Comparison of adaptive behavioural skills of mentally challenged children across their degree of mental challenge

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ABSTRACT: The present study assessed and compared the adaptive behaviour skills of 150 mentally challenged children from 3 RCI (Rehabilitation Council of India) recognised special schools of Delhi across their degree of mental retardation. Sample was drawn randomly in equal proportions from three categories of mental challenge viz. mild, moderate and severe mental challenge, belonged to low and middle income families. The adaptive behavioural skills of mentally challenged children were assessed using standardised Behavioural Assessment Scales for Indian Children with Mental Retardation Part A developed by NIMH. The study revealed that among both LIG & MIG, mildly challenged children had better motor skills, activities of daily living; more adaptivity of language, reading writing and domestic social skills; skills related to number time and pre vocational money was also found better among mildly challenged children. Interestingly, the predominant reason was better cognitive ability of mildly challenged children as compared to moderately and severely challenged children.

Key words: Adaptivity, domestic social skills, language, level of retardation, low and middle income families, mental retardation, motor skills, pre vocational money, reading writing skills, special need children.

Children with mental retardation are one of the most distressing handicaps of our society. Mentally retarded individual's development depends on the type and extent of the disorder, cognitive abilities, associated disabilities, environmental factors, psychological factors and psychopathological conditions. The American Association on Mental Retardation (AAMR, 2002) defined mental retardation as a disability characterized by significant limitations in intellectual functioning and adaptive behavioral skills such as conceptual, social and practical adaptive skills. This disability originates before 18 years of age.

Diagnostic and Statistical Manual of Mental Disorders, (DSM-IV-TR), classifies mental retardation into four different degrees: mild, moderate, severe and profound. These categories are based on the person's level of functioning. As per the classification given by NIMH (National Institute for Mentally Handicapped) person having IQ (Intellectual Quotient) in the range of 50-70 are mildly challenged, 35-49 are moderately challenged and 20-34 are severely challenged and persons having IQ below 20, is considered as profound. The low IQ score alone is not sufficient for diagnosis of mental challenge or retardation. Limitations in adaptive behavioral skills must exist with low IQ.

Adaptive behavioral skills refer to those practical and social skills that an individual use in order to function effectively in his/her everyday life. These skills use in areas such as in communication, taking care of oneself, social interactions, managing money and so on. Adaptive behavior can also be considered the effectiveness with which individuals meet the standards of personal independence and social responsibility that is expected from the individuals of their age and cultural group (AAMR, 1992). Assessing adaptive behavior focuses on two major issues: (a) the degree to which individuals are able to maintain themselves and do tasks independently, and (b) the degree to which they fulfill the culturally imposed demands of personal and social responsibility (Sattler, 2001).

Clinicians and researchers are exploring the factors that predict adaptive functioning. One obvious factor is cognitive capacity, or IQ that affects the adaptive functioning of mentally challenged child. IQ has been the most studied variable among studies focusing on the relationships between adaptive behavior and cognitive characteristics (Klin *et al*., 2007; Perry *et al.,* 2009; Oliveras-Rentas *et al*., 2012; Kanne *et al.,* 2011; Kenworthy *et al.*, 2010; Szatmari *et al.,* 2002). These studies have discovered that IQ of an individual is

correlated positively with their adaptive behaviour and also predicts adaptive behavior in both, low and high functioning autism. However, researchers have shown that some individuals may present cognitive skills that are within normal levels, yet display impaired adaptive behaviour. Yet, the concept about the relationship between intellectual functioning and adaptive skills among mentally challenged children is not fully revealed. Therefore, in the light of the above reflections, the present study was planned with the following objectives:

1. To assess and compare the level of adaptive behavioural skills among mentally challenged children across their degree of mental challenge.
2. To investigate statistical differences in the adaptive behavioural skills of mentally challenged children across their degree of mental challenge.

