

Primary School Students' Cognitive Styles and Their Achievement in English as a Foreign Language

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Abstract—This study explored the relationship between cognitive styles and achievement in English as a foreign language (EFL). To this end, the Goodenough-Harris Drawing Test, consisting of draw a woman test (DAWT) and draw a man test (DAMT), was administered to 658 grade two, three and four students who had registered in Imam Reza primary schools in Mashhad, Iran. The DAWT and DAMT were marked by two raters and averaged to have a more comprehensive measure of the students' conceptualization of human figure called draw a person test (DAPT). The mean score on the DAPT was utilized to assign the participants to field-dependent and field-independent groups. The participants' scores on the oral and written examinations held in the middle and end of school year were also obtained from their schools and averaged to get a total test score as an indicator of EFL achievement. The correlational analysis of the data established a significant relationship between cognitive styles and oral and total EFL achievement. Neither the field-dependent nor field-independent genus of cognitive styles related to the achievement. The independent samples *t*-test, however, showed that the field-independent primary school students' EFL achievement was significantly higher than their FD counterparts. The results are discussed and suggestions are made for future research.

Index Terms—cognitive styles, field-dependency, field-independency, English language achievement

I. INTRODUCTION

Based on the research projects conducted with his associates in 1954 and 1962, Witkin (1967) argued that individuals adopt a specific manner to deal with “a wide array of perceptual and intellectual tasks” (p. 235). Since the manner represents the individuals' characteristic approach, Witkin considered the manner to be their preferred “cognitive style”. He then asserted that human beings adopt either a field-dependent (FD) or field-independent (FI) cognitive style to tackle the situations in which they find themselves in everyday life.

Upon classifying individuals into FD and FI groups, Witkin, Moore, Goodenough and Cox (1977) specified their distinctive features. They characterized FD individuals as specific members of a given society who comply with social norms followed by the majority. Since they are interested in what others say and do, they prefer to be with people and spend most of their time with them. FI individuals, however, have the ability to analyze the norms and improve them by imposing their own standards and norms. Peers, teachers and authority figures cannot, therefore, influence them as they do with FD individuals.

Cognitive styles have been explored in fields such as health sciences (Luk, 1998), psychology (Baron-Cohen & Hammer, 1997) and applied linguistics (Abraham, 1981, 1983). Carroll and Sapon (1958) were the first applied linguists who showed field independence is significantly related to foreign language aptitude, as measured by the Modern Language Aptitude Test. Other applied linguists established significant relationships between field independence and linguistic, communicative, and integrative competence (Hansen & Stansfield, 1981), cloze tests (Hansen, 1984), multiple choice grammar tests (Abraham, 1985), achievement in French (d'Anglejan & Renaud, 1985) and reading comprehension ability (Biok & Fathi, 2009).

Further research in applied linguistics has shown that FD and FI learners benefit from different types of lessons. Abraham (1985) for example, recruited 73 high-intermediate non-native participants who had not internalized participial phrases in English. He divided them into two homogenous group by holding a pretest developed on the phrases and administering Group Embedded Figures Test GEFT) developed by Oltman, Raskin, and Witkin (1971). One group received a deductive lesson while the other was taught by examples. The lessons were offered by means of a computer via Digital Equipment Corporation's VAX GIGI system. The results obtained on the post test showed that the FD group did well with the example lesson whereas the FI group performed better with the deductive lesson.

Almost all studies in applied linguistics have been carried out with adults' cognitive styles. The present study has, therefore, been designed to explore the relationship between primary school students' cognitive styles and their learning English as a foreign language (EFL). Instead of designing a quasi-experimental design similar to Abraham's (1985), the present study has adopted a post hoc approach by attempting to find out whether FD and FI children who learn EFL under normal conditions in Imam Reza primary schools in Mashhad, Iran, achieve significantly different level of achievement in their EFL course.

