A study on identification of stimulation level for children at home environment

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ABSTRACT

Stimulation is the action of various agents or stimuli on nerves, muscles, or a sensory end organ, by which activity is evoked. Stimulation helps a child to grow through newer experiences, which facilitates the brain to form numerous connections and hence, brain development takes place. Home environment is the immediate environment to which the child is exposed from the beginning of life. It should be stimulating so as to help a child to grow through newer experiences, which facilitates the brain to form numerous connections and hence brain development and overall development takes place. The present study was undertaken to know the level of stimulation provided to children at home environment. The sample size comprised of 60 mothers having school going (grades I-IV) children selected from Bakchung block of Jorhat sub-division. The *Mohite Home Environment inventory* was administered to collect the research data. An interview schedule was also prepared to collect background data. It was found that majority (70%) of the households provided moderate level of stimulation at home environment while 21.66 per cent of the households provided high level of stimulation and only few of them (8.33%) provided poor level of stimulation to children at home environment.

INTRODUCTION

The early years of a child's life is the critical period and are fundamentally important. Recent research confirms that the early experiences provide the base for the brain's organizational development and functioning throughout life. They have a direct impact on how children develop learning skills as well as social and emotional abilities. Children learn more quickly during their early years than at any other time in life. Home environment, the immediate environment to the child, plays an important role in overall child's development.

Aspects of the home environments such as parental aggressiveness, lack of maternal warmth and stressful life events are associated with increased incidence of behaviour problems of school.

Stimulation or excitation is the action of various agents (stimuli) on nerves, muscles, or a sensory end organ, by which activity is evoked. Stimulation helps a child to grow through newer experiences, which facilitates the brain to form numerous connections and hence, brain development takes place. Recently there has been increasing interest among researchers, on the quality of home environment and their impact on child

development.

Home environments and their immediate surroundings in every sense are "total environments" that bring together physical, social and organizational components. The results from a study showed that the cumulative quality of these environments had an effect on both attention and memory but not on planning. And that the quality of family environment measured on the HOME scale was more strongly related to these outcomes than the institutional child care environments (NICHD, 2005). Growth curve analysis revealed that HOME scores exerted a constant influence on the expected composite, verbal, and non verbal intellectual skills at each age (Espy *et al.*, 2001).

Many studies demonstrated the importance of exposure to books in early ages. At the minimum, it has been theorized that children observing their parents reading will have a lasting impression on them (Bus *et al.,* 1995).

Even at very early ages, looking at picture books together with the parent, pointing at pictures while the parent names them, stimulates the child in many ways (Neuman, 1996 and Zuckerman and Kahn, 2000). Research has determined that the nature of the interaction is much more critical than the content of the book or magazine (Klass *et al.*, 2003). A four-year longitudinal study conducted among 193 working and middle-class mothers in Seattle, Washington showed that measures of environmental quality (orderliness, enrichment and overall stimulating quality) and of parent-infant interaction (mother-child interaction patterns, family habits, living patterns as described by the mother), taken in the first year of life are the best predictors of later IQ or language performance (Bee, 1982). Similarly, a study examining the home environment of adolescent mothers in white, black and Hispanic families found that the cognitive stimulation in the child's early home environment was positively associated with the child's cognitive attainment (Edwards, 1992). Examining three ethnic groups across the first three years of a child's life (Bradley *et al.*, 1989) found that measures of particular aspects of the child's home environment, such as parental response and availability of stimulating play materials were strongly related to children's developmental status.

