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A Comparison of Language Development in Persian and Persian-Turkish Children Using PDSS as a Morpho-Syntactic Index

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1. Introduction

The stages of language acquisition in bilingual children are similar to those in their monolingual peers. At the same period of time, they produce the first words, memorize about 50 words, and begin to make sentences by combining words which they know. The process of language acquisition in simultaneous bilingual children is the same as that of monolinguals. A 5-month-old bilingual child is aware that s/he hears two languages, though the sounds of the two languages are very similar (Macrory, 2006, p. 164; Gauthier, 2012, p. 8).

Due to the ongoing increase in the number of bilingual people as the result of some events such as migration, and considering the contradictory results of the studies concerning the effect of bilingualism on language development, the present study aims to compare the morpho-syntactic development of normal Persian and Persian-Turkish speaking children at three age groups of 37-46, 47-56 and 57-66 months old using Persian Developmental Sentence Scoring (PDSS) (Jalilehvand et al., 2016). It is expected that the morpho-syntactic development of the subjects will be the same in both language groups, with no statistically significant difference. The result of this study can provide evidence in support or rejecting the results of those studies (e.g., Bialystok et al., 2008; Blom, 2010; Dahlgren et al., 2017) indicating the superiority of the monolinguals' verbal performance over their bilingual peers'.

2. Methodology

Lee and Canter (1971) introduced Developmental Sentence Scoring (DSS) as a procedure to assess children's language progress. Jalilevand et al. (2016) adapted DSS for Persian language research. They presented PDSS as a tool for morpho-syntactic assessment in Persian.

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- **Subjects and Materials**

Table 1. Demographic data of the subjects

Subjects	age range (months)	mean age (month;day)	N	Gender		total number
				f	m	
Monolinguals	37-46	41;34	10	5	5	30
	47-56	52;53	10	5	5	
	57-66	61;61	10	5	5	
Bilinguals	37-46	42;08	10	5	5	30
	47-56	52;40	10	5	5	
	57-66	61;33	10	5	5	

Table 2. Materials

LEAP & ASQ II questionnaires	→ To match the subjects in terms of linguistic & cognitive abilities.
Sentence Picture Dictionary (Shafi'i, 2016)	→ To gather the linguistic samples.
Sony PX440 voice recorder	→ To record the voices of the subjects.

- **Data analysis:** The language samples were transcribed using IPA symbols for phonetic and phonemic transcription in Persian (Modaresi Ghavami, 2017). In each sample, 50 intelligible, complete, spontaneous, and consecutive sentences were determined (Lee, 1974, p. 6). Repetitive and incomplete sentences were excluded. Within each sentence, 8 grammatical sub-categories were determined: verb morphology, modals and compound verbs, grammatical morphemes, pronouns, question words, prepositions and conjunctions, sentence construction and sentence type. A point was given to each one of these items based on the PDSS table (Jalilevand, 2019, pp. 50-55). The score for each sentence was determined by adding the points of its items. In sum, PDSS score was measured as follows:

$$\text{PDSS} = \text{total score of 50 sentences} \;/\; 50$$

3. Results and Discussion

After calculating the PDSS score for each subject, the PDSS mean score for each age group was obtained by adding the PDSS scores of 10 subjects and dividing by 10.

3.1 Intragroup Comparison of PDSS Mean Scores

Using the ANOVA and LSD post hoc tests, the level of significance of the observed difference between the PDSS mean scores of children in each language group is determined.

- *Monolingual Group:* The results show that the difference between the PDSS mean scores are significant in the difference between the age groups of 46-37 and 57-66 months old ($p = 0.000$), and between 47-56 and 57-66 months old ($p = 0.044$) (Table. 3).
- *Bilingual Group:* The results show that the observed difference between the mean scores is significant only in the difference between the age groups of 37-46 and 57-66 months old ($p = 0.009$) (Table. 4).

Table 3. Intragroup comparison of PDSS mean scores in monolinguals

Monolinguals	37-46	47-56	57-66
37-46	-	-	-
47-56	0.058	-	-
57-66	0.000***	0.044*	-

* p < 0.05
*** p < 0.001

Table 4. Intragroup comparison of PDSS mean scores in bilinguals

Bilinguals	37-46	47-56	57-66
37-46	-	-	-
47-56	1.172	-	-
57-66	0.009*	0.175	-

* p < 0.05

3.2 Intergroup Pairwise Comparison of PDSS Mean Scores

The independent t-test show that the difference between the mean scores of the two language groups is related to the significant difference between the performance of subjects at the age range of 66-57 months (p = 0.045) (Table. 5).

Table 5. Intergroup pairwise comparisons of PDSS mean score using independent t-test

monolinguals \ Bilinguals	37-46	47-56	57-66
37-46	0.483	-	-
47-56	-	0.186	-
57-66	-	-	0.045*

* p < 0.05

3.3 Correlation Between Age and PDSS Mean Scores in Two Language Groups

Pearson correlation test show a significant correlation between age and the PDSS mean scores of subjects at the significance level of 0.01 (monolingual group: r = 0.602; bilingual group: r = 0466). It indicates that PDSS score is sensitive to age (Fig. 1).

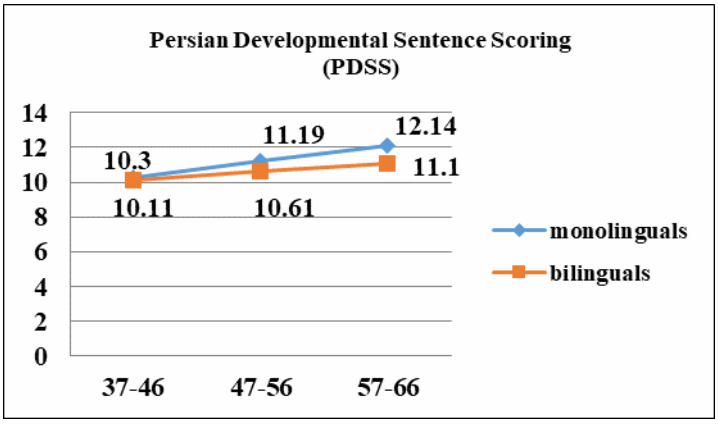

Figure 1. Morpho-syntactic development in monolinguals and bilinguals

4.Conclusion

Results indicate that there is a significant difference between Persian and Persian-Turkish Preschoolers' morpho-syntactic development at the age of 57-66 months old. This is in line with findings of some research such as Bialystok et al. (2008), and Blom (2010) indicating the verbal performance superiority of monolingual children over their bilingual peers.

Based on the results of intra-group and inter-group comparisons, the previous assumption of this research indicating the same morpho-syntactic development in both language groups of Persian and simultaneous Persian-Turkish preschoolers is rejected.

Considering the fact that the subjects' bilingualism was simultaneous and both language groups have been exposed to input of the Persian language from birth, the main reason for the difference in morpho-syntactic development in Persian and Persian-Turkish speaking preschoolers can be referred to their language families. As the Persian and Turkish languages are not of the same language families, the linguistic load which Persian-Turkish bilinguals face with is heavier than that of their monolingual peers and needs more time to be acquired. Being exposed to two languages from different language families prevents bilingual children from having the same speed of language development as their monolingual counterparts. In fact, it takes much more time for them to get the same ability as their monolingual peers. In general, no evidence was found in favor of the positive effect of bilingualism on the language development in children.

Keywords: bilingualism, developmental sentence scoring, languagedevelopment, morpho-syntactic