

THE IMPACT OF GENDER ON THE SEMANTIC SKILLS OF ARABIC SPEAKING SUDANESE CHILDREN

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ABSTRACT:

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Background: There is a large research body that investigate the effect of gender on children language development across different ages and language aspects, but in spite of certain observed differences in language development, there is no proved finding to conclude superiority of one gender above the other. Semantics (the study of meaning), as one of the important language aspects is affected by gender, but the real question is weather this effect is statistically significant or it can just be disregarded as it is too weak to count for

Aim of the work: to study the effect of gender on the performance of Arabic Speaking Sudanese Children in semantic skills testing.

Methods: 180 Sudanese Arabic – speaking children with normal language development participated in the study in the age range between 2-8 years. The language assessment was done by using the Modified Preschool Language Scale-4th edition (PLS-4). The semantic skills were assessed by the Sudanese Arabic Speaking Semantic Skills test.

Results: The study showed no statistically significant gender (male or female) effects on the SASST performance. Female showed slightly higher mean of total receptive and total score compared to males which is still statistically not significant.

Conclusion: No significant gender differences were documented among children at least for the age group studied (2-8) years. More digging is to be used for more conclusive outcome.

Key words: Sudanese Arabic Speaking Semantic skills test (SASST) Gender, Semantic skills

INTRODUCTION:

It has long been known that boys and girls differ in the rate of language development. More than 60 years ago **Macarthy**¹ noticed that these differences are seldom statistically significant, but it is difficult to ignore these small differences because they kept on appearing consistently in one study after another, each being conducted by different persons, using different techniques, different subjects, and different geographical populations.

A recent study confirmed the existence of gender differences, but also pointed to their limitation and their interaction with variety of factors such as age and tasks.² Generally differences decrease with age,³ although some studies show the contrary and emphasize that the gender effect size depend on the children's age and the language aspect.⁴

However it is important to notice that gender effects on verbal performance are quite subtle and not systematically found on different verbal tasks, with variable results in different age groups⁵.

During the first years of life girls on average acquire language faster than boys and have larger vocabulary, for example at 16 months girls have vocabulary of 95 words, while boys have 25 words ⁶. A similar pattern is confirmed not only in first language acquisition but also for the acquisition of a foreign language ⁷.

Importantly, all significant effects were in favour of girls. It seems that boys have weaker or slower capacities for language acquisition. Boys represent 70% of late talkers and only 30% of early talkers ⁸.

Participants: The study included 180 Sudanese Arabic-speaking children in the age range between 2-8 years, who have normal language development. The participants were selected randomly from the nurseries and school of Khartoum capital of Sudan. The children age range was 2 to 7;11 y. 97 females equal to 53.9% of the total subjects, 83 males equal to 46.1% of the total subjects. The mean age of subjects is 4.9yrs. The mean age of subjects in month is 59.9months. The participants were selected according to:

Inclusion criteria:

1. Native Arabic Speaking Sudanese children.
2. Parents of children have been living in Sudan since birth.
3. IQ 90 or above evidenced by Stanford Binet Intelligence Scale 5th edition Arabic validate version. ⁹
4. Normal hearing and vision.
5. Age ranges from 2-8 years.
6. Normal language development. The 180 children were divided according to age into 6 groups, 30 children in each group.

Ethical considerations:

An informed consent was obtained from all parents of the children before enrolment in the study and the study protocol has been

approved by the Ain Shams Institute's Ethical Committee of Human Research.

Methods:

The selected children were subjected to the protocol of language assessment structured and applied in the Phoniatrics Unit of Ain Shams University Hospitals as follows:

1. Patients' interview: history taking and general examination.
2. Psychometric evaluation by Stanford Binet Intelligence Scale 5th edition(Arabic validated version) to determine the children's 1Q and mental ages.
3. Language evaluation by Modified PLS4 Arabic edition. ¹⁰

- Audiological evaluation to exclude hearing impairment using any or all of the following: Auditory Brain Stem Evoked Response.Pure tone audiometry

- Tympanometry.