II. METHODOLOGY

A. Participants

Three hundred and twenty one female (48.8%) and 337 male (51.2%) aged eight ($n = 243$, 37%), nine ($n = 224$, 34%) and ten ($n = 191$, 29%) took part in this study. They were studying at grades two, three and four in Imam Reza primary schools, respectively. The verbal agreement of these 658 participants' parents was obtained prior to conducting the project. They belonged to highly educated families in that their mothers had secondary education ($n = 16$, 2.4%), high school Diploma ($n = 206$, 31.3%) and held above diploma ($n = 54$, 8.2%), BA/BSc ($n = 266$, 40.4%), MA/MSc/MD ($n = 65$, 9.9%), and PhD ($n = 20$, 3.0%) degrees in various fields of study. Similarly, their fathers had secondary education ($n = 17$, 2.6%) and held high school diploma ($n = 157$, 23.9%), above diploma ($n = 44$, 6.7%), BA/BSc ($n = 233$, 35.4%), MA/MSc/MD ($n = 124$, 18.8%) and PhD ($n = 55$, 8.4%) degrees. They had registered their children in Imam Reza primary schools run by Razavi Cultural Foundation (BONYAD FARHANGI RAZVI). The foundation belongs to the religious organization of the Imam Reza (AS) Shrine or Astan Quds Razavi (see <http://news.aqr.ir/en>).

B. Instruments

Two instruments were employed in the study: the Goodenough-Harris Drawing Test and the final English language examination held at the end of school year.

1. Goodenough-Harris Drawing Test

The Goodenough-Harris Test (Harris, 1963) was employed to determine its participants' cognitive styles. It consists of two drawings: the draw a man test (DAMT) and draw a woman test (DAWT). Similar to Kniel and Kniel (2008), the third researcher of the present study gave specific instructions to the participants regarding what they were expected to do (The instructions will be described shortly in the procedures section.) Upon collecting the DAMT and DAWT, they were marked and averaged to get the score of a single test called draw a person test (DAPT). Harris and Pinder (1974) described and enumerated the advantage of the test in the quotation below.

It is a performance test; the child is doing something rather than saying something. This is an obvious advantage for a child with speech or hearing difficulties. The test is readily used in situations where complex verbal instructions may not be easily translated. Thus it can be used with children possessing language habits with which the psychologist may be unfamiliar. Moreover, this simple test has consistently yielded substantial correlations with complex verbal and individual measures of intellectual ability (p. 4).

The DAPT is a valid measure of cognitive style because it correlated significantly with the Articulation of the Body-Concept Scale (Witkin, Dyk, Faterson, Goodenough & Karp, 1974) when Saracho (1984) administered them both to 240 first grade female and male pupils, i.e., $r = .97$ and $.95$, $p < .001$, respectively. She also reported an inter-rater reliability of $.91$ and a test-retest reliability of $.80$ for the Goodenough-Harris Drawing Test.

2. English Language Examination

The English language examination (ELE) held in the middle and end of school year in Imam Reza Primary schools as employed in this study. It consisted of two sections: oral and written. Both sections were based on the textbooks *Tiny Talk ABC* (Rivers, 1999), *Tiny Talk 2A* and *Tiny Talk 2B* (Rivers, 1997), *Tiny Talk 3B* (Rivers, 1998) and *Let's Begin, Let's Go* (Nakata et al., 2007) taught to grade two, three and four primary school students, respectively. The teachers reported the oral scores on the basis of the students' responses given to questions raised in the class. The written test was, however, held in the middle and at the end of the school year as midterm and final examinations. They consisted of several parts requiring recognition and productive tasks depending on the grades for which they had been designed. First grade students were, for example, required to fill in the cells of a table in two rows and several columns. Some capital letters appeared in the top row and the learners had to write their small letters in the row below or vice versa. It also required finding the small letter of a specific capital letter among others provided as alternatives, specifying the drawings of several animals whose names started with T, e.g., telephone and turtle, circling the drawings representing objects whose names started with the letter k, e.g., kite and key, writing the names of four pictures in the spaces given under them, choosing the first letter of a picture presented among three, and looking at five pictures and choose their proper name from among four words provided in front of them.

