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HOME ENVIRONMENT OF THE CHILDREN AS REVEALED THROUGH HOME INVENTORY (ELEMENTARY VERSION)#

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The present study aims to find out the home environment of the children through Caldwell and Bradley's (1984) Home Observation for the Measurement of the Environment (HOME) Inventory (Elementary Version). In Pakistan, it is the third in the series of studies on HOME Inventory. First was on the Infant Version (Khan, Anila, & Pervez, 1991), and the second was on the Preschool Version (Pervez & Anila, 1993). A sample of 100 children (53 boys, 47 girls) studying in grades III to V was taken from Rawalpindi. The differences in the home environment of children belonging to different gender, grades, and socioeconomic status (SES) were studied. Results indicate that parents provide similar type of home environment to their children regardless of their gender. The children of grade IV get maximum attention of their parents as compared to the children of grades III and V. The children from lower-middle SES get better home environment especially in aspects which do not need any financial input. The KR-20 and intercorrelations of the subscales and total scores revealed that the HOME Inventory (Elementary Version) is a reliable measure for the observation of the home environment of the urban middle class children going to primary schools.

The significance of home environment for the development of personality is a well researched area (Bradley, 1993; Bugental, Blue, & Cruzcosa, 1989; Dunn, Brown, & Beardsall, 1991; Elder, Nguyen, & Caspi, 1985; Feldman & Weinberger, 1994; Garrett, Ng'andu, & Ferron, 1994; Himelstein, Graham, & Weiner, 1991; Hoffman, 1991; Scarr, 1992). Generally, the researchers prefer to concentrate on the interaction along the family members, attitude of parents or few other agents of socialization and on certain demographic variables. It was felt by Caldwell and Bradley (1984), and many others (e.g., Scott-Jones, 1984; Seginer, 1983; Walberg & Marjoribanks, 1976) that the quality of the home environment can not be assessed only by describing the demographic variables and the appraisal of the variables. Rather the

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process should be given more importance. It gave rise to a new approach in the study of child development and that was the observation of the child and home environment in the real situation. Similarly, Smith (1994) also identified essential qualities of home by using a critical incidents methodology. The quality of continuity, privacy, self expression, personal identity, social expression, warmth, positive psychological climate were linked with the concept of home.

HOME Inventory (Caldwell & Bradley, 1984) was an addition to the already existing techniques of child studies, which provided an opportunity to assess family beyond the specific parent child subsystem (see also, Bradley, Caldwell, & Rock, 1988). Bradley (1993) reviewed the use of HOME Inventory to help identify consistencies in relationship between the home environment and the development of situations. It was found that the support available to child in the home environment reflects the family's social status as well as other ecological factors. HOME subscales show theoretically meaningful links to children's health, growth, and temperament. HOME is also sensitive to genetic variation in children and to the environmental manipulation, such as, parents' education.

The two earlier studies of the HOME Inventory have established its relevance in Pakistan as well. These were on the Infants Version (Khan, Anila, & Pervez, 1991), and the Preschool Version (Pervez & Anila, 1993) of the Inventory. The third version, i.e., the Elementary Version of the HOME Inventory, is for the children between six to ten years of age. It is being used on Pakistani children for the first time in the present study. The series of these three studies would help in establishing the applicability of the HOME Inventory in Pakistani culture.

The present study was conducted to find out the internal consistency between the subscales of the Elementary Version of the HOME Inventory and to obtain the difference in the scores of the children of different socioeconomic status, academic grades, and gender on the subscales as well as the total score of HOME Inventory.

METHOD

Sample

The sample consisted of 100 children (53 boys, 47 girls) studying in grades III (n=32), IV (n=48), and V (n=20) taken from the middle socioeconomic class of Rawalpindi. These children were divided into three groups on the basis of their parents' monthly income. These are

lower-middle class (n=36), income upto Rs. 5000; middle-middle class (n=32), income ranging Rs. 5001-10000; upper-middle class (n=32), income above Rs. 10000.

Instrument

HOME Inventory (Elementary Version)

Caldwell and Bradley's (1984) Elementary Version of HOME Inventory consists of 59 items, clustered in the following eight subscales:

I. Emotional and Verbal Responsivity: It includes ten items concerning the emotional expression and its verbalization by the family in the environment (e.g., expression of verbal appreciation).

II. Encouragement of Maturity: It contains seven items showing the encouragement of the socially expected behaviour of the children (e.g., child is expected to take care of certain self care routine tasks; balance between work and leisure activities).

III. Emotional Climate: It consists of eight items about the affection and emotional security child would have in family (e.g., parents do not loose temper very frequently; child is allowed to express his/her negative feelings).

