Role of ecological variables on language performance of preschoolers

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Abstract

The foundation for the language development is laid during the early formative years. The home environment and the interaction of the child with mother and other significant people are the important factors in molding the child's life. Study was conducted in Hisar city of Haryana State (India) on a sample of 240 children i.e.120 each from rural and urban, in the age range of 4 to 5 years. Reynell Developmental Language Scale (1985) was used to assess the language development of children. Self-structured and duly pretested interview schedule was used to examine the ecological profile of families. To delineate the effect of ecological factors on language performance of children, Duncan Multiple Range test was computed. Results highlighted that in both the settings, the language performance of children was remarkably influenced by the educational level of parents showing that educated parents provided quality stimulation to their children. Children from high and middle caste with higher family income and coming from service and business class families were significantly advanced on language performance in both the settings. The results demand for the need to plan strategies for enhancing language development of children at early stage both in school and home.

Introduction

Language development in the preschool years is extremely important as the transmission of competency is considered to be a function of the combination between biological and socio-cultural factors, including the cumulative set of interactions and transactions children have with their parents, teachers and peers, as well as the influence of wider societal factors. The language, a child learns, is generally determined by the society or culture in which he is born, more specifically, by his home, school or educational system and community. The quality of the environmental inputs through the material and non-material processes may have an impact on child's language skills. Impact of family status of children on the performance of language development was investigated by Saini (2008) and found that the ordinal position, age of mother, age of father, education of father, primary care taker also had significant impact on language development. The type of socio-economic status, quality of home environment and parental stimulation are the primary facets of environment that a child gets for his language development. A child learns language from the model available in his environment at the time of his language development. Gonzalez (2001) examined that there were many sources of difference among children's language development such as the educational status and occupation of parents, birth order and neighborhood quality and community resources. The language style of the child's parents plays a dominant and important role in the language acquisition process of a child learns and way he communicates Concepts of language in children from different socio-economic backgrounds were investigated by Guo and Harris (2000). They found that children from low SES build their vocabulary at slower rate than children from higher SES. In view of the above findings, the present study attempts to find out the crucial factors which affect the language development of preschoolers.

Methodology

Hisar district from Haryana State (India) was considered purposively due to easy accessibility. Six villages of block-I and block-II were selected randomly to represent rural sample and for urban sample Balwadis of Hisar City were selected. Lists

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of anganwadis from six selected villages and balwadis of Hisar city were prepared. One anganwadi from each selected village was further identified on random basis to draw rural sample. All the six balwadis of Hisar city were considered to draw urban sample. Further, lists of children in the age range of 4 to 5 years, enrolled with these anganwadis and balwadis were prepared.Sample of 120 children from anganwadi and 120 from balwadi were selected at random. Thus, 240 children constituted the sample for the present study. Level of language development was taken as dependent variable and ecological factors were taken as independent variables. Reynell Developmental Language Scale (RDLS), developed by Reynell(1985) was used to examine the language status of the children which constituted Verbal Comprehension A (VCA), Verbal Comprehension B (VCB) and Expressive language (EXLA). Self-structured and duly pretested interview schedule was prepared which included ecological factors i.e. personal, social and economic factors. To delineate the effect of ecological factors on language performance of children, Duncan Multiple Range test was computed.

Results and Discussion

Language development and ecological factors

Duncan multiple range test was performed to examine the effect of personal, social and economic variables on three components of language viz. VCA, VCB and ExLa and is depicted in Table 1 (From A to C).

A. Personal factors

Ordinal position: With regard to impact of ordinal position on language development for rural children mean scores for VCA, VCB and ExLa were not significantly different for children with different birth orders. For urban children, mean scores of fourth born children for VCA, VCB and ExLa (Ms = 57.40, 53.40 and 50.00, respectively) were significantly higher than the children on 1st, 2nd and 3rd ordinal position.

Mother's age: Mean scores of rural respondents on VCA, VCB and ExLa did not differ significantly according to mother's age. Whereas in urban setting, age of the mother made a difference in language performance of respondents, as the mean scores of children, whose mothers were in the age group of 34 years and above, were found significantly higher for VCA (M = 57.00), VCB (M=53.40) and ExLa (M=49.80) than the children who had mothers in the younger age group.