MATERIALS AND METHODS

Locale

The present research was carried out exclusively in Delhi. As Delhi has an appreciable number of RCI (Rehabilitation Council of India) recognized special schools and was nearest to the researcher, so it was purposively selected for the research study. Out of the 9 RCI recognized institutes for MR children in Delhi, 3 institutes namely C.B.S Memorial, Manovikas and NIMH (National Institute for Mentally Handicapped), were randomly selected as research base for the present study.

Sample

The list of mildly, moderately and severely mentally challenged children enrolled in CBS Memorial, Manovikas and NIMH was procured from their Directors. From the list, 50 MR children were randomly selected from all three levels of mental challenge viz. mild, moderate and severe mental challenge. Thus, the sample for the present study consisted of 150 MR children and their families.

Tools

To study the socio-demographic and socio-economic characteristics of respondents, self-designed general questionnaire was used in the present research study. Adaptive behaviour skills of mentally challenged children were assessed by administering "Behavioural Assessment Scales for Indian Children with Mental Retardation (BASIC-MR) Part A developed at NIMH. The scale entails detailed assessment of the behavioural skill of the children in age range 3 to 16 (or 18) years. The items included in Part A of the scale helps to assess the current level of adaptive behaviour of the child.

Procedure and Data Analysis

The Directors of the selected institutions were contacted, who provided all the necessary required details related to the enrolled MR children and their families. The required samples were drawn and then, first common meeting was organized with the families of MR children by the researcher. Meeting was organized in the institute itself, to explain them the purpose of the research study. The parents were contacted for data collection on the place of their choice-institute or their home where they were interviewed and observations made by the researcher. The data collected was classified and tabulated as per the objectives so as to arrive at meaningful inferences. Statistical techniques like frequency, percentage, mean and Analysis of Variance was used to analyze the data.

RESULTS AND DISCUSSION

A cursory look at the Table 1 shows distribution pattern of mentally challenged children on adaptive behaviour skills across level of their degree of mental challenge. In low income families, both mildly and moderately challenged children have shown equal percentage (12.00%) in low level of adaptivity of motor skills. Whereas, 28.00% of severely challenged children were found at low level of adaptivity. However, 52.00% of mildly challenged children reported high adaptivity of motor skills as compare to moderately challenged (20.00%) and severely challenged (24.00%). In case of middle income families, 36.00% of severely challenged children in major proportion reported low adaptivity of motor skills. Whereas, among all the levels of mental challenge more percentage of mildly challenged children (52.00%) showed high level of motor skills.

Under the component of activities of daily living, in low income families equal proportion of moderately and severely challenged children (60.00%) in majority were found at low level of adaptivity. Almost half (52.00%) of the mildly challenged children fall under high level of adaptivity. It was noticed that in middle income families more percentage (80.00%) of severely challenged children were found with low adaptivity as compare to mildly challenged children (32.00%) and moderately challenged children (28.00%). Almost half of the mildly challenged children (52.00%) in more proportion were found at high level.

Table 1: Frequency and percentage distribution of mentally challenged children from low & middle income families on the type and level of adaptive behaviour skills across their degree of mental challenge

