Brief Note**Assessment of the Mental Abilities of Special School Children in Mongolia**

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The present research attempts to illuminate the current state of assessment in special schools for children with mental retardation in Mongolia. In particular, it is intended to clarify the level of mental abilities of children attending special schools, as evaluated with the Draw-a-Man (DAM) test. Human figure drawings by 310 children (ages 5 to 12) from 11 regular schools, 4 special schools, and 5 kindergartens in Ulaanbaatar City were analyzed. In order to get data on children in special schools, a questionnaire including the definition of mental retardation (AAMR, 1992) was completed by their teachers. Results from the Draw-a-Man tests and questionnaires demonstrate that the level of mental abilities of special school children is lower than that of regular school children, and supports the logic of using categories such as "mildly mentally retarded" and "mental developmental delay" for assessment in Mongolia. However, some results suggest that children who do not fit these categories are also enrolled in special schools; consequently more comprehensive tools for identification of their mental abilities are required.

Key Words: assessment, Draw-a-Man test, mental developmental delay, children with mental retardation, Mongolian children

Introduction

An overview of special education in countries with well developed educational systems reveals that psychological tests have been used as an important technique for assessing children's educational and psychological problems. The profusion of tests developed in the early twentieth century helped to shape the character of contemporary tests (Gregory, 1996). Despite this background of test development for special education assessment, intelligence tests have not been used in Mongolia's regular and special education, and were considered as non-relevant method for getting full information on children's intelligence. This was the result of the impact of defectology (the Russian study of abnormalities), since many Mongolian specialists in the field had been trained at universities in Russia. The famous Russian psychologist Vygotsky sharply criticized intelligence tests, and to have proved that education is the

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actual determining force in children's development.

In practice, the Medical-Pedagogical Commission (MPC) is responsible for the assessment of children for schools for children with mental retardation in Mongolia. Medical personal, including the child's neuropsychologist, diagnose the child's health condition, and a special education teacher instructs the child in different tasks to assess the child's state of cognitive functioning. To detect mental retardation, the specialist refers to the theoretical basis of Oligofrenopedagogy (education of mentally retarded, Russian), which defines the characteristics of mental retardation as the following: 1) the presence of organic brain damage; 2) general cognitive dysfunction with dominant symptoms such as a deficiency of analyzing and abstracting skills; and 3) the constancy of the disorders of intellectual processing (Eremenko, 1985).

Relatively speaking, there are three levels: so-called debil or mild, imbecile or moderate, and idiot or severe. According to the Medical-Pedagogical Commission's documents, children identified as mildly mentally retarded and children with mental developmental delay should be enrolled in special schools. In Soviet/Russian defectology or special education, the term "mental developmental delay" or, in Russian, "*zaderjka psichicheskogo razvitiya*," refers to children with learning problems. In a broader context, it covers a variety of behavioral and emotional problems, but little progress has been made to classify these children into specific groups (Zavadenko & Uspenskaya, 1994).

The teachers of the Medical-Pedagogical Commission recognize that by means of teaching experience those children who fall under the category of mental developmental delay can be distinguished from other children who have more severe problems (Shif & Petrova, 1964). In other words, the practical outcome is that special education in Mongolia emphasizes on the development of curriculum and instruction more than identification and screening methods. The materials used and the instruction varies among teachers; standardized methods for selecting children for special schools have not yet been developed.

An overview of the assessment process currently applied in Mongolia suggests the need for standardized measuring tools to determine the level of cognitive development of children requires special education. However there is a shortage of financial and professional resources for developing such a test in Mongolia.

As an initial step for test development in Mongolia, to clarify the level of mental abilities of children attending special schools, the Draw-a-Man (DAM) test and a questionnaire were considered for use. As has been described by other researchers, the human figure drawing is regarded as an index of intellectual thinking ability that increases with the age (Goodenough, 1926). Later, in a revision of the original Goodenough test, Harris (1963) substituted the term "conceptual maturity." Many other researchers (e.g., Swensen, 1957) noted the value of the Draw-a-Man test for purposes of diagnostic assessment. Characteristics of the test such as its culture fairness, cost effectiveness, and easiness of administration have had an impact on its selection.

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Study 1: Application of Draw-a-Man Test in Mongolia**1. Purpose**

To determine the level of mental abilities of children in special schools with the Draw-a-Man test, and to clarify categories to be used for assessment in special education in Mongolia.

2. Method*1) Participants*

Participants were 310 children through age 5 to 12: 130 children from 4 special and 180 children from 11 regular schools and 5 kindergartens in Ulaanbaatar.

2) Procedure

Each child was asked to draw a picture of a man on a single sheet of unlined paper (A4). Then each drawing was scored using the entire 73-item point scale in the Harris scoring system; the children received one point for each item in their drawings.

3. Results

We analyzed 310 drawings by children from special schools, regular schools and kindergartens, ages 5 to 12. The number of subjects, mean results, standard deviation, and range of scores are presented in Table 1. The mean score for each age group increased with age. Mean scores of children in special schools were lower than those of children in regular schools (Fig. 1). Eighty-nine percent of the children in special schools had lower scores than the mean score of the children in regular schools, including 12% who were within the range from the mean score of the children in regular schools to -1 *SD*, and 30% within the range from the mean scores to -2 *SD*. Twenty-three percent of children in special schools had scores in the normal range on the Draw-a-Man test. