

## ADAPTIVE BEHAVIOUR OF MENTALLY RETARDED

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### ABSTRACT

The current paper attempted to find out the adaptive behaviour and its correlation with social quotient (SQ), chronological age (CA), social age (SA), and inter-correlation among the domains of adaptive behaviour in the case of the children with mental retardation. Altogether 105 children in the age-group 4-15 years, (Mean age=146 months, SD=32.88) were involved in the study as participants. The Vineland Social Maturity Scale (VSMS), Indian adaptation by A.J. Malin, was used to assess Social Age (SA), Social Quotient (SQ), and adaptive functioning. The test was conducted twice at an interval of five months (Time One and Time Two) to examine whether there was any change in the adaptive behaviour of the children. The results of the study indicated that the higher the social quotient, the higher the adaptive functioning; that there was low correlation between chronological age and adaptive skills; that there was high positive correlation between social age and adaptive behaviour; and that a positive correlation among the domains of adaptive behaviour was found. Suggestions for further research were also made.

**KEYWORDS:** Adaptive behaviour, child, chronological age, mental retardation, social age, social quotient, skill.

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### INTRODUCTION

The adaptive behaviours are the everyday living skills, such as walking, eating, talking, getting dressed, going to school, going to work, preparing a meal, cleaning, etc. They are skills that a person learns in the process of adapting to his or her surroundings. It is the functional ability of the individual to acquire personal independence and social responsibility. The social responsibility refers to effective coping with the natural and social demands of the environment by an individual. In 1959, the American Association on Mental Retardation (AAMR) first included deficits in adaptive functioning. Subsequently, the Association defined adaptive behaviour as:

“The effectiveness or degree with which the individual meets the standards of personal independence and social responsibility expected of his/her age and cultural group” (Grossman, 1983, p.1).

About the domains of adaptive behaviour, ten adaptive skill areas were identified by the American Association on Mental Retardation (1992), such as communication, self-care, home living, social skills, community use, self-direction, health and safety, functional academics, leisure, and work. Deficit in these behaviours means any failure to accomplish standards of independency and social tasks (Hallan and Kauffman, 1994). It has been noted by Hunt and Marshall (1994) that the adaptive behaviour skills, such as personal and social competence, are weaker in the mentally deficient population, and these individuals have difficulty in the adaptation to requirements of daily living. These behaviours include something more than just adaptation and coping with “out school environment” and they change according to age and status of individuals (Kopp et al., 1992).

For assessment of the daily living skills/adaptive behaviour of individuals suspected of having mental retardation, Edgard Doll developed the Vineland Adaptive Behaviour Scale (VABS) in 1935. This scale has been adapted for Indian population by Malin in 1965 as Vineland Social Maturity Scale (VSMS). The Indian adaptation of VSMS gives a profile on development in eight domains, as given in the following pages. Using the Vineland Social Maturity Scale (VSMS) and Vineland Adaptive Behaviour Scale (VABS), a number of studies have been conducted in India and abroad on adaptive behaviour of the children with or without mental retardation. In a study conducted by Peters (2004) on cognitive and adaptive behaviour of children with Angelman Syndrome it was found that the adaptive behaviour skills of children were strongly correlated with their cognitive abilities. A similar finding was found in the studies conducted on children with Genetic Syndromes (e.g., Dykens et al., 1994; Carter et al., 1998; Mervis et al., 2002). Mervis et al. (2005) studied intellectual abilities and adaptive behaviour of children and adolescents in the age-group 2-19 years with Kabuki syndrome and the results indicated that the child with the lowest IQ evidenced the weakest adaptive behaviour and that the overall adaptive behaviour was strongly related to intellectual ability. Such a correlation between IQ and adaptive functioning was also found in other studies (e.g., Freeman et al., 1988; Carpentieri and Morgan, 1996; Martin et al., 2006; Klin et al., 2007; Mazefsky et al., 2008). Kumar et al. (2009) found out the effect of severity of mental retardation on social development along with possible correlation between social quotient (SQ) and IQ on the one hand and age and social development on the other. The result showed that as the level of mental retardation increases, social development decreases correspondingly, that there was no impact of the age factor on the social development of the mentally retarded children, and that social quotient increases as the level of mental retardation decreases from profound to mild. Martin et al. (2006) also found that as the age of the child increased, scores on the Daily Living Skills domain decreased.