Domains of Adaptive Behaviour Skills	Levels of Adaptive Behaviour Skills	Score range	Low Income Families (n_1=75)						Middle Income Families (n_2=75)					
			Mildly challenged children (n_{1a}=25)		Moderately challenged children (n_{1b}=25)		Severely challenged children (n_{1c}=25)		Mildly challenged children (n_{2a}=25)		Moderately challenged children (n_{2b}=25)		Severely challenged children (n_{2c}=25)	
			n	%	n	%	n	%	n	%	n	%	n	%
Motor	Low	0-66	3	12.00	3	12.00	7	28.00	5	20.00	3	12.00	9	36.00
	Moderate	67-133	9	36.00	17	68.00	12	48.00	7	28.00	12	48.00	13	52.00
	High	134-200	13	52.00	5	20.00	6	24.00	13	52.00	10	40.00	3	12.00
Activities of Daily Living	Low	0-66	11	44.00	15	60.00	15	60.00	8	32.00	7	28.00	20	80.00
	Moderate	67-133	1	4.00	3	12.00	2	8.00	4	16.00	7	28.00	2	8.00
	High	134-200	13	52.00	7	28.00	8	32.00	13	52.00	11	44.00	3	12.00
Language	Low	0-66	16	64.00	17	68.00	23	92.00	13	52.00	16	64.00	23	92.00
	Moderate	67-133	8	32.00	8	32.00	2	8.00	9	36.00	9	36.00	2	8.00
	High	134-200	1	4.00	0	0.00	0	0.00	3	12.00	0	0.00	0	0.00
Reading-Writing	Low	0-66	21	84.00	24	96.00	25	100.0	20	80.00	25	100.0	25	100.0
	Moderate	67-133	3	12.00	1	4.00	0	0.00	3	12.00	0	0.00	0	0.00
	High	134-200	1	4.00	0	0.00	0	0.00	2	8.00	0	0.00	0	0.00
Number- Time	Low	0-66	21	84.00	23	92.00	25	100.0	20	80.00	25	100.0	25	100.0
	Moderate	67-133	4	16.00	2	8.00	0	0.00	5	20.00	0	0.00	0	0.00
	High	134-200	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Domestic Social	Low	0-66	21	84.00	23	92.00	25	100.0	19	76.00	22	88.00	25	100.0
	Moderate	67-133	4	16.00	2	8.00	0	0.00	5	20.00	3	12.00	0	0.00
	High	134-200	0	0.00	0	0.00	0	0.00	1	4.00	0	0.00	0	0.00
Pre vocational money	Low	0-66	24	96.00	25	100.0	25	100.0	22	88.00	25	100.0	25	100.0
	Moderate	67-133	1	4.00	0	0.00	0	0.00	2	8.00	0	0.00	0	0.00
	High	134-200	0	0.00	0	0.00	0	0.00	1	4.00	0	0.00	0	0.00

On the language component of adaptive behaviour, again it was seen that low income families had majority of severely challenged children (92.00%) who reported low level of adaptivity when compared to moderately (68.00%) and mildly (64.00%) challenged children. At high level of language adaptivity, only a small fraction, (4.00%) of mildly challenged children were found. None of the children from moderate and severe category of mental challenge were found at high level. In middle income families it was observed that majority of children from severely challenged category (92.00%) were at low level under the said component. Only 12.00% of mildly challenged children were found at high level under this dimension. Maximum proportions of children were identified low in language adaptivity.

The picture of low income families under the reading-writing domain reveals that substantially all the severely challenged children showed low adaptivity in acquiring skill whereas in moderate and mild category of mental challenge the percentage falls to 96.00% and 84.00%. Among all the three levels of mental challenge only mildly challenged children (4.00%) reported high adaptivity. In middle income families all moderately and severely challenged children in major proportion were found to be low adaptive. Only small fraction of mildly challenged children (8.00%) was found to be highly adaptive and none of the children from moderate and severe level of mental challenge were at high level.

On the number time dimension, 100.00%, 92.00% and 84.00% of severely, moderately and mildly challenged children were found at low level of adaptivity from low income families. None of the children were recognised highly adaptive on this domain. It was revealed that equal proportion of severely and moderately challenged children (100.00%) in majority from middle income families reported low level of adaptivity. It was surprised to note that none of the children were found at high level of adaptivity. Overall, maximum proportion of children showed low adaptivity in acquisition of number time skills.