The second grade students were, however, required to fill in the blank of sentences such as "Look at those They are tall" and choose one of three animals whose pictures appeared below the sentences, i.e., giraffes. The students had to understand verbal alternatives such as "fly", "jump" and "swim" in order to complete a sentence like "A bird can ...". These task increased in complexity for midterm and final written examinations at third grade. Not only did they involve recognition tasks such as finding an odd word such as "doll" among closely related words such as "blue", "yellow" and "red", but also writing short answers to yes/no questions such as "Do you like milk?" Their syntactic knowledge of

English language was also measured by unscrambling words such as “can”, “I”, “bicycle”, “a”, and “ride” to produce the complete statement “I can ride a bicycle”.

C. Procedure

Naglieri’s (1988) scoring system was employed in this study to mark the DAMT and DAWT because it is designed “to meet the need for a modernized, recently normed, and objective scoring system to be applied to human figure drawings produced by children and adolescents” (p. 2). By resorting to schema theory (Khodadady, 2008, 2013a; Khodadady & Lagzian, 2013), the system was translated into Persian. The same was done with the instructions so that the two raters as well as participants would have no problem in understanding them. The third researcher then contacted the authorities of Razavi Cultural Foundation in Mashhad, Iran, explained the research question of the project and secured their approval and support. She then contacted the principals of Imam Reza primary schools as well as the parents of participants and obtained their verbal approval to administer the test herself in person.

On specified dates the third researcher attended the classes, gave each participant a blank sheet of A-4 paper and a soft black pencil, employed the instructions given by Kniel and Kniel (2008) saying, “I’d like you to draw some pictures for me. First I’d like you to draw a picture of a man. Make the very best picture you can. Take your time and work very carefully and I’ll tell you when to stop. Remember: be sure to draw the whole man. Please begin” (p. 28). After five minutes she asked the students to finish the drawing and gave them another sheet of paper and said, “This time I want you to draw a picture of a woman. Make the very best picture you can. Take your time and work very carefully and I’ll tell you when to stop. Be sure to draw the whole woman. Please begin” (p. 29). The researcher gave the students about five minutes to complete their drawing asking them not to use any eraser or a ruler.

After all the drawings were collected, the first author of this paper invited the second and third authors and asked them to mark 20 randomly selected drawings independently by employing Naglieri’s (1988) Persian scoring system and using separate sheets of paper for each drawing. He then asked them to compare their markings with each other and discuss the aspects to which they had assigned drastically different scores. They discussed the differences in details and marked another set of twenty drawings independently resulting in assigning very similar scores to the same drawings. All the drawings were then marked independently by the two raters over a period of approximately two months.

In addition to inter-rater reliability estimate, the test retest reliability coefficient was obtained after about three months. For this purpose, 95 students, i.e., 31 first grade, 32 second grade and 32 third grade students were chosen randomly from among the 658 participants. These students were asked to draw a man and a woman on two separate sheets of paper on the basis of the instructions described in previous paragraphs. They were asked to do the same after two weeks. The drawings were then marked by the third author of the present paper by employing Naglieri’s (1988) scoring system. By drawing on the microstructural approach of schema theory as conceptualized by Khodadady (2013b), the present researchers believe Naglieri conceptualizes human figure as a cognitive domain which consists of fourteen genera, i.e., arms, attachment, clothing, ears, eyes, feet, fingers, hair, head, legs, mouth, neck, nose and trunk. The presence of these genera and the details with which they are presented in a given drawing are determined as species of the genera totaling a score 64.

D. Data Analysis

The Reliability of the DAMT, DAWT and DAPT was estimated by inter-rater and test-retest procedures. Following Harris and Pinder (1974, 1977) point scores were transformed into standard scores so that direct comparisons could be made within age groups. The relation between cognitive styles and English language achievement was explored by correlating the scores obtained on the ELE and DAMT, DAWT and DAPT. Following Saracho (1986), the mean score on the DAPT was employed to divide the participants into field-dependent and field-independent groups. According to Saracho, a “high score suggests field-independence, while a low score suggests field-dependence” (p. 258). And finally, an independent samples t-test to determine whether the field-dependent and field-independent students differ significantly from each other in their English language achievement. All statistical tests were run via IBM SPSS Statistics 20 to test the hypotheses below.