Father's age: Table further highlights that father's age made no significant difference in rural respondent's performance on VCA, VCB and ExLa. Whereas in urban setting, mean scores of children who had fathers in the age group of 34 years and above, were found significantly higher for VCA (M = 55.78) and VCB (M = 51.83) than those who had fathers in younger age group .For ExLa, mean scores of children, who had fathers falling in the higher age category were significantly higher (M = 46.89) than those children, whose father's age range was 22 to 25 years.

Mother's education: Effects of maternal education were apparent in rural setting as mean scores of children, whose mothers were educated up to matric level, were significantly higher for VCA, VCB and ExLa (Ms = 54.64, 50.91 and 46.36, respectively) than those who had illiterate mothers. Maternal education had also influenced language performance of urban children as there were significant differences in mean scores of children for different educational status of mothers.

Father's education: For rural children, VCA mean scores were significantly higher for those, whose fathers were matric (M = 53.65) and above matric (M = 54.07) than children in other three levels of father's education. Children who had illiterate and primary educated fathers scored lower on VCB (Ms = 46.76 and 46.50, respectively) and ExLa (Ms = 42.06 and 41.25, respectively) than those whose fathers were in other group of education. Table further elaborated that in urban setting, for VCA, children of illiterate fathers scored lower (M = 47.00) than children of other educated fathers. Children of primary educated fathers scored lower (M = 50.65) than children whose fathers were educated above primary. Children of middle educated fathers also scored lower (M = 52.17) than children whose fathers were above matric.

Primary care taker: With regard to care taker of children in rural setting, mean scores for VCA, BCB and ExLa were not significantly different. Urban children whose primary care takers were mothers, scored significantly higher for ExLa only (M = 49.09)

than those who had aunt as primary care taker.

B. Social factors

Caste: It is apparent from the data that rural children from lower caste scored significantly lower on VCA (M = 49.61), VCB (M = 47.14) and ExLa (M = 42.41) than high and middle caste rural children. High caste urban children from urban setting scored better on VCA, VCB and ExLa (Ms = 57.41, 53.50, 49.95, respectively) than low and middle caste children.

Type of family: Table elucidates that rural children who belonged to joint family scored better on VCA (M = 52.65) and VCB (M = 49.76) than children who belonged to nuclear family. Mean scores for ExLa were not significantly different among three types of family. Mean scores of urban children belonging to extended type of family on VCA, VCB and ExLa (Ms = 51.43, 48.33, 43.71, respectively) were lower than those children who belonged to joint and nuclear type of family.

Size of family: Results illuminate in Table that rural children who belonged to large size of family scored higher on VCA (M = 54.27), VCB (M = 51.05) and ExLa (M = 46.36) than children from medium and small size of family. Mean scores for VCA, VCB and ExLa did not differ significantly with the changing size of family in urban setting.

C. Economic factors

Mother's occupation: Persuance of the results show that mean scores of rural and urban children whose mothers were engaged in service, scored maximum on VCA, VCB and ExLa than those children whose mothers were engaged in other types of occupations.

Father's occupation: Results in Table assert that mean scores of rural children, whose fathers were labourer were significantly lower on VCA (M = 49.25), VCB (M = 47.00) and ExLa (M = 48.45) than the children of serviceman, agriculture and business class fathers. In urban setting, children whose fathers were labourer scored lower on VCA (M = 50.11), VCB (M = 46.68) and ExLa (M = 42.32) than the children whose fathers were engaged in business and service.

Family income: Results in both the setting illuminate that children whose family's monthly income was more than Rs. 4000, scored higher on VCA, VCB and ExLa than those whose family income was less than Rs. 3000. Children, whose family income was between Rs. 3001 to 4000, also scored higher on VCA, VCB and ExLa (Ms = 51.64, 48.80, 43.64, respectively) than those who had monthly family income less than Rs. 2000.

The results conclude that caste, type and size of family, primary care taker, parental education, occupation and family income had significant impact on VCA, VCB and ExLa in both the settings. The present findings are corroborated with the reports of Bradely and Corwyn (2002) who found that SES begins to effect child's language development even prior to birth and continues in adulthood. The reason for the same that emerged out of the present study was that high caste families have better social status, more means and resources leading to stimulating environment necessary for children's acquisition of various skills. It has been proved that joint family contributed a lot towards child language as the means of interaction and communication are more in large families. It can be interpreted that the language performance of children is remarkably influenced by the educational level of parents. Educated parents possess more skill in providing an ablaze and conducive environment for the development of different concepts in children as they have better comprehension and understanding of aspirations and needs of their children.