In the case of domestic social component, low income families depicted same picture of disappointment. 84.00% of mildly challenged children fall under low level and as the severity of mental challenge increased their percentage increased by 92.00% and 100.00% under moderate and severe level of mental challenge. None of the children from all the three levels of mental challenge were found to be at high level of adaptivity. Similarly, in middle income families across the level of child's mental challenge differences were observed. 76.00%, 88.00% of mildly, moderately challenged children and in majority all severely challenged children were observed at low level under the domain of domestic social. High level of adaptivity was only found among 4.00% of mildly challenged children. Overall, results prevailed that majority of children were low in domestic-social domain.

In pre vocational money domain from low income families, 96.00% of mildly challenged children showed low adaptive behaviour whereas 100.00% moderately and severely challenged children were found at low level. It was found that none of the children fall under high level. Likewise, in middle income families it was seen that mildly challenged children (88.00%) and 100.00% of moderately and severely challenged children have shown low adaptivity under the said component. Only 4.00% of mildly challenged children fall under high level of adaptivity.

The results presented in Table 2 have shown significant difference in acquisition of skills among children with different degree of disability. This is because IQ level is prerequisite to children to acquire the skills. This finding is in accordance with that of Schatz and Hamden-Allen (1995) and Bruschini *et al.* (2003) who reported that IQ was positively related to the adaptive behaviour. Rodrigue *et al.* (1990) and Wilkins (2008) reported that children with Down syndrome and intellectually disabled adults performed better in social skills than autistic children.

Variations in adaptive skills as per the I.Q of the children can be clearly seen from table. It was noted that children from mild level of mental challenge showed better adaptive behaviour among all and as the severity of mental challenge increased, level of adaptivity was found to be decreased. Hence, motor activities, daily living activities, academics related activities respectively were found to be better in mild as compare to moderate and severely challenged children in the present study. Therefore, for this reason significant differences were found in the adaptive behaviour of children across child's degree of mental challenge.

CONCLUSION

It has been obtained from the study that child's degree of mental challenge had an impact on their adaptive behavioural skills. Child's degree of mental challenge was found to be significantly affecting adaptive functioning of children. Mildly challenged children reported better motor skills, domestic social skills and activities related to daily living; their language, reading-writing skills, skills related to number-time concept and related to pre vocational money found to be developed more as compare to moderately and severely challenged children. On the whole it can be concluded

Table 2: Mean differences in the adaptive behaviour skills of mentally challenged children from low and middle income families across their degree of mental challenge

Domains of Adaptive Behaviour Skills	Low Income Families (n_1=75)			Middle Income Families (n_2=75)		
	Mildly challenged children (n_{1a}=25)	Moderately challenged children (n_{1b}=25)	Severely challenged children (n_{1c}=25)	Mildly challenged children (n_{2a}=25)	Moderately challenged children (n_{2b}=25)	Severely challenged children (n_{2c}=25)
Motor	125.04[a]	110.2[b]	88.44[c]	121.28[a]	115.24[b]	77.68[c]
Activities of Daily Living	127.84[a]	93.32[b]	57.96[c]	117.44[a]	111.28[b]	62.64[c]
Language	60.76[a]	41.28[b]	27.48[c]	63.80[a]	55.96[b]	27.44[c]
Reading-Writing	32.76[a]	12.84[b]	3.00[c]	28.60[a]	9.68[b]	2.28[c]
Number- Time	23.76[a]	7.00[b]	2.96[c]	22.20[a]	5.48[b]	0.88[c]
Domestic Social	43.64[a]	29.64[b]	21.48[c]	44.08[a]	38.16[b]	16.16[c]
Pre vocational money	26.12[a]	12.88[b]	8.68[c]	27.08[a]	18.36[b]	3.60[c]

Note: 1. Means with different superscripts differ significantly at $p<0.05$
2. Higher the score, higher the adaptive behaviour

that whether the mentally challenged children from low income class or middle income class it is child's learning ability or I.Q or level of mental retardation that becomes a contributing factor in acquiring adaptive behavioural skills. With the severity of child's mental disability, the adaptive functioning was found to be decreased.

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