1. Cognitive styles do not relate significantly to primary school students’ English language achievement
2. Field-dependent and field-independent primary school students do not significantly differ from each other in their English language achievement.

III. RESULTS

Table 1 presents the descriptive statistics of DAPT consisting of DAWT and DAMT. As can be seen, out of 64, the maximum score on the DWAT and DAMT have been 59.5 and 62.0, respectively. On average the G234PS students have scored higher on the DAMT (mean = 36.6). Although a lower mean score has been obtained on the DAWT (34.5), it provides a better measure of cognitive style because its standard deviation (8.8) is higher than the DAMT (8.0). Since the mean score of the DAPT (35.5) falls between those of the DAWT and DAMT, it will be used to address the research hypotheses of this study.

TABLE 1
DESCRIPTIVE STATISTICS AND RELIABILITY ESTIMATES OF DRAW A PERSON TEST (N = 658)

Test	Minimum	Maximum	Mean	SD	Skewness	Kurtosis	Inter-rater Reliability	Test-retest reliability
DAWT	10.5	59.5	34.478	8.8043	.006	-.133	.82	.59
DAMT	11.0	62.0	36.603	8.0098	-.103	.013	.86	.62
DAPT	13.5	60.5	35.540	7.5076	-.018	.007	.86	.66

As it can also be seen in Table 1 above, the inter-rater reliability estimates for the DAWT, DAMT and DAPT are .82, .86 and .86, respectively, indicating that they provide highly reliable measures of participants' cognitive styles. These estimates are, however, relatively lower than .91 reported for the DAPT by Saracho (1986). She held the test with 480 primary school participants whose age ranged between six and eight. The difference in the reliability estimates reported in the two studies might be due to the number and gender of raters. While two raters, a female and a male, marked the drawings in this study, Saracho employed three judges whose gender was not specified. The test-retest RC for the DAPT (.66) is even lower than that of the inter-rater RC (.86). The lower test-retest RCs are due to the productive nature of DAPT reflecting its ever-evolving nature.

Table 2 presents the descriptive statistics of scores the primary school students obtained in their oral and written English examination. As can be seen, the maximum scores of 10 and 40 were given to those students who gave appropriate answers to all oral and written questions, respectively. The standard deviation (SD) of the oral, written and total test scores are 1.24, 6.1, and 7.0, respectively. Since the researchers did not have access to the answer sheets of tests, their alpha RC could not be estimated. Nor was KR21 formula employed because it "is based on the assumption that "all items are of the same difficulty" (Thorndike, 2005, p. 119). As described in the Instruments section, the ELE consists of items whose difficulty varied from sections to sections.

TABLE 2
DESCRIPTIVE STATISTICS OF ORAL AND WRITTEN ENGLISH EXAMINATION (N = 658)

Tests	Minimum	Maximum	Mean	SD	Skewness	Kurtosis
Oral	5	10	9.11	1.228	-1.294	.827
Written	4	40	35.78	6.060	-2.103	4.553
Total	10	50	44.90	6.975	-1.977	4.022

Table 3 presents the correlations coefficients obtained between the DAPT as a measure of primary school students' cognitive styles and their oral, written and total test scores of English as a measure of language achievement. As can be seen the DAPT correlates significantly with the scores obtained on the oral test ($r = .12, p < .01$) and total test ($r = .08, p < .05$). The written test does not, however, correlate significantly with the written test ($r = .07, ns$). These results to some extent reject the first hypothesis that *there is no significant relationship between cognitive styles and English achievement of Imam Reza primary school students*.