IV. Growth Fostering Materials and Experiences: This subscale has eight items about the possessions of the child enhancing his/her growth and development (e.g., child has free access to radio, tape recorder, music, and books; child has his/her own study place).

V. Provision for Active Stimulation: Its eight items are about the activities and experiences which would provide stimulation and facilitation for the development of the child (e.g., child watches T.V. judiciously, and is encouraged to develop personal and family hobbies).

VI. Family Participation in Developmentally Stimulating Experiences: It includes six items highlighting the participation and interaction of all family members in the experiences which would facilitate the child's development (e.g., child is exposed to business world, live musical programmes; parents discuss T.V. programmes).

VII. Paternal Involvement: This subscale contains four items mentioning father's involvement in family affairs in relation to the child (e.g., father, or the substitute father, engages at least once a week in outdoor activities and eats at least one meal a day with the child).

VIII. Aspects of Physical Environment: It has eight items describing the physical environment from the point of view of size, quality, security, and aesthetic (e.g., the house is generally attractive with appropriate light, furniture, and cleanliness; is not over crowded and over noisy; has stable structure and safe play area).

The items are scored as 1 and 0 on the basis of yes or no, respectively, after interviewing or direct questioning the parents, whereas, some items require observation of the environment (see Bradley, Caldwell, Rock, Hamrick, & Harris, 1988, for details regarding the development of the Elementary Version of HOME Inventory).

Procedure

Three residential areas of Rawalpindi representing upper-middle, middle-middle, and lower-middle *SES* groups were selected. The families which had children studying in grades III, IV, and V were contacted. After obtaining their willingness to participate in the study home visits were made.

The initial rapport was established by obtaining the information about family structure. Subsequently the respondent, usually the mother, was asked to describe a typical day. It provided an opportunity to infer answers of many items in the inventory. The interviewers were specially trained, mostly to avoid a direct question-answer technique, rather to discern the response from the conversation and observation. Still there were few items which needed direct questioning.

RESULTS AND DISCUSSION

The internal consistency of the HOME inventory was determined for the present sample with K-R 20 index (Kuder & Richardson, 1937). Table 1 shows that the HOME Inventory has high internal consistency (.82). The subscales also indicate high internal consistency especially Paternal Involvement (.61), Emotional and Verbal Responsivity (.60), Aspects of Physical Environment (.58), and Growth Fostering Materials

and Experiences (.58). This indicates that the HOME Inventory (Elementary Version) is a reliable measure for the present sample.

Table 1

Internal consistency (KR-20) of the total and subscales of HOME Inventory (N= 100)

	Subscales	K-R 20
I	Emotional and Verbal Responsivity	.60
II	Encouragement of Maturity	.48
III	Emotional Climate	.44
IV	Growth Fostering Materials and Experiences	.58
V	Provision for Active Stimulation	.40
VI	Family Participation in Developmentally Stimulating Experience	.25
VII	Paternal Involvement	.61
VIII	Aspects of Physical Environment	.58
	Total	.82

Table 2 shows the intercorrelation for the scores of all eight subscales as well as the total score. It is indicated that all the correlations are in the positive direction and only a few are statistically nonsignificant. It is revealed that the families which encourage emotional and verbal responsivity have a good emotional climate, encourage maturity, provide growth fostering materials and experiences. The parents show involvement and the whole family participates in the developmentally stimulating experiences. A good care is also taken of the physical environment of the house. It is interestingly observed that emotional and verbal responsivity encourages most of the other aspects of the home environment in positive direction.

Table 2

Inter-correlations of the total and subscales of HOME Inventory (N= 100).

	Subscales	I	II	III	IV	V	VI	VII	VIII
I	Emotional and Verbal Responsivity	-	-	-	-	-	-	-	-
II	Encouragement of Maturity	.45**	-	-	-	-	-	-	-
III	Emotional Climate	.29*	.25*	-	-	-	-	-	-
IV	Growth Fostering Materials and Experience	.31*	.18	.30*	-	-	-	-	-
V	Provision for Active Stimulation	.15	.29*	.33**	.51**	-	-	-	-
VI	Family Participation in Developmentally Stimulating Experience	.37**	.30*	.21	.19	.25*	-	-	-
VII	Paternal Involvement	.45**	.23*	.22	.15	.08	.43**	-	-
VIII	Aspects of Physical Environment	.38**	.20	.40**	.49**	.23*	.09	.09	-
	Total	.72**	.59**	.62**	.67**	.58**	.53**	.50**	.63**

*$p<.01$ **$p<.001$

The subscale of Paternal Involvement showed least number of statistically significant correlations with the other subscales, such as, Emotional Climate, Growth Fostering Materials and Experiences, Provision for Active Stimulation, and Aspects of Physical Environment. These findings are in accordance with the situation in Pakistani culture because in Pakistan women as wives and mothers have primary responsibility for both child care and house work. The men as husbands and fathers are the bread winners and head of the household. The fathers are not expected to be involved in the rearing of their children.