In a 3-year longitudinal study conducted with 119 children in the 1 to 4-year age group, findings indicated a positive correlation between cognitive development and the home stimulation variables measured on the HOME scale. The variables included parent involvement (reading, playing, warmth and affection, responsiveness) and availability of stimulating materials such as toys, reading materials, craft materials and games (Gottfried and Gottfried, 1984). Research has also shown that the quality of home environment is related to children's mathematical achievement. A study, examining children in the 5 - 9yr age group, showed that while controlling for SES (socio-economic status) and maternal cognitive test scores, the effect of home environment (HOME scale) on children's mathematical test scores was large (Crane, 2001). Teale (1981) summarized the main findings of his research as follows: children being read to at home is positively correlated with their language development, growth of vocabulary, eagerness to read, and success in beginning reading in school. In a study relating parents knowledge of storybooks and children's language skills (Senechal, 1996), the findings show that variance in children's vocabulary scores could be explained by parent's knowledge of storybooks while controlling for children's analytic intelligence, parents exposure to adult reading material and parents education. Focusing on books and reading, results from a study by Cornell *et al.* (1988) showed that children pointing while reading picture books did not correlate with their power of recall but proved to be an effective tool in teaching the content.

A Korean study (Lee, 2003) reported that children's self-perceived competence and the home environment stimulation were positively correlated. A Nigerian study by Odebunmi (1980) also demonstrated that the environmental factors and the home have significant influences on personality development. In a study exploring the interrelations among attachment, home stimulation and language development in 58 toddlers, 2-yrs of age, results indicated that mothers who had established secure relationships and provided stimulating home environments had children with the highest language scores (Murray and Yingling, 2000). Anme and Segal (2003) evaluated the impact of extended child-care on 648 young Japanese children. The study looked at the development of children after two-years of attendance and indicated that, factors in the home environment, not center-based care explained developmental risks two years later. The interaction of appropriate play material and maternal involvement was related to both social and

hearing-speech development (Parks and Bradley, 1991). Low-level strategies (e.g., use statements, lower cognitive demand strategies and nonverbal direction) were related to the IQ scores of the CH children, whereas the high-level strategies (e.g., use high cognitive demand strategies) were more effective with the NCH children. (Pellegrini *et al.*, 1985). Neither the quality of schooling nor socio-economic status characteristics can be changed quickly, but the home environment of a child can be identified and enriched with more stimulation for better child's learning environment at home.

The major objective of the present study is:

– To identify the level of stimulation provide to a children of grade I- IV at home environment.

MATERIAL AND METHODS

The study was carried on the area of Baghchung block of Jorhat sub- division. Sixty numbers of households with children of grades I- IV were selected randomly from the study area.

The Mohite Home Environment Inventory (MHEI), National Psychological Corporation, was used to collect data on level of stimulation provided at home environment for young children. An interview schedule was also constructed for collection of relevant data from the respondents regarding background information of the family.

Survey method was adopted for the proposed study. The data from the respondents were collected by interviewing the mothers of the children and also observation of the physical home environment and mother- child interaction during the interview session. Before interviewing the respondents the purpose of the data collection was explained to them. The mother or caretaker is not unduly sensitized and thus the social desirability effect is minimized. Interviewing skills are however essential for those item that may not be directly observable. It was made clear that their responses would be used for study purpose and would be kept confidential.

The data collected from the responses using MHEI and interview schedule was analysed through coding, tabulation and statistical analysis.

OBSERVATIONS AND ANALYSIS

The background information about age, sex, ordinal

position of the child, grade of the children, occupation, monthly income and qualification of the parents and type of families of each house hold under study when studied and presented in the following tables.

A sample of 60 households with children of grades (School standards I to IV) were selected from the study area of Baghchung block of Jorhat subdivision.

Table 1 shows the data regarding sex of the respondents. The findings reveal that cent per cent of the respondents were female as only the mothers of the children were interviewed.

Table 1 : Distribution of respondent according to sex		
Sex	Frequency	Percentage
Male	-	-
Female	60	100
Total	60	100

Distribution of respondent according to age as shown in the Table 2 shows that majority of the children are of age group 8 - 9 years, *i.e.* 21 numbers of children out of total 60 numbers.

