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Differences in Reading Attitudes and Preferences between Gifted and Non-gifted Elementary Students

Abdulkadir Bahar [1], Ahmet İhsan Kaya [2], Feyza Bahar [3]

Abstract

Understanding students' abilities, attitudes, and preferences would provide educators with significant capability while designing programs and materials that are addressing participants' needs and interests. A primary purpose of this study was to document the differences in reading attitudes and preferences between gifted and non-gifted children. In this study, a quantitative research method was employed and the numerical data were collected using a cross-sectional survey design. The summary of the MANOVA analysis indicated no significant differences in the academic and recreational reading attitudes between these gifted (n=112) and non-gifted students (n=390). Different from reading attitudes, the summary of the chi-square tests of independence indicated significant differences in reading preferences between them. There has been no prior research on Turkish gifted students' reading attitudes and preferences. Therefore, the findings of this study remain crucial for Turkish education and literature. The authors recommend that future researchers should analyze reading attitudes and preferences of gifted and non-gifted students longitudinally so that they can observe changes in their attitudes.

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Introduction

Competency in reading represents an essential skill for functioning especially in modern world. Holden (2004) defined reading as an important gateway to personal development, and that of a social, economic, and civic life. Although reading is a crucial activity for people, not everybody is willing to read. To answer why some people chose to read for pleasure or academic purposes while others did not, many researchers (Guthrie & Alvermann, 1999; Hidi, 2000; Mazzoni, Gambrell, & Korkeamaki, 1999; Ross, McKechnie, & Rothbauer, 2006; Rane-Szostak & Herth, 1995) studied reading attitudes and preferences of readers.

Gifted students' development of positive attitudes toward reading has been a consistent theme in literature (e.g., Dooley, 1993; Levande, 1993). Fostering the optimum level of reading motivation for developing gifted readers' abilities could depend heavily on providing reading materials that appeal to students' personal interests (Cavazos-Kottke, 2006). Researchers who studied reading programs for the gifted recommended that gifted readers be given some freedom to shape their own literacy

[1] University of Wisconsin - Stevens Point, School of Education, USA, kbahar@uwsp.edu

[2] Gaziantep University, Faculty of Education, Turkish Language Education Department, Turkey, ikayagantep@gmail.com

[3] Vizyon College, Istanbul, Turkey, feyzayurt@hotmail.com

development by self-selecting personally interesting reading materials for a variety of purposes (Carr, 1984; Jeter & Chauvin, 1982; Renzulli & Reis, 1997).

Theoretical Framework

The theoretical framework of this study was rooted in Renzulli's (1977) The Enrichment Triad Model. This model has provided encouragement for enjoyment in learning and the opportunity to pursue creative work by exposing students to various topics, areas of interest, and fields of study (Renzulli, 1977).

Three types of enrichment were included in the Enrichment Triad Model. Type I enrichment was designed to expose students to a wide variety of topics, issues, and activities not ordinarily covered in the regular curriculum. Type I enrichment was addressed through the use of exciting read-aloud books, stories, and chapters that the teachers purposefully selected to develop and stimulate student interests. Selections from literature representing various genres (non-fiction and fiction) were read aloud to promote enjoyment in reading and listening. Type II enrichment involved teaching methods designed to promote the development of thinking and feeling processes, such as creative thinking, problem solving, and communication skills. In addition to these skills, Type II training involved critical thinking, affective processes, and skills in the appropriate use of advanced-level reference materials, and skills in written, oral, and visual communication. Type III enrichment provided opportunities for students who were interested in particular topics to pursue self-selected areas of study for more intensive individual or small group involvement. Type III studies also provided opportunities for applying interests, knowledge, creative ideas, and task commitment to a self-selected problem or area of study, as well as opportunities to acquire advanced level understanding of the knowledge (content) and methodology (process) that are used within particular disciplines.

Using the Enrichment Triad Model as a framework, the authors of this study highlighted the importance of differentiation of instruction and reading programs in education of gifted learners. In his model Renzulli considered gifted students' strengths and interests and analyzed reading instruction that was delivered through the use of educational pedagogy for gifted students, including curricular differentiation (both acceleration and enrichment) as well as instructional differentiation. This differentiation of instruction in reading was critical as a wide variation existed in the range of reading levels in most elementary and middle school classrooms (Renzulli, 2010).

Reading Attitude and Giftedness

Reading attitudes have been defined as feelings toward reading that result in approaching or avoiding reading tasks (Cooter & Alexander, 1984). Students' attitudes toward reading was found to impact literacy achievement and their willingness to engage with literacy-related activities in the primary years of schooling (Black, 2006; McKenna, Kear, & Ellsworth, 1995; Worthy, 2002). For example, McKenna et al. (1995) found that students with more negative attitudes toward reading engaged less often with texts and generally achieved levels lower than their peers. Worthy (2002) studied the relation between attitudes toward reading and achievements in literacy and found that students who engaged more regularly with reading achieved significantly higher results than students who engaged with it less regularly. How children feel about reading has been intimately related to their success at it, and because their reading attitudes develop in early childhood, elementary school years have been evidenced crucial (McClendon, 1966).