Table 2 further showed that all subscales correlated significantly positive ($p< .001$) with the total HOME Inventory score, indicating the internal consistency of the Inventory.

Gender-wise differences were also calculated on the eight subscales and the total HOME Inventory, with *t*-test analysis. No significant difference was found in all the subscales as well as in the total score as shown in Table 3. These findings are similar to the studies carried out in West (e.g., Barnard, Bee, & Hammond, 1984; Bradley & Caldwell, 1984; Gottfried & Gottfried, 1984; Johnson, Breckenridge, & McGowan, 1984; Siegel, 1984). It indicates that the parents provide same type of home environment to their children regardless of their gender. The studies carried out in Pakistan with the Infant Version (e.g., Khan, Anila, & Pervez, 1991) and with the Preschool Version (e.g., Pervez & Anila, 1993) of the HOME Inventory also found the similar results. Thus the gender does not seem to affect the home environment provided by the parents to their children.

Tables 4 and 5 show the one-way *ANOVA* which was carried out to find the differences in grades and socioeconomic status, respectively.

Table 4 shows the significant differences on the subscales of Emotional Climate, Family Participation in Developmentally Stimulating Experiences, Paternal Involvement, and the total score of the HOME Inventory among children of grades III, IV, and V. In the total as well as the three subscales the high mean score was found in the children of grade IV as compared to grades III and V. May be because fifth grade children are older enough to spend much of their time with friends outside the family, whereas, children of third grade are not old enough to get involved in the developmentally stimulating activities of the parents. Thus the children of grade IV experience more healthy emotional climate and developmently stimulating environment. Their families are more concerned with the development of motor skills as well as mental excercise and their parents are more involved with their activities as compared to the children of other grades. On the whole,

Table 3

Gender-wise differences in total and subscales of the HOME Inventory

	Subscales	No. of Items	Gender: Boys (n= 53)		Gender: Girls (n= 47)			
			M	*SD*	*M*	*SD*	*t*	*p*
I	Emotional and Verbal Responsivity	10	3.11	2.27	3.55	2.04	-1.02	.310
II	Encouragement of Maturity	7	2.15	1.59	2.62	1.57	-1.48	.143
III	Emotional Climate	8	3.36	1.86	3.45	1.61	-0.25	.800
IV	Growth Fostering Materials and Experience	8	3.02	1.96	3.13	1.94	-0.28	.781
V	Provision for Active Stimulation	8	3.06	1.52	3.51	1.64	-1.43	.157
VI	Family Participation in Developmentally Stimulating Experience	6	1.87	1.26	2.21	1.30	-1.34	.182
VII	Paternal Involvement	4	1.49	1.30	1.36	1.32	-0.49	.625
VIII	Aspects of Physical Environment	8	2.57	1.92	2.96	1.83	-1.04	.299
	Total	59	20.62	8.73	22.79	7.77	-1.31	.192

d.f= 98

Table 4
Grades-wise differences in total and subscales of HOME Inventory

	Subscales	No. of Items		Grades III (*n*= 32)	IV (*n*= 48)	V (*n*=20)	*F*	*p*
I	Emotional and Verbal Responsivity	10	*M*	3.03	3.63	3.05	0.91	.403
			SD	1.87	2.45	1.85		
II	Encouragement of Maturity	7	*M*	2.31	2.46	2.25	0.15	.861
			SD	1.57	1.60	1.65		
III	Emotional Climate	8	*M*	3.06	3.96	2.60	5.67	.004
			SD	1.68	1.69	1.57		
IV	Growth Fostering Materials and Experience	8	*M*	2.72	3.50	2.60	2.35	.100
			SD	2.25	1.75	1.70		
V	Provision for Active Stimulation	8	*M*	3.19	3.56	2.70	2.20	.117
			SD	1.55	1.51	1.72		
VI	Family Participation in Developmentally Stimulating Experience	6	*M*	1.66	2.35	1.85	3.23	.044
			SD	1.12	1.34	1.22		
VII	Paternal Involvement	4	*M*	1.09	1.83	1.00	4.78	.010
			SD	1.30	1.29	1.08		
VIII	Aspects of Physical Environment	8	*M*	2.94	2.79	2.35	0.62	.539
			SD	2.02	1.81	1.84		
	Total	59	*M*	20.00	24.08	18.40	4.51	.013
			SD	7.94	8.25	7.66		

d.f= 2, 97

the children of grade IV have better home environment as compared to the other grades.