5- Visual assessment by LogMAR chart. ¹¹

After finishing the protocol of language assessment, the participants were subjected to the SASST (Sudanese Arabic Speaking Semantic Skills Test). Which is standardized semantic skills test.

Data management and analysis:

The collected data was revised, coded tabulated. Data were analyzed using statistical package for social science (SPSS) under window version 24 according to its type by the suitable statistical tests.

Descriptive Statistics:

1. Count and percentage: used for describing and summarizing qualitative variables.

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2. Mean and standard deviation: used for describing and summarizing quantitative variables.
3. Measurement of mean by: $X = \Sigma x/n$

Analytic Statistics:

Students' t-test was used to test the association between two quantitative variables or to detect difference between two or more proportions. In this study the t-test was used to compare between the SASST performance and gender of children (to study the effect of gender on the children performance). The t-test measures whether the means of the two groups statistically differ from each other. The 2 independent samples t-test is used when testing 2 independent groups. The groups are

considered independent if a member of one group cannot possibly be in the other group. If comparing two samples in order to draw inferences about group differences in the population use two sample t-test.¹²

Pearson correlation coefficient was used to measure the correlation between two variables. The correlation is considered highly significant if P value is <0.01 and is significant if P-value is < 0.05.

RESULT:

A total number of 180 children with typically developing language were classified into 6 age groups, 30 subjects into each age group with an interval of 1 year between the groups as displayed in table (1)

Table (1): Demographic data of subjects included in the study

n=180	No.	%	
Gender			
Male	83	46.1	
Female	97	53.9	
Age groups			
2-2;11 years	30	16.6	
3-3;11 years	30	16.6	
4-4;11 years	30	16.6	
5-5;11 years	30	16.6	
6-6;11 years	30	16.6	
7-7;11 years	30	16.6	
	Mean	SD	Range
Age in years	4.9	1.7	2.1-7.9
Age in months	59.9	20.6	26-95

This table shows that 53.9% of the subjects were females. The mean age of studied subjects is 4.9 years. The mean age of subjects in months is 59.9 months.

The effect of gender differences on the SASST performance:

Table (2): Comparison between males and females as regards the mean receptive and expressive functions and total score:

	Males, N=83		Females, N=97		T	P
	Mean	SD	Mean	SD		
Total receptive	100.4	21.9	102.5	23.4	0.6	0.5
Total expressive	90.3	27.9	91.6	28.0	0.3	0.7
Total score	190.7	51.3	194.3	51.4	0.4	0.6

P>0.05 not significant

The sample of the research included both sexes with more or less equal distribution. Total female number was 97 (53.9%) while the males were 83 (46.1%). The sex distribution for each group shown in table (2)

There is no significant difference between males and females as regard the mean total receptive function score.

This table shows a slightly higher mean of total receptive and total scores among females compared to males with no significant difference statistically.

DISCUSSION:

As semantics is a very important language aspect, the current study

was done aiming at studying the effects of gender on the semantic skills of the Sudanese Arabic-speaking children.

Semantics is not only the center of communication study, but also the center of the study of human mind-thought process, cognition and conceptualization. All these are intricately bound up with the way in which we classify and convey our experience of the word through language.⁽¹⁰⁾

The semantic skills of children showed great individual variability, and these skills can be potentially affected by many factors, such as age, parent expectation about gender role, mother interaction with children¹³.

In our study although gender has affected the children performance on semantic skills test, and that was in favour of girls, as they showed slightly higher mean of total receptive and total scores compared to males which is not significant statistically.

. These results are in agreement with El-Refaie¹⁴ in her study to construct Arabic language test. And Azzam¹⁵ during standardization of ITPA proved that there was no effect of gender on test performance.

In another study performed by Hyde & Linn¹⁶ on 165 American language studies of both children and adult including test of vocabulary, analogies, reading comprehension, speaking and other verbal communications 44 (27%) of the studies

have found females to perform significantly better than males, 109 (66%) found no significant sex differences and 12 (7%) found males performing significantly better than females. The authors concluded that the Meta analysis provides strong evidence that the magnitude of the sex difference in verbal ability is currently so small that it can effectively considered to be zero.