Several researchers identified variables and environmental factors that influence the development of positive attitudes toward reading (Bintz, 1993; Kubis, 1996; Mason, 1967; Spiegel, 1994). Bintz (1993) found that students who regarded reading as an attractive and preferred activity identified positive role models, such as parents, grandparents, siblings, friends, neighbors, and other relatives as being responsible for their love of reading. Spiegel (1994) investigated the characteristics of parents of successful readers, and found that parents' attitudes toward reading significantly affected the development of the students' positive attitudes toward reading. Furthermore, some prior studies found that children's early home literacy experiences (sources and activities) and parents' reading habits significantly related to children's reading attitudes (Evans & Shaw, 2008; Padlick-Field, 2011; Weigel, Martin, & Bennett, 2010).

More specifically, few researchers studied how gifted and non-gifted learners differed in attitudes toward reading (Kennedy & Halinski, 1975; Ley & Trentham, 1987; McKenna et al., 1995; Parker, 2004; Worrell, Roth, & Gabelko, 2007). Gifted students in secondary schools were found to hold more positive attitudes toward reading than the non-gifted students (Kennedy & Halinski, 1975). Similarly, gifted students in seventh and eighth grade were found to have significantly higher reading attitude ratings than non-gifted ones on the Mikulecky Behavioral Reading Attitude Measure (Ley & Trentham, 1987). Ley and Trentham (1987) related higher reading attitude ratings on this measure to higher positive attitudes toward reading and concluded that gifted students had greater positive attitudes toward reading than their non-gifted counterparts. Although these researchers asserted that gifted students' attitudes toward reading were more positive than non-gifted students', they only observed middle and high school students.

McKenna et al. (1995) examined the relationship between students' attitudes toward reading and teacher ratings of students' abilities to read in a sample of first through sixth graders. The researchers found that academic, recreational, and total attitude scores correlated significantly with teachers' ratings of reading abilities. To compare gifted students and their counter-parts, Worrell et al. (2007) investigated the reading attitudes of academically talented students attending an academic summer program. They compared talented students' reading attitudes with McKenna et al.'s (1995) general norm group and the study showed that talented students had more positive attitudes toward reading than general norm group. In a similar study, Parker (2004) studied how gifted elementary students' attitudes toward reading differed from the non-gifted ones. Different from McKenna et al. (1995) and Worrell et al. (2007), Parker found no significant differences between these groups. Although several researchers focused on the differences in reading preferences between the gifted and non-gifted readers, the findings were inconsistent and the studies were dated.

In the Turkish context no prior studies focused on the differences in reading attitudes between gifted and non-gifted students. Nevertheless, few researchers investigated the reading attitudes of children independent from their giftedness (Altun, 2013; Kotaman, 2008; Yücel, 2005). Yücel (2005) investigated 323 Turkish preschool children's reading attitudes across groups of age, gender and socioeconomic status. Yucel's findings indicated that older children showed higher reading attitude scores than younger children while children's reading attitude scores did not differ significantly across gender and socioeconomic status. Kotaman (2008) investigated the effects of parents' dialogical story book reading on children's reading attitudes. According to his findings, the children who were read story books dialogically by their parents had higher reading attitudes and vocabulary scores than children who were not.

One of the most comprehensive studies regarding Turkish children's reading attitudes was conducted by Altun (2013). In her study, she investigated how children's reading attitudes differ across gender, parental educational levels, household income, schooling, and number of books at their home. Altun's findings indicated no statistically significant gender differences in preschool children's reading attitudes. Different from gender, she found that the children's reading attitudes increase as the parental educational level, household income, amount of schooling, and number of books at their home increases.

Reading Preferences and Giftedness

Reading preference refers to the kinds of texts a person might like to read, whether or not he/she has read similar texts in the past (Harris & Sipay, 1990). Reading preference is also described as a broad concept that encompasses an individual's established reading interests, as well as the kinds of texts that might attract an individual's attention and spark situational interest (Cavazos-Kottke, 2006). In this study, we defined 'reading preference' as a preference of a child to characterize the kinds of genres the participants might like to read.

Several researchers studied how gifted and non-gifted learners differed in the kinds of texts they liked (Anderson, Higgins & Wurster, 1985; Baskın & Harris, 1980; Halsted, 1994; Harris & Sipay, 1990; Hawkins, 1983; Swanton, 1984). For example, Hawkins (1983) found newspapers and magazines to be a significantly popular genre among the gifted than the non-gifted readers, but no marked

differences were observed in other genres. Swanton (1984) found that gifted readers were more likely to prefer imaginative fiction (sci-fi and fantasy) and sports fiction than their non-gifted counterparts, while both groups named mysteries as their favorite genre. Anderson et al. (1985) found that humor was a more popular genre among the gifted than the non-gifted students but no significant differences were observed in other genres. In another study, Baskın and Harris (1980) found that nonfiction was more popular among the gifted readers but no significant differences were found in other genres. Although several researchers focused on the differences in reading preferences between the gifted and non-gifted readers, the findings were inconsistent and the studies were dated.