Table 5 shows the socioeconomic status-wise differences on the subscales and the total HOME Inventory score. The significant differences were found in the subscales of Emotional and Verbal Responsivity, Emotional Climate, Growth Fostering Materials and Experiences, Provision for Active Stimulation, Paternal Involvement, and the total HOME Inventory score. In the subscale of Emotional and Verbal Responsivity the children from middle-middle socioeconomic class scored higher, indicating that their parents encourage them to read on their own; to contribute in the conversation with guests; parents respond to their children's questions and praise them. The children from lower-middle class scored higher in the subscale of Emotional Climate indicating that their parents do not loose temper with them and they are allowed to express their negative feelings toward their parents as compared to the other two groups. The Growth Fostering Materials and Experiences are better for the children of middle-middle class, e.g., record player or radio, books, daily newspaper, etc. In the subscale of Provision for Active Stimulation the children from upper-middle class scored higher. It shows that their parents encourage them to develop and sustain hobbies, the child has access to a library, play ground, etc. In the subscale of Paternal Involvement the children from lower-middle class scored higher indicating that their fathers spend more time with their children and engage themselves with the recreational activities of their children as compared with the fathers of middle-middle and upper-middle classes.

On the whole, children from lower-middle class have better home environment as compared to middle-middle and upper-middle classes. These findings are similar to the earlier studies carried out in Pakistan (e.g., Khan, Anila, & Pervez, 1991), and in West (e.g., Beckwith & Cohen, 1984; Barnard, Bee, & Hammond, 1984; Bradley & Caldwell, 1984; Gottfried, 1984; Gottfried & Gottfried, 1984; Johnson, Breckenridge, & McGowan, 1984; Siegel, 1984).

Table 5
Socioeconomic status-wise differences in total and subscales of HOME Inventory

	Subscales	No. of Items		Socioeconomic status: Lower-middle (*n*= 36)	Middle-middle (*n*= 32)	Upper-middle (*n*= 20)	*F*	*p*
I	Emotional and Verbal Responsivity	10	*M*	4.83	2.66	2.28	19.11	.000
			SD	1.86	2.12	1.55		
II	Encouragement of Maturity	7	*M*	2.28	2.69	2.16	0.99	.375
			SD	1.47	1.80	1.48		
III	Emotional Climate	8	*M*	3.67	4.06	2.44	8.84	.000
			SD	1.79	1.54	1.48		
IV	Growth Fostering Materials and Experience	8	*M*	3.72	3.78	1.62	17.39	.000
			SD	1.67	1.81	1.56		
V	Provision for Active Stimulation	8	*M*	3.03	4.31	2.50	13.98	.000
			SD	1.25	1.40	1.59		
VI	Family Participation in Developmentally Stimulating Experience	6	*M*	2.28	2.13	1.66	2.16	.120
			SD	1.19	1.31	1.31		
VII	Paternal Involvement	4	*M*	1.61	1.41	1.25	0.65	.523
			SD	1.46	1.43	0.95		
VIII	Aspects of Physical Environment	8	*M*	3.89	2.72	1.50	18.61	.000
			SD	1.86	1.33	1.57		
	Total	59	*M*	25.31	23.75	15.41	18.21	.000
			SD	6.98	8.16	6.25		

d.f= 2, 97

CONCLUSION

The study revealed that the HOME Inventory (Elementary Version) is a suitable and reliable measure for the observation of the home environment of the urban middle class children going to primary schools and it is found as useful as the Infant (Khan, Anila, & Pervez, 1991) and Preschool (Pervez & Anila, 1993) versions for the studies on the home environment of the Pakistani children.

It can be concluded from the present study that the parents provide similar type of home environment for the children of both genders. Children of IV grade get maximum attention of their parents and children of lower-middle class get better home environment, especially in the aspects which do not need any financial input.

REFERENCES

Barnard, K. E., Bee, H. L., & Hammond, M. A. (1984). Home environment and cognitive development in a healthy, low-risk sample: The Seattle study. In A. W. Gottfried (Ed.), *Home environment and early cognitive development: Longitudinal research* (pp. 117-149). Orlando: Academic Press.

Beckwith, L., & Cohen, S. E. (1984). Home environment and cognitive competence in preterm children during the first 5 years. In A. W. Gottfried (Ed.), *Home environment and early cognitive development: Longitudinal research* (pp. 235-271). Orlando: Academic Press.