Table 2 : Distribution of children according to age		
Age (in years)	Frequency	Percentage
5	14	23.33
6	12	20.00
7	13	21.66
8-9	21	35.00
Total	60	100

Table 3 indicates that majority (46.66%) of the mothers/caretakers of the children belong to the age group of 18-25 years of age, followed by 31.66 per cent of mothers belonging from the age group of 26-35 years.

Table 3 : Distribution of mothers/ care takers according to age		
Age	Frequency	Percentage
18- 25	28	46.66
26- 35	19	31.66
36- 45	8	13.33
45- above	5	8.33
Total	60	100

Table 4 shows that majority of the children *i.e.* 46.66 per cent had ordinal position of first place in their families, followed by 38.33 per cent of children in second

ordinal positions and minimum of 10 per cent in fourth and more ordinal positions.

Table 4: Distribution of children according to ordinal position in the family

Ordinal position	Frequency	Percentage
1st	28	46.66
2nd	23	38.33
3rd	8	13.33
4th and more	6	10.00
Total	60	100

Table 5 reveals that most of the children belong to Grade IV (Class IV) *i.e.* 35 per cent, followed by those belonging to Grade I *i.e.* 23.33 per cent and least from Grade II (*i.e.* 20%).

Table 5 : Distribution of school standards (grades) of the children

Grades	Frequency	Percentage
I	14	23.33
II	12	20.00
III	13	21.66
IV	21	35.00
Total	60	100

Table 6 shows the findings regarding the occupation of the parents. It shows majority of fathers engaged in service (63.33%), followed by those in business (28.33%). Majority of the mothers are housewives (40%), followed by those engaged in service (30%) and business (25%).

Table 6 : Distribution of occupation of the parents

Occupation	Frequency		Percentage	
	Father	Mother	Father	Mother
Service	38	18	63.33	30.00
Business	17	15	28.33	25.00
Others	0	3	0	5.00
None	5	24	8.33	40.00
Total	60	60	100	100

Table 7 indicates the data regarding monthly income of the families. The findings show that majority of the families (31.66%) have monthly income of 15 to 30 thousands, followed by equal number of families with income of 5 to 15 thousands per month (18.33%) and also 50 thousands and above (18.33%).

Table 7 : Distribution of monthly income of the families

Monthly income of the families (in thousands)	Frequency	Percentage
0-5	10	16.66
5- 15	11	18.33
15- 30	19	31.66
30- 50	9	15.00
50- above	11	18.33
Total	60	100

Results from Table 8 shows distribution of educational qualification among the parents. The findings reveal that majority of the parents, both father (53.33%) and mother(43.33%) are qualified upto graduation and above.

Table 8 : Distribution of educational qualification of the parents

Educational qualification	Frequency		Percentage	
	Father	Mother	Father	Mother
Under matriculation	3	6	5.00	10
Matriculation passed	15	20	25.00	33.33
H.S.S.C passed	10	8	16.66	13.33
Graduation and above	32	26	53.33	43.33
Total	60	60	100	100

Table 9 : Distribution of family type of the respondents

Type of family	Frequency	Percentage
Nuclear	34	56.66
Joint	12	20.00
Extended	14	23.33
Total	60	100

Table 10 shows children's academic achievement according to the school performance of present and previous year. Majority of the children shows good/ average school performance in the present (63.33%) as well as the previous grades (56.66%).

Table 10 : Distribution of school performance of the children (academic achievement)

Academic achievement	Previous		Present	
	F	P	F	P
Excellent	10	16.66	12	20
Good/ average	34	56.66	38	63.33
Below average	16	26.68	10	16.66
Total	60	100	60	100

This Table 11 indicates findings which reveals that majority of the respondents (70%) provide moderate level of stimulation at home environment. 21.66 per cent of the households have high level of stimulation and 8.33 per cent have poor/lacking stimulation level at home environment.

Table 12 depicts the stimulation level at home environment of the respondents in different aspects, mainly under four broad aspects, *viz.,* language stimulation, physical environment, encouragement of social maturity, variety of stimulation and maternal attitude and disciplining.