Gifted Education in Turkey and the Function of the Science and Art Centers (BILSEM)

The official education of gifted learners in Turkish public and private schools have started with the establishment of Science and Art Centers (BILSEM). These centers were established to develop, implement, promote, and support educational opportunities for gifted and talented students as well as to provide support for parents and educators. Students who are identified as gifted, attend programs in BILSEM, and these programs are designed as after school programs at elementary and secondary levels. Students in BILSEM take advanced programs that included one class hour (40 min.) lessons in Turkish, English, Math, Art, Music, and Science per week.

BILSEM programs were prepared as modules that were student-centered and cross-disciplinary (MEB, 2007). They were developed to enhance students' creativity, problem solving skills, and higher level thinking abilities (MEB, 2007). In addition, these programs were prepared to encourage students to acquire a higher level knowledge through advanced studies in any discipline. The process to identify gifted children for BILSEM programs had several steps:

a. **Teacher nomination:** Every year BILSEM send observation forms to elementary public/private schools. Teachers are asked to nominate children who are in grade 1 to 4 by using the observation forms including a checklist of characteristics. Teachers observe students when they were involved in activities that were open-ended and required complex thinking and other behaviors. Students who are nominated by their teachers are invited to take a group administered intelligence test.

b. **Group administered aptitude test:** After all of the nomination information is collected, the identification committee determine which students are invited to the group administered aptitude test. The group test, which is administered on all over the country at the same time, is designed to measure test-takers' numerical, verbal, and spatial reasoning abilities. The test includes three sub-tests named Language Art (in Turkish), Mathematics, and General Aptitude. Each subtest is comprised of multiple choice problems. The students who score above the pre-set point nationwide at their grade level qualified to take the individually administered intelligence test.

c. **Individually administered intelligence test:** At this stage, invited students are administered Weschler Nonverbal Scale of Ability (WNV) test. WNV is a nonverbal measure of ability for individuals in the age range 4-21. The test incudes six subtests including Matrices, Object Assembly, Coding, Recognition, Spatial Span, and Picture Arrangement. Students who score above a pre-set point from WNV are placed into BILSEM program.

Significance and Purpose of the Study

Anderson et al. (1985) reported that studies of reading attitudes and preferences of gifted learners would provide the information needed to develop educational and home environments crucial to maintain or improve reading capacities of gifted readers. However, since then only few researchers studied differences between the reading attitudes and preferences of gifted and non-gifted learners (Anderson et al., 1985; Baskın & Harris, 1980; Cavazos-Kottke, 2006; Halsted, 1994; Harris & Sipay, 1990; Hawkins, 1983; Kennedy & Halinski, 1975; Ley & Trentham, 1987; McKenna et al., 1995; Parker, 2004; Worrell et al., 2007), and findings across the studies have been inconsistent and only a couple were conducted at elementary level. Furthermore, no prior researchers studied Turkish gifted students' reading attitudes and preferences. For these reasons, the findings of this study provide valuable information for education of all gifted learners as well as education of Turkish gifted students.

Considering the specific attitudes and preferences of gifted children, educators can redesign their reading programs for gifted learners (Witty, 1971). The importance of designing reading programs appropriate to students' abilities, attitudes, and interests is evident when considering that a major portion of the school day involves reading activities of one kind or another (Cassidy, 1979).

The purpose of this study was to document the differences in reading attitudes and preferences between gifted and non-gifted learners. In this study, the authors investigate self-reported reading attitudes and preferences of elementary school students in Turkey. Two major research questions have guided the study:

1. Do gifted and non-gifted learners have differences in attitudes toward academic and recreational reading, after controlling the effects of household income, parents' education level, and program effect?

2. Do gifted and non-gifted learners have differences in the types of reading preferences, and if so what are they?

Method

Research Design and Setting

In this study, a quantitative research method was employed and the quantitative data were collected using a cross-sectional survey design. The rationale for this approach was to receive general and concrete answers to the research questions while the cross-sectional survey design provided information to learn about the differences in reading attitudes and preferences between gifted and non-gifted learners. According to Burns, Lee, and Vickers (2006) in quantitative research, numerical data are used and statistical analyses are employed to obtain information about the world, giving the opportunity to describe and examine possible relationships among variables. The cross-sectional survey design also provided an opportunity for researchers to make inferences about the participants at one point in time (Creswell, 2003).