The current study aims at finding out the effect of social quotient (SQ) on adaptive functioning along with the correlation between: chronological age (CA) and social quotient (SQ), chronological age (CA) and adaptive skills, social age (SA) and social quotient (SQ), social age (SA) and adaptive functioning, and inter-correlation between adaptive domains for children with mental retardation who had been institutionalized in the seven centres located in and around Imphal.

## METHOD

### PARTICIPANT

Altogether 105 children in the age-group 4-15 years (Mean age=146 months SD=32.88) were selected through the purposive sampling from amongst the institutionalized children. In this study no child below the age of 4 years was found.

### EXCLUSION CRITERIA

Children above the age of 15 years were excluded from the purview of the study as the Vineland Social Maturity Scale (VSMS), the Indian adaptation, was meant for children in the age-group 0-15 years.

### MATERIALS

The Vineland Social Maturity Scale (VSMS), the Indian (Nagpur) adaptation by A.J. Malin (1965) was used. It measures the differential social capacities of an individual and provides an estimate of social age and social quotient, and shows high correlation (0.80) with intelligence. It is designed to assess social maturation in eight social domains as given below tentatively:

Self-Help General (SHG)	Activities like grooming, skills like washing, brushing, hair combing, toileting, personal hygiene, food preparation, budgeting, home safety, daily living skills, etc.
Self-Help Eating (SHE)	Self-eating and self-drinking.
Self-Help Dressing (SHD)	Dressing and undressing.
Self-Direction (SD)	Ability to complete day-to-day tasks without guidance.
Occupation (OCC)	Ability to maintain gainful employment and learning vocational skills.
Communication (COM)	Ability to comprehend and express information through spoken words, written words, graphic symbols, sign language, and manually coded English or non-symbolic behaviours such as facial expressions, body movements, and gestures.
Locomotion (LOC)	Controlled movement of muscle groups, such as buttoning a shirt, walking or throwing a ball.
Socialization (SOC)	Ability to interact with others.

### PROCEDURE

To begin with, rapport was established with the principals, teachers, wardens, and caregivers of each Centre by explaining them the nature and purpose of the study. Since the adaptive behaviour is not to be measured by testing an individual or a child directly; instead, someone who knows the individual well and is familiar with the individual's typical adaptive behaviour

across a variety of contexts; principals, teachers, wardens, and caregivers were selected as informants. For 65 hostellers, the information on each child was extracted from the warden or caregivers, while for 40 day-scholars, it was gathered from the principal or class teacher. The Vineland Social Maturity Scale (VSMS) was administered to the same informant in two sessions as Time One and Time Two separated by an interval of twenty weeks. The first session was of twelve weeks' duration ( $n=105$ ), the second required eight weeks ( $n=74$ ). The data were collected during February – July 2011.

## DATA ANALYSIS

The data were analysed using mean, standard deviation, and correlation. The value of 'r' is determined on the basis of the following classification (Garrett, 2007, p.176):

r from .00 to  $\pm .20$  (denoting indifferent or negligible relationship),

r from  $\pm .20$  to  $\pm .40$  (denoting low correlation present but slight),

r from  $\pm .40$  to  $\pm .70$  (denoting substantial or marked relationship),

r from  $\pm .70$  to  $\pm 1.00$  (denoting high to very high relationship).

## RESULTS

The results indicated that at both Time One and Time Two, a positive correlation was found between the social quotient and adaptive functioning, and that the higher the social quotient, the higher the adaptive behaviour skills (See Table 1). The negligible correlation was found between chronological age and social quotient (See Table 2). On the other hand, there was low correlation between chronological age and adaptive behaviour; hence, chronological age had nothing to do with the development of the desired adaptive skills (See Table 3). The results also revealed a positive correlation between the social age and social quotient. It was found that with the increases in social age, the social quotient also increased (See Table 4). The data suggested that there was high positive correlation between social age and adaptive skills, except for the Self-Direction (SD), which showed marked positive correlation at Time One and Time Two (See Table 5). The results as shown in Table 6 and 7 indicated that there appeared to be positive correlation amongst the domains of adaptive behaviour and that the Self-Direction (SD) was the only domain which had substantial relationship with other dimensions.