Bradley, R. H. (1993). Children's home environments, health, behaviour, and interventions efforts: A review using the HOME Inventory as a marker measure. *Genetic, Social, and General Psychology Monograph, 119*(4), 437-490.

Bradley, R. H., & Caldwell, B. M. (1984). 174 children: A study of the relationship between home environment and cognitive development during the first 5 years. In A. W. Gottfried (Ed.), *Home environment and early cognitive development: Longitudinal research* (pp. 5-56). Orlando: Academic Press.

Bradley, R. H., Caldwell, B. M., & Rock, S. L. (1988). Home environment and school performance: A ten-year follow-up and examination of three models of environmental action. *Child Development, 59*, 852-867.

Bradley, R. H., Caldwell, B. M., Rock, S. L., Hamrick, H. M., & Harris, P. (1988). Home observation for measurement of the environment: Development of a HOME Inventory for use with families having children 6 to 10 years old. *Contemporary Educational Psychology, 13*, 58-71,

Bugental, D., Blue, J., & Cruzcosa, M. (1989). Perceived control over caregiving outcomes: Implication for child abuse. *Developmental Psychology, 25,* 532-539.

Caldwell, B. M., & Bradley, R. H. (1984). *Home Observation for Measurment of the Environment.* Little Rock: University of Arkansas.

Dunn, J., Brown, J., & Beardsall, L. (1991). Family talk about feeling state and children's later understanding of others' emotions. *Developmental Psychology, 27,* 448-455.

Elder, G., Nguyen, T., & Caspi, A. (1985). Linking family hardship to children's lives. *Child Development, 56,* 361-375.

Feldman, S. S., & Weinberger, D. A. (1994). Self-restraint as a mediator of family influence on boys' delinquent behaviour: A longitudinal study. *Child Development, 65,* 195-211.

Garrett, P., Ng'andu, N., & Ferron, J. (1994). Poverty experiences of young children and the quality of their home environment. *Child Development, 65,* 331-345.

Gottfried, A. W. (1984). Home environment and early cognitive development: Integration, meta-analysis, and conclusions. In A. W. Gottfried (Ed.), *Home environment and early cognitive development: Longitudinal research* (pp. 329-342). Orlando: Academic Press.

Gottfried, A. W., & Gottfried, A. E. (1984). Home environment and cognitive development in young children of middle socio-economic status families. In A. W. Gottfried (Ed.), *Home environment and early cognitive development: Longitudinal research* (pp. 57-115). Orlando: Academic Press.

Himelstein, S., Graham, S., & Weiner, B. (1991). An attributional analysis of maternal beliefs about the importance of child rearing practices. *Child Development, 62,* 301-310.

Hoffman, L. (1991). The influence of the family environment on personality: Accounting for sibling differences. *Psychological Bulletin, 110,* 187-203.

Johnson, D. J., Breckenridge, J. N., & McGowan, R. J. (1984). Home environment and early cognitive development in Mexican American children. In A. W. Gottfried (Ed.), *Home environment and early cognitive development: Longitudinal research* (pp. 151-195). Orlando: Academic Press.

Khan, S., Anila., & Pervez, S. (1991). Adaptation of HOME Inventory (Infant Version) for Pakistani children. *Pakistan Journal of Psychological Research, 6*(3-4), 103-115.

Kuder, G. F., & Richardson, M. N. (1937). The theory of estimation of test reliability. *Psychometrika, 2,* 151-160.

Pervez, S., & Anila. (1993). HOME Inventory (Preschool Version) and its relations with various demographic variables. *Pakistan Journal of Psychological Research, 8*(1-2), 13-23.

Scarr, S. (1992). Developmental theories for the 1990s: Development and individual differences. *Child Development, 63,* 1-19.

Scott-Jones, D. (1984). Family influence on cognitive development and school achievement. In E. W. Gordon (Ed.), *Review of research in education* (Vol. II, pp. 259-304). Washington, DC: American Educational Research Association.

Seginer, R. (1983). Parents' educational expectations and children's academic achievement: A literature review. *Merrill Palmer Quarterly, 29,* 1-23.

Siegel, L. S. (1984). Home environmental influences on cognitive development in preterm and full-term children during the first 5 years. In A. W. Gottfried (Ed.), *Home environment and early cognitive development: Longitudinal research* (pp. 197-233). Orlando: Academic Press.

Smith, S. G. (1994). The essential qualities of a home. *Journal of Environmental Psychology, 14,* 31-46.

Walberg, H. J., & Marjoribanks, K. (1976). Family environment and cognitive development: Twelve analytic models. *Review of Educational Research, 46,* 527-551.

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