This study was conducted in a southeastern city of Turkey. The gifted students who participated in the study were attendees of the BILSEM center from 54 different public/private schools in the city. To conduct the study in the BILSEM center and schools, permissions were received from the National Education Ministry and the City Education Council.

Participants and Sampling

A purposive sampling method was used to select the participants. All of the students at the BILSEM center were invited to the study and over 90 percent of these gifted students participated in. The gifted participants comprised of 112 students in grades 2 to 6 from 54 schools. The non-gifted participants of the study were the classmates (who attend the same school) of the gifted participants. By considering the fact that in Turkey students who attend the same school usually represent similar socio-economic backgrounds, the researchers only invited the non-gifted classmates of these gifted students to the study because they wanted to minimize the possible effects of students' socio-economic differences on the attitudes and preferences. Finally, the participants consisted of 501 students (112 gifted and 389 non-gifted) in grades 2 to 6 from 54 schools. Table 1 presents a detailed gender and grade level distribution of the participants.

Table 1. Gender and Grade Level Distribution of Gifted and Non-Gifted Participants

Grade	Gender	Non-gifted	Gifted	Total
2	female	25	6	31
	male	29	3	32
3	female	54	19	73
	male	46	20	66
4	female	32	17	49
	male	39	14	53
5	female	30	8	38
	male	28	11	39
6	female	52	6	58
	male	55	8	63
Total		390	112	502

Instruments

The authors designed a survey to answer the research questions. The survey consisted of three parts. The first part of the survey was designed to determine the socioeconomic and family background of the participants. This part included items such as participant's date of birth, school, grade level, mother's and father's education level, income and occupations.

The second part of the survey was the Turkish translation of the Elementary Reading Attitude Survey (ERAS). The ERAS part of the survey was used to measure participants' reading attitudes.

The third part of the survey was designed by the authors to measure the reading preferences of participants and included four items. The first three items were designed to measure students' reading preferences for types of genres and texts. The fourth item in this part was designed to find out what and who motivated participants for reading. The data collected from the fourth item of the third part was used for another study and was not included in the analysis of this study.

ERAS. The Elementary Reading Attitude Survey, designed by McKenna and Kear (1990), was a 20-item instrument to measure both recreational and academic reading attitudes of primary aged students (McKenna & Kear, 1990). Each item of the ERAS had a four point Likert pictorial rating scale that had the Garfield character with four different facial expressions ranging from very happy to very upset.

This survey was a norm-referenced measure that included 20 items about reading. Ten of the items related to recreational reading, while the other ten related to academic (school related) reading. Examples of recreational items on the survey have been given below.

"How do you feel when you read a book in school during free time?"

"How do you feel about reading for fun at home?"

Examples of academic items have been given below.

"How do you feel when the teacher asks you questions about what you read?"

"How do you feel when it's time for reading class?"

The ERAS was administered to 18,138 students in grades 1 to 6 from 95 school districts across 38 states in the United States. The reliability and validity of the Elementary Reading Attitude instrument was established using statistical analyses. Recreational subscale alpha coefficients of the ERAS ranged from .74 to .87, and the academic subscale alpha coefficients ranged from .81 to .83 (McKenna & Kear, 1990). These coefficients indicated acceptable levels of internal consistency (reliability) of the instrument. To test the construct validity of the ERAS, the authors conducted factor analysis. The authors also conducted the unweighted least squares method of extraction followed by a varimax rotation and they established the instruments' construct validity as two discrete subscales of reading attitude were highlighted (McKenna & Kear, 1990).

The Turkish translation of the ERAS was not available before this study. First the authors translated the survey into Turkish and then they evaluated its reliability and validity. The content validity and wording of the Turkish translation of the ERAS was checked by one professor in the field of Turkish literature, one certified Turkish elementary teacher, and one Turkish doctoral student in the field of educational psychology. The purpose of this review was to determine whether the survey items were relevant for Turkish students for what they were constructed to measure. The authors made some minor changes on the wording of the translation based on the feedback of the professionals. However, they did not attempt to change the format and content of the items.

To examine the inter-reliability of the Turkish translation of the survey, the authors analyzed the survey results that were administered to 125 students to in grades 2 to 6 from 5 schools. The reliability test was applied by calculating Cronbach's alpha on the items to measure the inter-item reliability. The cronbach's alpha coefficients of the recreational subscale and the academic subscale were 0.73 and 0.76 respectively. Although these coefficients were lower than the survey's inter-item reliability values of the measure in the U.S., they were acceptable levels of internal consistency (reliability) for the instrument.

Data Collection

After receiving permission to conduct the study from the National Education Ministry and the City Education Council, the surveys were delivered to the schools at the end of the school year (late May and early June). Each teacher was provided a survey packet that contained an introductory letter with detailed instructions for administering the surveys and copies of the survey. The survey was distributed to the students and instructions were given by the homeroom teachers. Students were told that they were not being tested and no answers would be right or wrong. Also students were told not to put their names on the paper.