TABLE 3
CORRELATIONS BETWEEN DAPT AND ORAL, WRITTEN, AND TOTAL TEST SCORES (N = 658)

	DAPT	Oral Test	Written Test	Total Test
DAPT	1	.119**	0.066	.078*
Oral Test	.119**	1	.700**	.784**
Written Test	0.066	.700**	1	.992**
Total Test	.078*	.784**	.992**	1

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

*Correlation is significant at the 0.05 level (2-tailed)

Table 4 presents the independent samples t-test of field-dependent (FD) and field-independent (FI) participants' total English scores. As can be seen, there is a significant difference in the scores for FD ($M = 29.69, SD = 4.63$) and FI ($M = 41.64, SD = 4.45$); $t(656) = -33.734, p < .001$ (two-tailed). The magnitude of the difference in the means (mean difference = -11.9524, 95% CI: -12.6481 to -11.2567) was very large (eta squared = .67). According to Cohen (1988), values higher than .14 show large effect. These results indicate that 67% of variance in PS students' English achievement is explained by their cognitive styles. These results reject the second hypothesis that *the field-dependent and field-independent students do not differ from each other in their English language achievement*.

TABLE 4
INDEPENDENT SAMPLES T-TEST ANALYSIS OF TOTAL ENGLISH TEST SCORES OBTAINED BY FD AND FI STUDENTS

	Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
	Equal variances assumed	.570	.451	-33.734	656	.000	-11.9524	.3543	-12.6481
Equal variances not assumed			-33.761	655.989	.000	-11.9524	.3540	-12.6476	-11.2572

IV. DISCUSSION

English is taught in Iran as a foreign language for a number of reasons most of which have been recently specified by Khodadady, Arian and Hossein Abadi (2013) in their 64-statement English Language Policy Inventory (ELPI). When they administered the ELPI to 619 instructors of English as a Foreign Language (EFL) and English for Special Purposes (ESP), they extracted seven genera by employing Principal Axis Factoring method and rotating the extracted factors through Varimax with Kaiser Normalization, i.e., Harmonic Curriculum, International Interaction, Internationalizing Native Culture, Methodological Development, International Understanding, All-Compassing Improvement and Functional Organization. As the names of these genera indicate, *none* addresses the English language learners as individuals.

The first genus of ELPI, i.e., Harmonic Curriculum, for example, consists of 23 species, i.e., the concepts represented by linguistic statements. These species emphasize field dependency rather than field independency as reflected in “expanding social relationship” (species 60) and “teaching and developing foreign language for all” (species 61) and “promoting interpersonal and intercultural relationships” (species 54). The activities brought up by these species endorse complying with what the authorities deem appropriate and support adopting what the majority speak as the only acceptable norm. Since the society where the native language is spoken forms the field, the policies followed in teaching the ELP focus on the Persian language, i.e., field-dependency, rather than the EFL whose learning calls for reasons other than complying with the norms, i.e., field-independency. In Witkin, Moore, Goodenough and Cox’s (1977) terms, “What is at issue is the extent to which the surrounding visual framework dominates perception of the item within it” (p. 6).

The findings of the present study are in line with other studies which show that FI primary school students learn English better than their FD counterparts because they obtain significantly higher scores on their English achievement tests. Biok and Fathi (2009), for example, found that their 30 intermediate level FI learners outperformed their 30 FD counterparts on a reading comprehension test. Their results must, however, be treated with caution because they seem to have treated FI the same as FDI as measured by the Group Embedded Figure Test (GEFT). By employing the correlations between the GEFT and reading comprehension test they claimed that “field independent participants have an advantage over field dependent ones” (p. 49).

The superiority of FI learners over their FD counterparts extends to language proficiency in that both achievement and proficiency are learned within an EFL context. Khodadady and Zeynali (2012), for example, administered a disclosed IELTS listening comprehension test along with the GEFT to 200 (152 female and 48 male) university students majoring in English language and reported the correlation coefficients presented in Table 5. As can be seen, field independency explains 13% of variance in the students listening comprehension ability ($r = .36, p < .01$) which drops to eight percent ($r = .28, p < .01$) in the case of field-dependency.