Discussions and interpretations:

The findings indicates that majority of the respondents (70%) provide moderate level of stimulation at home environment. 21.66 per cent of the households have high level of stimulation and 8.33 per cent have poor/lacking stimulation level at home environment.

Table 11 : Distribution of stimulation level at home environment of the respondents		
Level of stimulation	Frequency	Percentage
Poor/ lacking	5	8.33
Moderate	42	70.00
High	13	21.66

Table 12 : Distribution of respondents according to providence of various stimulation at home environment				
Different aspects and items	Yes		No	
	F	P	F	P
Language stimulation				
Mother answers child's Question and request verbally	60	100	-	-
Mother converses with child at least twice during visit	58	96.66	2	3.34
Mother usually responds verbally to child	59	98.33	1	1.67
Mother gives instructions in a positive tone	56	93.33	4	6.67
Mother talks about interview to child	22	36.66	38	63.34
Newspapers, books or magazines visible in the house	58	96.66	2	3.34
Mother has atleast one non-instructional verbal exchange with child	59	98.33	1	1.67
Physical environment				
The interior of the house is not very dark	29	48.33	31	51.66
The interior of the house is well- ventilated	28	46.66	32	53.34
Toys, tins, balls, dolls, slate, pen visible in the house	35	58.33	25	41.66
There is some space structure in the house	24	40	36	60
Encouragement of social maturity				
Mother asked child to do some house- work	60	100	-	-
Child take care of younger siblings / neighbourhood children	42	70	18	30
Variety of stimulation				
Child is held with academic tasks	59	98.33	1	1.67
Child tells mother of school activities	60	100	-	-
Child is told stories by mother	56	93.33	4	6.67
Child is taken out atleast once a month	60	100	-	-
Outing to zoo/ park etc. within last three months	59	98.33	1	1.67
Time- structure/ routine in the home	22	36.66	38	63.34
Maternal attitude and disciplining				
Mother does not threaten to punish/ scold child during visit	54	90	6	10
Mother does not give into child's tamtrums	57	95	3	5
Mother does not discuss child negatively in front of him/her	31	51.66	29	48.33
Mother believes that child's behaviour can be modified/ changed	25	41.66	35	58.33
Mother spontaneously praises child's good behaviour/ qualities during visit	15	25	45	75

Most of the families have moderate (not high/poor) socio- economic status (SES). So, from this evident finding, it can be interpretive that stimulation level of home environment is affected by the SES of the family, as both SES and stimulation level of home environment are found moderate in this study.

The findings from Table 7 reveal that majority of the parents, both father (53.33%) and mother (43.33%) are qualified upto graduation and above. This may also be another positive affecting factor for stimulation level at home environment.

Findings from Table 9 shows children's academic achievement according to the school performance of present and previous year. Majority of the children shows good/ average school performance in the present (63.33%) as well as the previous grades (56.66%). This finding can be focussed to support the fact that children from homes falling in the lowest category of stimulation level at home environment are likely to face, or may already be facing learning difficulties. But, in the present study, most of the children are found to be provided moderate level of stimulation at home environment and the academic achievement is also found good. It is an important interpretation of the study that, the level of stimulation at home environment and the academic achievement of the child are related.

Summary and conclusion:

The present study deals with the identification of stimulation level for children at home environment in the selected area. Loads of researches have stated the importance of home environment in the overall development of a child. To contribute to the optimum development of the child, environment at home is mandatory to be stimulating. The level of stimulation at home environment in the households of the selected area is found to be moderate in nature. Various factors like ordinal position of the child, SES of the family, disciplining attitudes of the mother etc contribute to the level of stimulation found. Positive stimulation level at home can contribute to academic achievement and language fluency in the child. Identification of households with low level of stimulation in home environment in Baghchung block of Jorhat, Assam, can be followed by awareness and training sessions for the particular households and support them in providing for a stimulating home environment for their children.

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