Each part of the survey was explained clearly by the teachers. The students were asked to print answers for the first part of the survey. For the second part of the survey, which is the Elementary Reading Attitude Survey (ERAS), students were told to circle only one of the four Garfield drawings that was closest to their own feelings about reading based upon the statement. Teachers also discussed the moods of Garfield to make sure students understood how to respond to the items in this part. For the third part of the survey each student was told that he/she could mark more than one choice or print a free response choice if he/she needed. Each participant completed the survey in 10 to 25 minutes.

Operational Definitions

Parents Education Level. At the first part of the survey, each participant was asked to choose his/her mother's (MEL) and father's (FEL) education level. The education levels included seven possible options from being illiterate to having diploma from a graduate program. These options are coded from 1 to 7 as 1 representing the lowest education level (illiterate) while 7 represents the highest (having diploma of grad) level.

Household Income. At the first part of the survey, participants were asked to self-report their household incomes in terms of multiples of 1,000 Turkish liras. Every year Confederation of Turkish Trade Uninons (Turk-Is Sendikasi) report poverty and hunger lines based on the number of household members and household income. Referring to the reported numbers, students were grouped into one

of the three categories *low, medium,* and *high* income. Low income group refers to households under the poverty line, while medium income includes households over poverty line and less than twice poverty line (poverty line amount times two). High income group refers to households over the twice poverty line amount.

Program Attendance. In this study, participants who were identified as gifted were students attending BILSEM programs. The number of hours each student attended BILSEM programs (Turkish language) were received from the BILSEM administrators and they were calculated for each student. The total amount of hours spent at BILSEM programs was operationally defined as the program attendance of each student.

Data Analysis

The participants' responses to the survey items in all three parts were transferred into a spreadsheet. Later, to analyze the data, the authors imported them to SPSS software. To answer the first research question 'Do gifted and non-gifted learners have differences in attitudes toward academic and recreational reading after controlling the effects of household income, parents' education level, program effect?', Group differences between gifted and non-gifted students were analyzed using multivariate analysis of covariance (MANCOVA) with household income, parents' education level, program attendance as covariates. MANCOVA has been described as a powerful tool to examine two or more dependent variables simultanously, in respect of one or more independent variables, but account for one or more covariates (Mayers, 2013). Later, MANOVA was employed for examination of between-group differences (gifted vs. non-gifted) on academic and recreational reading attitudes indices.

To answer the second research question 'Do gifted and non-gifted learners have differences in the types of reading preferences, and if so what are they?' the authors used descriptive analysis and a chi-square test of independence was performed.

Results

Research Question 1: Do gifted and non-gifted learners have differences in attitudes toward academic and recreational reading after controlling the effects of household income, parents' education level, program effect?

Descriptive data for the attitudes toward recreational reading have been presented in Table 2. The mean recreational reading attitude score for gifted students was 16.19 with a standard deviation of 4.99, and the mean recreational reading attitude score for the non-gifted students was 16.72 with a standard deviation of 4.87. The mean academic reading attitude score for gifted students was 17.73 with a standard deviation of 5.41, and the mean recreational reading attitude score for the non-gifted students was 17.27 with a standard deviation of 5.41.

Table 2. Descriptive Statistics for Reading Attitudes

Groups	**Recreational**		**Academic**	
	Mean	**St. Dev**	**Mean**	**St. Dev**
Gifted (n=112)	16.19	4.99	17.73	5.41
Non-gifted (n=390)	16.72	4.87	17.27	5.41

Before analyzing the data, few assumptions for the MANCOVA were checked. One of the assumptions was that a reasonable correlation between the dependent variables and the covariates should exist and there should not be between-group differences in respect of that (Mayers, 2013). For that purpose Pearson correlation was employed, and results showed that the correlations between the dependent variables and the covariates were reasonable so that all covariates were included into MANCOVA (Table 3). In addition, Box's M test for homogeneity of covariance matrices was not significant that meant one of the crucial assumptions of MANOVA was met (Mayers, 2013).

Table 3. Intercorrelations between Covariates and Dependent Variables

Variable	Recreational Reading	Academic Reading	Program Attendance	Mother's Edu. Level	Father's Edu. Level	Household Income
1		0.725**	0.323**	0.038	0.001	0.177**
2			0.4320**	0.143**	0.117**	0.218**
3				0.141**	0.135**	0.163**
4					0.681**	0.420**
5						0.304**

** Correlation is significant at the 0.01 level (2-tailed).

An MANOVA was employed to examine possible differences in attitudes toward recreational and academic reading between the gifted and non-gifted students. Results of the analysis indicated no significant differences in recreational and academic reading attitudes between gifted and non-gifted students (recreational [F(1,500)= 1.004, p=0.317]; academic [F (1,500)= 0.637, p=0.425)]). Also no significant multivariate outcome existed (prior to covariate adjustment), in respect of recreational and academic reading attitude scores across gifted and non-gifted students [Pillai's Trace =0.012, F(2,499)= 2.978, p=0.052].