This is in accordance with a large data analysis conducted by Hyde and Linn who pointed that the gender differences were not so large at all and that in fact gender differences do not exist.¹⁷

The gender effect in verbal fluency tasks has been explored in many studies most of the results indicate lack of gender effect or small gender effect.¹⁸

On contrary, Feldman et al.¹⁹ in their study on 2156 socio-demographically diverse 1 and 2 years old American children found that there was significant effect of gender on vocabulary comprehension and vocabulary production, as girls scored significantly higher than boys.

When the performance of the boys and girls is compared over entire age range, girls tend to receive higher scores, but the difference is not consistent and only infrequently statistically significant. It may be the differences which appeared in the literature, have been over emphasized in the past, or it may be that over the years differences in language abilities of the two sexes have become less pronounced.

Conclusion and Recommendations:

There are no significant gender effect on the semantic skills of the Arabic speaking Sudanese children, at least for the studied age group (2-8) years.

Larger number of participants will add more value to the study.

Correlation of the semantic results with the result of the other language domain will reveal a lot about gender effects.

REFERENCES:

1. McCarthy D. Some possible explanation of sex differences in language development and disorders. *J Psychol.* 1953; 35:155-60. doi:10.1080/00223980.1953.9712848.
2. Toivainen T, Papageorgiou KA, Tosto MG, Kovas Y. Sex differences in non verbal abilities in childhood and adolescence. *Intelligence.* 2017; 64:81-8. Doi:10.1016/j.intell.2017.07.007.
3. Etchell A, Adhikari A, Weinberg LS, Choo AL, Garnett EO, Chow HM, et al. A systemic literature review of sex differences in childhood language and brain development. *Neuropsychologia.* 2018;114: 19-31. Doi: 10. 1016/j. neuropsychologia. 2018. 04.011.
4. Lang BP, Euler HA, Zaretsky E. Sex differences in language competence of 3- to 6-year-old children. *Appl Psycholinguist.* 2016; 37: 1417-38. doi: 10. 1017/S0142716415000624.
5. Marjanovic-Umek Lj, Fekonja-Peklaj U. Gender differences in children language: a meta-analysis of Slovenian studies. *CEPS Journal.* 2017;7:97-111.
6. Carpenter M, Nagell K, Tomasello M, Butterworth G, Moore C. Social cognition, joint attention, and communicative competence from 9 to 15 months of age. *Monogr Soc Res Child Dev.* 1998;63:1-143. Doi:10.2307/1166214.
7. Fenson L, Dale PS, Reznick S, Bates D, Thal DJ, Pethick SJ, et al. Variability in early communicative development. *Monogr Soc Res Child Dev.* 1994; 59: 1-185. Doi:10.2307/1166093.
8. Kovacevic M, Kraljevic K, Capanec M. Sex differences in lexical and grammatical development in Croatian. *Proceedings from the First European Network Meeting on the Communicative Development Inventories; 2016 May 24-28; Dubrovnik, Croatia. Gavle: University of Gavle; 2007.*
9. Safwat Farag, Arabic translation of the Stanford-Binet intelligence scales, (SB5) fifth edition, 2010. The Anglo Egyptian Bookshop Cairo.
10. Abo Hasiba, A. (2011): Standardization, Translation and Modification of the Preschool Language Scale -4. Ph.D. Dissertation. Ain Shams University.
11. Grosvenor, Theodore (2007): Primary care optometry. St. Louis, Missouri: ELSEVIER. PP.174-175. ISBN:9780750675758.
12. Altman D.G. (1991): Practical Statistics for Medical Research. Chapman & Hall, London, 285-288.
13. Leaper, C., Andersson, K & Sanders, P. (1998). Moderators of gender effects on the parent talk to their children: A meta-analysis. *Developmental Psychology; 34* (1), 3-27.
14. EL-Refaie, N. (1994): Arabic Language Test. Published thesis at The World Congress of International Association of Logopedics and Phoniatrics.
15. Azaam, A. A. (2007): Modification of Illinois Test of Psycholinguistic Abilities For Egyptian Children unpublished thesis Phoniatric Unit Ain Shams University.
16. Hyde, J.S & Linn, M. C. (1988): Gender differences in verbal ability: A meta-analysis. *Psychological Bulletin, 104*(1), 53-69.
17. Haris Memisevic, Inga Biscevic, Arnela Pasalic (2017): *Cogent Psychology 4*(1), 1403064, 2017.
18. Suzan Graham & Felicity Rees (1995) Gender differences in language learning : the question of control, *The Language Learning Journal, 11:1, 18-19,* doi; 10.1080/09571739585200061.
19. Feldman HM, Dollaghan CA, Campbell TF, Kurs-Lasky M, Janosky JE, Paradise JL. Measurement properties of the MacArthur communicative development inventories at ages one and two years. *Child Dev.* 2000 Mar-April, 71(2); 310-22. doi:10.1111/1467-8624. 00146. PMID:10834466.