The present findings are in the tune with the findings of Saharan (1993), who found that parental education, occupation and family income were positively correlated with language development of children. It can be inferred that family occupation contributes to the quality of stimulation as service and business class parents are economically sounder and socially more active thus provide an enriching environment to their children. Riley *et al.* (2004) also revealed that better economic conditions of the family enable the parents to afford educational and stimulating materials for their children.

Hence better the SES of child better will be the language development as families with high SES have more sources to provide better opportunities and conducive environment for the optimum development of their children. The findings of this investigation got strength from the findings of Berget and Bryant (2000) and Sangwan *et al.* (2000) also revealed that socio economic status influenced the child's vocabulary.

Table 1. Mean and Standard Deviations for language development according to ecological factors

A. Personal factors

Personal factors	Rural				Urban			
	N	VCA	VCB	ExLa	N	VCA	VCB	ExLa
1. Ordinal Position								
1st	61	$51.23^{a}\pm0.45$	$48.44^{a}\pm0.43$	$43.93^{a}\pm0.52$	66	$53.56^{b}\pm0.49$	$49.61^{b}\pm0.43$	$45.36^{b}\pm0.48$
2nd	37	$51.14^{a}\pm0.60$	$48.54^{a}\pm0.57$	$43.68^{a}\pm0.72$	36	$53.19^{b}\pm0.68$	$50.19^{b}\pm0.58$	$45.06^{b}\pm0.74$
3rd	16	$51.63^{a}\pm0.85$	$48.75^{a}\pm0.64$	$44.50^{a}\pm1.03$	13	$53.31^{b}\pm0.87$	$48.69^{b}\pm1.06$	$44.08^{b}\pm1.27$
4th	06	$51.00^{a}\pm0.97$	$48.67^{a}\pm1.26$	$42.50^{a}\pm1.45$	05	$57.40^{a}\pm1.50$	$53.40^{a}\pm1.17$	$50.00^{a}\pm0.84$
2.Mother's Age (years)								
22-25	50	$51.36^{a}\pm0.49$	$48.58^{a}\pm0.50$	$44.00^{a}\pm0.59$	40	$53.17^{b}\pm0.66$	$49.63^{b}\pm0.51$	$45.10^{b}\pm0.60$
26-29	52	$51.40^{a}\pm0.50$	$48.73^{a}\pm0.41$	$44.08^{a}\pm0.58$	58	$53.38^{b}\pm0.50$	$49.66^{b}\pm0.46$	$45.25^{b}\pm0.56$
30-33	16	$50.13^{a}\pm0.78$	$47.44^{a}\pm0.74$	$42.75^{a}\pm0.90$	17	$54.24^{b}\pm0.94$	$49.94^{b}\pm1.03$	$44.82^{b}\pm1.20$
34& above	02	$53.00^{a}\pm0.00$	$50.50^{a}\pm4.50$	$43.50^{a}\pm4.50$	05	$57.00^{a}\pm1.52$	$53.40^{a}\pm1.17$	$49.80^{a}\pm0.73$
3. Father's Age (years)								
22-25	05	$51.60^{a}\pm1.91$	$49.60^{a}\pm2.04$	$46.00^{a}\pm1.82$	08	$52.13^{b}\pm2.17$	$48.63^{b}\pm1.84$	$43.00^{b}\pm1.83$
26-29	42	$50.81^{a}\pm0.48$	$47.95^{a}\pm0.44$	$43.67^{a}\pm0.59$	41	$52.73^{b}\pm0.60$	$49.15^{b}\pm0.50$	$44.88^{ab}\pm0.55$
30-33	58	$51.66^{a}\pm0.48$	$48.97^{a}\pm0.44$	$44.10^{a}\pm0.57$	53	$53.72^{ab}\pm0.50$	$49.89^{ab}\pm0.49$	$45.49^{ab}\pm0.59$
34& above	15	$50.73^{a}\pm0.88$	$48.07^{a}\pm1.77$	$42.73^{a}\pm1.04$	18	$55.78^{a}\pm0.73$	$51.83^{a}\pm0.65$	$46.89^{a}\pm1.08$
4.Mother's education								
Illiterate	66	$49.62^{b}\pm0.36$	$47.11^{b}\pm0.33$	$42.42^{b}\pm0.44$	44	$51.11^{c}\pm0.55$	$47.75^{c}\pm0.51$	$43.00^{b}\pm0.51$
Primary	31	$52.13^{a}\pm0.52$	$49.81^{a}\pm0.46$	$44.97^{a}\pm0.70$	41	$53.51^{b}\pm0.48$	$49.49^{b}\pm0.42$	$44.66^{b}\pm0.60$
Matric	23	$54.64^{a}\pm0.56$	$50.91^{a}\pm0.71$	$46.36^{a}\pm0.90$	35	$55.95^{a}\pm0.55$	$52.00^{a}\pm0.48$	$48.11^{a}\pm0.62$
5.Father's education								
Illiterate	17	$49.12^{c}\pm0.61$	$46.76^{b}\pm0.64$	$42.06^{b}\pm0.75$	02	$47.00^{d}\pm2.00$	$42.50^{c}\pm1.50$	$38.50^{c}\pm0.50$
Primary	28	$48.71^{a}\pm0.49$	$46.50^{b}\pm0.46$	$41.25^{b}\pm0.65$	20	$50.65^{c}\pm0.80$	$47.20^{b}\pm0.69$	$43.25^{b}\pm0.76$
Middle	38	$51.55^{b}\pm0.50$	$48.95^{a}\pm0.46$	$44.53^{a}\pm0.59$	36	$52.17^{bc}\pm0.57$	$48.33^{b}\pm0.50$	$43.86^{b}\pm0.58$
Matric	23	$53.65^{a}\pm0.64$	$50.61^{a}\pm0.65$	$46.04^{a}\pm0.81$	40	$54.80^{ab}\pm0.47$	$51.17^{a}\pm0.41$	$45.75^{b}\pm0.67$
>Matric	14	$54.07^{a}\pm0.69$	$50.14^{a}\pm0.81$	$45.86^{a}\pm1.25$	22	$56.95^{a}\pm0.68$	$52.95^{a}\pm0.50$	$49.45^{a}\pm049$
6.Primary care-taker								
Aunt	13	$49.69^{a}\pm0.66$	$47.23^{a}\pm0.63$	$42.85^{a}\pm1.06$	06	$54.50^{a}\pm0.92$	$50.50^{a}\pm0.99$	$42.67^{b}\pm1.54$
Sibling	20	$51.95^{a}\pm0.69$	$49.25^{a}\pm0.64$	$44.00^{a}\pm0.95$	—			
G.Mother	21	$49.90^{a}\pm0.82$	$47.76^{a}\pm0.89$	$42.57^{a}\pm0.98$	32	$53.22^{a}\pm0.58$	$49.16^{a}\pm0.49$	$43.88^{ab}\pm0.65$
Mother	66	$51.76^{a}\pm0.43$	$48.80^{a}\pm0.38$	$44.42^{a}\pm0.49$	82	$53.66^{a}\pm0.47$	$50.06^{a}\pm0.43$	$49.09^{a}\pm0.47$