Table 4. Summary of MANOVA Analysis

	Mean Square	F	Sig.
Recreational	24.720	1.004	0.317
Academic	18.646	0.637	0.425

When household income, parents' education level, program effect were added as covariates in a MANCOVA, although the covariates reduced some of the variance, the multivariate outcome was still not significant. There was less significant multivariate effect across gifted and non-gifted students for the dependent variables academic and recreational reading attitude scores [Pillai's Trace=0.010, F(2,487)= 2.416, p=0.090]. Also univariate outcome was not significant after applying the covariates. Recreational [F(1,500)= 0.31, p=0.52] and academic [F (1,500)= 0.43, p=0.58)] reading attitude scores did not differ across the groups of gifted and non-gifted students.

Table 5. Summary of Univariate Analysis Comparing the Mean Recreational and Academic Reading Attitude Scores of Gifted and Non-Gifted Students

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
PAE	Recreational	1140.666	1	1140.666	52.287	0.000
	Academic	2353.647	1	2353.647	100.719	0.000
MEL	Recreational	5.526	1	5.526	0.253	0.615
	Academic	0.400	1	0.400	0.017	0.896
FEL	Recreational	41.016	1	41.016	1.880	0.171
	Academic	0.107	1	0.107	0.005	0.946
HI	Recreational	261.079	1	261.079	11.968	0.001
	Academic	253.220	1	253.220	10.836	0.001
Giftedness	Recreational	0.316	1	0.316	0.014	0.904
	Academic	53.800	1	53.800	2.302	0.130

PAE: Program Attendance Effect; MEL: Mother Education Level; FEL: Father Education Level; HI:Household Income

Results showed that gifted and non-gifted participants did not have significant differences in attitudes toward academic and recreational reading after controlling the effects of household income, parents' education level, program effect at the multivariate or univariate level.

Research Question 2: Do gifted and non-gifted learners have differences in the types of reading preferences, and if so what are they?

Preferences for literature types. Descriptive data for literature preferences have been presented in Table 6. Comic/Graphic novel was the most popular literature type preferred by the gifted students (71%) and short story was the most popular literature type preferred by the non-gifted students (55%). Biography was the least popular literature type for both gifted (21%) and non-gifted students (25%).

Table 6. Cross-tabulation of Giftedness and Literature Preferences

Genre Categories	Preference	χ2	p	Percentage (%)	
				Gifted (n=112)	Non-Gifted (n=390)
Novel	Yes	4.406*	0.036	54%	42%
	No			46%	58%
Poetry	Yes	0.149	0.699	37%	39%
	No			63%	61%
Comic/Graphic Novel	Yes	9.91**	0.002	71%	53%
	No			29%	47%
Story	Yes	0.943	0.332	61%	55%
	No			39%	45%
Information Books	Yes	1.702	0.192	55%	47%
	No			45%	53%
Biography	Yes	0.705	0.401	21%	21%
	No			79%	79%

*= $p < .05$, **= $p < .01$

Novel, comic/graphic novel, short story, and information books (such as dictionary, encyclopedia) were the literature types gifted students preferred more than the non-gifted students. On the other hand, poetry and biography were the literature types preferred more by the non-gifted students than gifted students.

A chi-square test of independence was performed to examine the differences in literature preferences between gifted and non-gifted students (Table 6). The differences between these two groups were significant in preference for comic/graphic novel, $\chi2$ (1, N = 502) = 9.910, p =.002 and novel $\chi2$ (1, N = 502) = 4.406, p =.036. Gifted students were more likely to show a reading preference for novels and comic/graphic novels than were non-gifted students. However, results of the analysis indicated no significant differences in reading preferences for poetry, story, information books, and biography between gifted and non-gifted students.

Preferences for genre types. Descriptive data for the genre preferences have been presented in Table 7. Adventure was the most popular genre type for both the gifted students (92%) and non-gifted students (84%). Encyclopedia was the least popular literature type for both gifted students (19%) and non-gifted students (12%). Among all eleven types of genre, drama was the only genre non-gifted students preferred more than the gifted students.

A chi-square test of independence was performed to examine the differences in genre preferences between gifted and non-gifted students (Table 7). The differences between these two groups were significant in preference for adventure, $\chi2$ (1, N = 502) = 4.023, p =.045, humor $\chi2$ (1, N = 502) = 12.513, p =.000, science fiction $\chi2$ (1, N = 502) = 11.843, p =.001, scientific $\chi2$ (1, N = 502) = 4.113, p =.043, horror $\chi2$ (1, N = 502) = 5.461, p =.019, mystery $\chi2$ (1, N = 502) = 22.872, p =.000, and historical $\chi2$ (1, N = 502) = 4.010, p =.045.

