. This study demonstrated the effects of monolingual education in bilingual students. Additionally, it seems that this type of inclusive education can facilitate the development of L2. Thus, based on the results of this study, teachers and educators can have greater expectations from their language minority students. Future research would benefit from the investigation of L1 status for this language-minority school-aged population.

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