B. Social factors

		Rural				Urban		
	N	**VCA**	**VCB**	**ExLa**	**N**	**VCA**	**VCB**	**ExLa**
1. Caste								
Low	51	$49.61^b\pm0.37$	$47.14^b\pm0.35$	$42.41^b\pm0.46$	67	$51.85^c\pm0.44$	$48.28^c\pm0.41$	$43.51^c\pm0.45$
Middle	28	$51.75^a\pm0.68$	$49.14^a\pm0.56$	$44.96^a\pm0.65$	31	$54.61^b\pm0.50$	$50.61^b\pm0.40$	$46.32^b\pm0.61$
High	41	$52.93^a\pm0.54$	$49.83^a\pm0.55$	$44.90^a\pm0.77$	22	$57.41^a\pm0.69$	$53.50^a\pm0.50$	$49.95^a\pm0.68$
2. Family Type								
Joint	49	$52.65^a\pm0.49$	$49.76^a\pm0.42$	$44.73^a\pm0.64$	33	$54.67^a\pm0.42$	$50.24^a\pm0.46$	$45.45^a\pm0.68$
Extended	17	$51.00^{ab}\pm0.80$	$48.59^{ab}\pm0.92$	$43.12^a\pm0.97$	21	$51.43^b\pm0.68$	$48.33^b\pm0.57$	$43.71^b\pm0.72$
Nuclear	54	$50.04^b\pm0.42$	$47.39^b\pm0.39$	$43.30^a\pm0.50$	66	$53.73^a\pm0.56$	$50.12^a\pm0.50$	$46.27^a\pm0.54$
3. Family Size								
Large	22	$54.27^a\pm0.51$	$51.05^a\pm0.57$	$46.36^a\pm1.01$	01	52.00^a —	50.00^a —	44.00^a —
Medium	35	$51.09^b\pm0.60$	$48.63^b\pm0.47$	$43.11^b\pm0.67$	35	$54.86^a\pm0.43$	$50.40^a\pm0.48$	$44.83^a\pm0.67$
Small	63	$50.27^b\pm0.40$	$47.59^b\pm0.39$	$43.40^b\pm0.46$	84	$53.07^a\pm0.47$	$49.61^a\pm0.42$	$45.58^a\pm0.47$