Gifted students were more likely to show a reading preference for adventure, humor, science fiction, scientific, horror, mystery, and historical types than were non-gifted students. However, results of the analysis indicated no significant differences in reading preferences for drama, detective novels, biography, and encyclopedia between gifted and non-gifted students.

Table 7. Cross-tabulation of Giftedness and Genre Preferences

Genre Categories	Preference	χ2	p	Percentage (%)	
				Gifted (n=112)	Gifted (n=112)
Drama	Yes	2.345	0.126	25%	32%
	No			75%	68%
Adventure	Yes	4.023*	0.045	92%	84%
	No			8%	16%
Humor	Yes	12.513**	0	71%	52%
	No			29%	48%
Science Fiction	Yes	11.843**	0.001	47%	30%
	No			53%	70%
Detective Novels	Yes	2.906	0.088	28%	20%
	No			72%	80%
Scientific	Yes	4.113*	0.043	53%	41%
	No			47%	59%
Horror	Yes	5.461*	0.019	60%	46%
	No			40%	54%
Mystery	Yes	22.872**	0	80%	54%
	No			20%	46%
Biography	Yes	0.672	0.412	23%	19%
	No			77%	81%
Encyclopedia	Yes	2.773	0.096	19%	12%
	No			81%	88%
Historical	Yes	4.010*	0.045	38%	28%
	No			62%	72%

*= p < .05, **= p < .01

Preferences for other media. Descriptive data for other media preferences for reading have been presented in Table 8. Internet publications were the most popular media type preferred by the gifted students (78%) and magazines were the most popular media type preferred by the non-gifted students (71%). Newspaper was the least popular media type for both gifted students (31%) and non-gifted students (36%).

Table 8. Cross-tabulation of Giftedness and Media Preferences

Genre Categories	Preference	χ2	p	Percentage (%)	
				Gifted (n=112)	Gifted (n=112)
Newspaper	Yes	0.53	0.467	31%	36%
	No			69%	64%
Magazines	Yes	0.967	0.326	76%	71%
	No			24%	29%
Internet Publications	Yes	3.840*	0.05	78%	67%
	No			22%	33%

*= p < .05

Magazines and internet publications were the media types the gifted students preferred more than the non-gifted students. On the other hand, newspaper was the media type the non-gifted students preferred more than the gifted students.

A chi-square test of independence was performed to examine the differences in media preferences between gifted and non-gifted students (Table 8). The differences between these two groups were significant only in preference for internet publications, $\chi 2$ (1, N = 502) = 3.840, p =.050. Gifted students were more likely to show a reading preference for internet publications than were non-gifted students. However, results of the analysis indicated no significant differences in reading preferences for newspaper and magazines between gifted and non-gifted students.

Discussion, Conclusion and Suggestions

Differences in Reading Attitudes

The first purpose of this study was to investigate the differences in attitudes toward academic and recreational reading between gifted and non-gifted learners. The summary of MANOVA analysis indicated no significant differences in both academic and recreational reading attitudes between gifted and non-gifted elementary students. This finding is consistent with the finding of Parker (2004) who studied differences at the elementary level and found no significant differences in reading attitudes between gifted and non-gifted students at the multivariate or univariate level. However, the researchers who studied differences at the middle and high school levels found that gifted learners had more positive attitudes toward reading than non-gifted learners (Kennedy & Halinski, 1975; Ley & Trentham, 1987; Witty, 1971). Also Anderson et al. (1985) and Sainsbury and Clarkson (2008) reported that the general trend across age levels was for primary students to have the most positive reading attitudes and for each advancing grade level group to have less positive reading attitudes. To clarify confusions among these studies, the authors recommend further studies on how differences in reading attitudes between gifted and non-gifted students change longitudinally.

Although they were not the focus of this study, multivariate analysis of covariances (MANCOVA) indicated that variables used as covariates including program attendance (BILSEM effect) and household income appeared as significant predictors of recreational and academic reading attitudes while parental education level (both for mother and father) did not. These findings confirmed Altun's (2013) study except parental education level. When the results of the prior studies (Altun, 2013; Kotaman, 2008) combined, it appears that there was a statistically significant relationship between children's reading attitudes and their home literacy environment which also should be investigated longitudinally in future studies. Furthermore, length of schooling and age should be studied to investigate whether they have influence on children's reading attitudes or not.

Differences in Reading Preferences

The second purpose of the study was to investigate the differences in reading preferences between gifted and non-gifted learners. The summary of chi-square tests of independence indicated significant differences in reading preferences between gifted and non-gifted readers.