TABLE 5
CORRELATIONS BETWEEN IELTS LISTENING COMPREHENSION TEST AND COGNITIVE STYLES

Cognitive styles	IELTS	Note Completion	Form Completion	Multiple Choice	Sentence Completion	Matching
Field independent	.364**	.330**	.252*	.170	.428**	.176
Field dependent	.284**	.130	.168	.273**	.190*	.277**

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

* Correlation is significant at the 0.05 level (2-tailed)

As it can also be seen in Table 5 above, multiple choice and matching items are the two species of listening comprehension domain which relate significantly only to field dependency ($r = .273$ and $.278, p < .01$, respectively). Khodadady (1997, 1999) and Khodadady and Herriman (2000), however, questioned the validity of traditional multiple choice items (MCIs) because they depend *not* on a sound theory *but* on the intuition of item writers in that no scholar has so far indicated what sources should be employed to develop the alternatives of MCIs. Some of them, however, provided MCI writers with a number of guidelines which say nothing about what the nature of alternatives to be developed for these items must be (e.g., Farhady, Jafarpoor & Birjandi, 1994, Haladyna, 1994). Thus the results reported

by Khodadady and Zeynali (2012) support the designer-or authority-specific nature of MCI_{sin} that it shows a significant relationship with only field-dependent cognitive style.

While traditional MCIs offer no clues as to the nature of what they measure linguistically and cognitively, S-Tests accomplish the task by being developed on the types of schemata which comprise texts. Khodadady, Fatemi and Etminan (2012), for example, analyzed the authentic and unmodified text “why don’t we just kiss and make up” (Dugatkin, 2005) by employing Khodadady’s (1997) microstructural analysis of texts and found that it consisted of 97 adjective, 34 adverb, 209 noun and 158 verb schema types. As the numbers indicate the semantic schemata vary in the number in which they contribute to the domain of “why don’t we just kiss and make up” brought up by Dugatkin.

Gholami (2006) employed this very important feature of authentic texts to develop her 60-item S-Test on Dugatkin’s (2005) text. As can be seen, the number of items on the S-Test depends on the number of schema types upon which they have been developed. Since noun schemata represented the highest number of concepts constituting the test, i.e., 209, Gholami developed most of her items on nouns, i.e., 24 (40%). The next highest number of items was developed on verbs, adjectives and adverbs, respectively. The performance of 253 undergraduate and graduate students majoring in various subfields of English language on the test in Khodadady, Fatemi and Etminan’s (2012) study showed that verbs were the most challenging schemata because their p-value or item facility index was .46.

TABLE 5.3
DESCRIPTIVE STATISTICS OF THE SEMANTIC DOMAIN SBCMCIT AND ITS SUBTESTS

	N of items	Mean	Std. Deviation	Mean p-value	Mean r_{phi}	Alpha
Adjective	14 (23%)	7.16	2.298	.51	.27	.40
Adverb	7 (12%)	4.22	1.414	.60	.29	.25
Noun	24 (40%)	11.66	3.426	.51	.28	.59
Verb	15 (25%)	6.91	2.830	.46	.33	.60
S-Test	60	30.35	8.350	.51	.29	.82

Table 6 presents Khodadady, Fatemi and Etminan’s (2012) reported correlations between cognitive styles as measured by the GEFT and S-Test. As can be seen, the GEFT correlates significantly with the S-Test ($r = .44, p < .01$) as does its verb ($r = .40, p < .01$), noun ($r = .38, p < .01$), adjective ($r = .35, p < .01$) and adverb ($r = .29, p < .01$) subtests. However, when the performance of FD and FI students are scrutinized separately, only FD students’ cognitive style relates significantly and positively to their English language proficiency, indicating that only these learners attempt to employ their field-dependency to solve their EFL related problems.

TABLE 6
CORRELATIONS BETWEEN THE GEFT, S-TEST, AND ITS SUBTESTS

Style	N	Adjective	Adverb	Noun	Verb	S-Test
Dependent	148	.213**	.157	.191*	.230**	.247**
Independent	105	-.163	-.082	-.185	-.208*	-.223*
GEFT	253	.351**	.291**	.377**	.401**	.441**

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

* Correlation is significant at the 0.05 level (2-tailed)

The dependence of FD learners on their cognitive styles, however, relates to their low English language proficiency as shown in Table 7. As can be seen, FI learners outperform their FD counterparts significantly not only on the S-Test but also on its adjective, adverb, noun, and verb subtests. These results do shed more light on what FD students fail to learn within EFL programs. While the English language achievement test employed in the present study does not help teachers and educators alike to pin point the schemata upon which they need to gear their instructional activities, Khodadady, Fatemi and Etminan’s (2012) study emphasizes its multi-dimensional nature. It is therefore suggested an S-Test measuring English achievement be developed and used in future studies to explore the relationship between the two domains in greater depth.