C. Economic factors

		Rural				Urban		
	N	**VCA**	**VCB**	**ExLa**	**N**	**VCA**	**VCB**	**ExLa**
1. Mother's Occupation								
House-wife	57	$51.09^b\pm0.45$	$49.09^b\pm0.42$	$44.53^b\pm0.56$	33	$54.03^b\pm0.57$	$50.39^b\pm0.43$	$46.18^b\pm0.57$
Labour	41	$49.59^b\pm0.41$	$47.27^b\pm0.38$	$42.54^b\pm0.51$	71	$52.23^b\pm0.43$	$48.48^b\pm0.39$	$43.66^b\pm0.44$
Service	06	$55.50^a\pm0.76$	$52.50^a\pm0.89$	$47.50^a\pm1.84$	09	$58.67^a\pm0.75$	$55.00^a\pm0.47$	$51.00^a\pm0.67$
Cultivation	16	$50.88^b\pm0.97$	$48.25^b\pm0.96$	$43.50^b\pm1.05$	—	—	—	—
Business	—	—	—	—	07	$58.71^a\pm0.75$	$54.43^a\pm0.61$	$50.86^a\pm0.96$
2. Father's occupation								
Labour	51	$49.25^b\pm0.34$	$47.00^b\pm0.34$	$42.45^b\pm0.46$	37	$50.11^b\pm0.54$	$46.68^b\pm0.53$	$42.32^b\pm0.53$
Service	34	$53.03^a\pm0.53$	$50.18^a\pm0.56$	$45.21^a\pm0.79$	64	$54.89^a\pm0.40$	$51.16^a\pm0.33$	$46.56^a\pm0.46$
Agriculture	28	$52.93^a\pm0.69$	$49.00^a\pm0.63$	$44.14^a\pm0.77$	—	—	—	—
Business	07	$54.29^a\pm1.43$	$49.71^a\pm0.99$	$46.43^a\pm1.49$	19	$55.95^a\pm0.69$	$51.58^a\pm0.64$	$47.00^a\pm1.05$
3. Monthly Income (Rs.)								
>2000	28	$49.93^c\pm0.41$	$47.14^c\pm0.42$	$42.21^c\pm0.65$	11	$48.82^d\pm0.89$	$45.91^d\pm1.07$	$41.64^c\pm1.26$
2001 - 3000	33	$50.64^{bc}\pm0.61$	$47.85^{bc}\pm0.51$	$43.82^{bc}\pm0.56$	53	$52.34^c\pm0.45$	$48.55^c\pm0.42$	$43.74^c\pm0.46$
3001 - 4000	25	$51.64^{ab}\pm0.78$	$48.80^{ab}\pm0.68$	$43.64^{ab}\pm0.83$	48	$55.19^b\pm0.47$	$51.35^b\pm0.36$	$47.04^b\pm0.50$
4001 - 5000	34	$53.03^a\pm0.54$	$50.12^a\pm0.57$	$45.41^a\pm0.83$	08	$58.75^a\pm0.75$	$54.75^a\pm0.82$	$50.63^a\pm1.43$

Means with the same letter are not significantly different

Note: VCA=Verbal comprehension A, VCB=Verbal comprehension B, ExLA=Expressive Language

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