Literature preferences. Comic/Graphic novel was the most popular literature type preferred by the gifted students (71%) and also the gifted students' preference for comic/graphic novel was significantly higher than was non-gifted students. This is the first time a researcher has found that gifted students prefer comic/graphic novels. One possible explanation for this finding might be the higher abilities of gifted students in spatial and visual abilities than non-gifted students that might influence their preference for comics and graphic novel. Spatial abilities have long been relegated to a secondary status in accounts of human intelligence (Lohman, 1994). Lohman (1989) reported that most of the tests used to identify giftedness are primarily measures of g, secondarily measures of something task-specific, and thirdly, measures of something that covaries uniquely with performance on other spatial tasks. However, recent studies indicate significantly high correlation between spatial reasoning and *g* factor (Bahar & Maker, 2015). In addition, contemporary theories, spatial reasoning has been considered as one of the primary functions of human intelligence. The literature preferences of the gifted students

participated in this study, who were identified through iq tests, which measure spatial reasoning in terms of intelligence during BILSEM identification process, might be linked to their higher spatial abilities.

Genre preferences. Adventure was the most popular genre type for both the gifted students (92%) and non-gifted students (84%). However, the gifted students' preferences for mystery, humor, and science fiction were significantly higher than were non-gifted students. These findings are consistent with the findings in prior studies (Anderson et al., 1985; Ashley, 1970; Barchas, 1971; Larsen, 1999; McKay, 1971; Swanton, 1984; Terman, 1925). Gifted students have been to have their significant preferences for mystery, humor, and science fiction (Larsen, 1999; McKay, 1971; Swanton, 1984). The term "mystery" refers to a genre in which the emphasis is on the puzzle/suspense element and its logical solution. One possible explanation for the gifted students' preference for mystery might be that these students can see connections and relationships between ideas and are creative in their ideas and problem-solving techniques (Manning, 2006). Manning (2006) reported that these students' abstract thinking skills are usually more developed than those of their peers that might be a possible explanation for their interest in science fiction genre. Another finding of Manning about gifted students was that they tend to be more conscious of the emotions of others, have an unusual sense of humor, and have a stronger sense of self-awareness. His finding provides an explanation for why these students might have a higher preference for humor genres.

One of the surprising findings of the study is that encyclopedia was the least popular genre preferred by the gifted students (19%). The authors expected encyclopedia at least to be more highly preferred by gifted students than by non-gifted students. However, no significant difference in preference for encyclopedia between gifted and non-gifted students was observed. One possible explanation for this finding might be that encyclopedias have been removed from many families' libraries recently because internet search engines and other online information sources are substituted for encyclopedias.

Media preferences. Internet publications were the only type of media gifted students were more likely to prefer than non-gifted students. No difference was observed in preference for newspaper and magazines between gifted and non-gifted students. This finding is inconsistent with the findings of prior studies. Hawkins (1983) found that newspapers and magazines were more popular among gifted than non-gifted readers, but no significant differences in other media types were found. One possible explanation for this inconsistency might be a change in the reading habits of students. Hawkins's study was conducted almost thirty years ago and the internet did not exist at that time. This era's gifted children might prefer to use the internet as a source of information rather than newspapers and magazines, which might explain the inconsistency between the studies.

This study does have some limitations, and these should be considered by readers as they interpret the results. First, and perhaps most obvious, is the cross-sectional design of the study. The authors recommend that future researchers should analyze reading attitudes and preferences of gifted and non-gifted students longitudinally so that they can observe changes in their attitudes and preferences. For example, second grade curricula have more emphasis on reading practices while later grade levels have more emphasis on reading comprehension (Johnson, 2003). In addition, future studies that include comparative analysis according to schooling (grade levels), gender, and other home-school literacy environments are needed. Also comparing groups of students who have been exposed to different types of reading curricula and teaching models would be beneficial to understand the role of teaching and curriculum in differences in reading attitudes and preferences. Although exploring the factors influencing reading attitudes has been important, in this study, the authors did not focus on the influence of giftedness on reading attitude as a factor. Instead, they attempted to disclose the differences, if there exists, in reading attitudes between gifted and non-gifted learners.

Another limitation is the data collection method used in the study. In this study participants' reading attitudes and preferences were measured through questionnaires. The authors recommend that future researchers interview students together with using questionnaires. Although questionnaires provide with ease and efficiency to researchers for collecting data, researchers make use of interviews when they wish to obtain more detailed and thorough information on a topic than might be gleaned from a questionnaire (Adams & Cox, 2008).

Teachers are key elements in education of gifted students. Understanding how gifted students differ in their reading attitudes and preferences will affect the way teachers plan and implement reading activities in classrooms. The more they know about the gifted students' attitudes and interests, the more relevant their teaching will be. Teachers and reading specialists should establish reading programs accordingly. Offering opportunities within the literacy curriculum for students to choose reading materials based on their own personal interests has been believed to improve positive attitudes toward reading (Cavazos-Kottke, 2006). In addition school and library personnel should consider the reading preferences of gifted students, and they should provide a variety of books in school libraries, including topics and genres of interest to these students.

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