TABLE 7
DESCRIPTIVE AND ANOVA STATISTICS OF FD AND FI TEST TAKERS’ SCORES ON S-TEST

Genus	Field	N	Mean	Std. Deviation	Std. Error Mean	ANOVA
Adjective	Dependent	149	6.52	2.321	.190	F=31.372, df=1, $p < .001$
	Independent	104	8.08	1.934	.190	
Adverb	Dependent	149	3.91	1.454	.119	F=19.345, df=1, $p < .001$
	Independent	104	4.67	1.226	.120	
Noun	Dependent	149	10.59	3.128	.256	F=41.26, df=1, $p < .001$
	Independent	104	13.20	3.257	.319	
Verb	Dependent	149	5.95	2.590	.212	F=48.828, df=1, $p < .001$
	Independent	104	8.27	2.600	.255	
S-Test	Dependent	149	27.34	7.853	.643	F=57.669, df=1, $p < .001$
	Independent	104	34.66	7.079	.694	

V. CONCLUSION

The present study explored the relationship between cognitive styles and English language achievement as two distinct cognitive domains. When the *genera* of cognitive styles, i.e., field-independency and field dependency, were correlated with the domain of English language achievement and its spoken and written *genera* no significant relationship could be found. However, the domain of cognitive styles itself correlates significantly with PS students' EFL achievement domain ($r = .12, p < .01$) and its speaking *genus* ($r = .08, p < .05$), indicating that the domain of cognitive styles is different from its constituting *genera* for PS students. The difference, however, disappears when FI and FD primary school students are compared with each other.

Filed-independent PS students' English achievement is significantly higher than those of their FD counterparts, indicating more attention needs to be paid to FI students in terms of their EFL learning. FD students should, however, be placed in courses in which they perform as well as, if not better than, their FI counterparts. This means that further research is required to find out what courses are the most suitable for FD students. Unfortunately, many higher education centers are established in Iran these days which are accepting almost all graduates of senior high schools without being screened in terms of their cognitive styles and abilities. As the results of this study show FD students will fail to compete with their FI counterparts and thus may experience various psychological problems.

Khodadady and Zabetipour (2013), for example, developed the 27-statement Top Peer Pressure Scale (TPPS) and administered it to 312 freshman undergraduate university students majoring in English language and literature, English translation and TEFL at Samen-alhojaj Teacher, Education Center, Tabaran Institute of Higher Education, Islamic Azad University of Mashhad, Ferdowsi University of Mashhad and Islamic Azad University of Quchan. They subjected their data to factor analysis, rotated their factors, correlated them with each other and announced that:

Five LVs underlie normal students' attitudes towards their top peers, i.e., Debilitating, Motivating, Marginalizing, Referencing and Inspiring. While out of the three positive factors, Motivating and Referencing reveal no significant relationship with EFL students' academic achievement, it relates significantly but negatively to the Inspiring factor calling for further research to find out whether ability measures such as language proficiency tests hold similar relationships with these factors. Since the Debilitating and Marginalizing factors have the highest and lowest significant relationships with academic achievement as measured by GPAs, respectively, it seems that the more normal students compare themselves with their top peers, the less they strive to achieve academically. (p. 1137)

The superiority of FI primary school students to their FD counterparts in achieving English as a school subject might be employed to question teaching EFL as a course in Iranian high schools in general and primary schools in particular. Unfortunately, many families and teachers in Iran approach EFL as writers such as Cohen and Ishihara (2013) did. To them L2 refers "both to second and foreign language" (p. 113). While children in an L2 context have no choice but to learn it for communicative purposes, i.e., interacting with each other as well as with the members of L2 community, there is no immediate need for communication within an EFL context. For this very reason, the learners have to resort to their analytical abilities which seem to be undeveloped in FD students.

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