تأثير جنس الأطفال على المهارات الدلالية للأطفال السودانيين الناطقين باللغة العربية

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هناك عدد كبير من الأبحاث التي أجريت لدراسة تأثيرات الجنس (ذكر/أنثى) على نمو وتطور اللغة عند الأطفال، هذه الدراسات أجريت على مختلف الأعمار، كما أنها أخذت في الاعتبار جوانب اللغة المختلفة.

ولكن على الرغم من أن هذه الدراسات رصدت الكثير من الاختلافات بين الجنسين إلا أنها لم تحسم أفضلية إحداها على الآخر في تطور اللغة.

علم الدلالة أو المعاني باعتباره أحد الأفرع المهمة للغة وجد أنه قد تأثر باختلاف الجنس، وهنا يبرز سؤال مهم هو هل هذا التأثير واضح وكبير بحيث يكون له قيمة إحصائية واضحة؟ أم أنه ضعيف وبالتالي يمكن تجاهله.

كان الهدف من هذا البحث هو دراسة تأثير الجنس (ذكر/أنثى) على تطور المهارات الدلالية عند الأطفال السودانيين.

شارك في هذه الدراسة عدد ١٨٠ طفل من ولاية الخرطوم عاصمة السودان. حيث تم تقسيم الأطفال إلى ستة مجموعات، في كل مجموعة ٣٠ طفل، وكانت أعمار الأطفال تتراوح بين ٢-٨ سنوات. كان عدد الإناث ٩٧ بما يعادل ٥٣,٩% من العدد الكلي للأطفال، بينما كان عدد الذكور ٨٣ بما يعادل ٤٦,١% من العدد الكلي. تم اختيار المشاركين بصورة عشوائية من المدارس والحضانات المختلفة مع اختلاف المستويات الاجتماعية. حيث تم تقييم لغة الأطفال باستخدام اختبار اللغة المعدل قبل المدرسة لدكتور أحمد أبو حسيبة (٢٠١١).

كما تم تقييم المهارات الدلالية للأطفال باستخدام اختبار المهارات الدلالية للأطفال السودانيين الناطقين باللغة العربية والذي يتم تقنيه في السودان.

في نتائج هذه الدراسة اتضح تقدم الإناث تقدمًا طفيفًا على الذكور مع العلم بأن هذا التقدم لم يكن ذا قيمة إحصائية.

هذه النتائج اتفقت مع الكثير من الدراسات واختلفت مع أخرى.

النتيجة والاستنتاج النهائي لهذه الدراسة هو أنه لا يوجد تأثير لجنس الأطفال على تطور المهارات الدلالية للأطفال السودانيين يمكن احتسابه إحصائيًا، على الأقل في الأعمار التي تمت دراستها. وأنه هناك حاجة للمزيد من الدراسات.