## DISCUSSION

The study finds a positive correlation between social quotient, which is the approximate IQ, and adaptive functioning. The higher the social quotient, the higher the adaptive behaviour skills. Peters (2004) also found a similar finding that the adaptive behaviour skills of children were strongly correlated with their cognitive abilities. Such a correlation between the cognitive abilities and adaptive behaviour skills was found in other studies conducted on children with Genetic Syndrome (e.g., Dykens et al., 1994; Carter et al., 1998). Mervis et al., (2005) found the child with the lowest IQ evidenced the weakest adaptive behaviour and adaptive behaviour ability was also strongly related to intellectual ability. Correlation between IQ and adaptive functioning was also found in other studies (e.g., Freeman et al., 1988; Carpentieri and Morgan, 1996; Martin et al., 2006; Klin et al., 2007; Mazefsky et al., 2008). The results of the current

study also suggest that age is not a determining factor of cognitive development since chronological age has nothing to do with increase or decrease in social quotient scores. The result is consistent with a study conducted by Kumar et al., (2009) in which there was no impact of the age factor on the social development of the mentally retarded children. Martin et al., (2006) also found that as the age of the child increased, scores on the daily living skills domain decreased. The present study finds a positive correlation between social age and social quotient on the one hand and between social age and adaptive functioning on the other. The higher the social age; the higher social quotient and adaptive behaviour scores. The results from the inter-correlation matrix reveal a positive correlation between the domains of adaptive behaviour skills.

## CONCLUSION

The social age may be a very important contributing factor for high or low social quotient and adaptive abilities. The chronological age may not be a determining variable of cognitive and adaptive abilities. Each domain of adaptive behaviour seems to be inter-correlated and interdependent. We may find it difficult to generalize the results of the study because of limited sample size. Further research on a larger sample is called for.

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**Table 1 Effects of Social Quotient on Adaptive Functioning**

	Time One (n=105)	Time Two (n=74)
Domains	SQ	SQ
SHG	0.869	0.815
SHE	0.737	0.766
SHD	0.875	0.857
SD	0.442	0.649
OCC	0.879	0.869
COM	0.809	0.850
LOC	0.841	0.880
SOC	0.850	0.860

**Table 2 Correlation between Chronological Age and Social Quotient**

TIME ONE (n=105)				TIME TWO (n=74)		
	$\bar{X}$	SD	Correlation	$\bar{X}$	SD	Correlation
CA	145.653	32.902	-0.135	136.85	29.235	-0.088
SQ	30.490	16.643		38.081	18.719	

**Table 3 Correlation between Chronological Age and Adaptive Behaviour**

Areas	TIME ONE (n=105)	TIME TWO (n=74)
	CA	CA
SHG	0.282	0.329
SHE	0.273	0.263
SHD	0.292	0.342
SD	0.287	0.209
OCC	0.306	0.308
COM	0.335	0.287
LOC	0.361	0.307
SOC	0.328	0.310

**Table 4 Correlation between Social Age and Social Quotient**

TIME ONE (n=105)			TIME TWO (n=74)			
	$\bar{X}$	SD	Correlation	$\bar{X}$	SD	Correlation
SA	43.134	24.328	0.846	51.212	25.756	0.889
SQ	30.490	16.643		38.081	18.719	



**Table 5 Correlation between Social Age and Adaptive Skills**

Areas	TIME ONE (n=105)	TIME TWO (n=74)
	SA	SA
SHG	0.960	0.928
SHE	0.853	0.865
SHD	0.978	0.977
SD	0.609	0.756
OCC	0.975	0.958
COM	0.944	0.937
LOC	0.970	0.983
SOC	0.962	0.962

**Table 6 Inter-Correlation Matrix among Adaptive Domains; Time One (n=105)**

Domains	SHG	SHE	SHD	SD	OCC	COM	LOC	SOC
SHG	1							
SHE	0.8	1						
SHD	0.945	0.869	1					
SD	0.478	0.759	0.585	1				
OCC	0.969	0.779	0.958	0.462	1			
COM	0.860	0.830	0.900	0.686	0.886	1		
LOC	0.909	0.806	0.940	0.638	0.931	0.913	1	
SOC	0.929	0.699	0.919	0.485	0.957	0.899	0.960	1

**Table 7 Inter-Correlation Matrix among Adaptive Domains; Time Two (n=74)**

Domains	SHG	SHE	SHD	SD	OCC	COM	LOC	SOC
SHG	1							
SHE	0.777	1						
SHD	0.898	0.853	1					
SD	0.571	0.844	0.723	1				
OCC	0.936	0.749	0.938	0.572	1			
COM	0.797	0.865	0.904	0.847	0.837	1		
LOC	0.894	0.842	0.949	0.775	0.939	0.921	1	
SOC	0.921	0.749	0.922	0.626	0.952	0.867	0.958	1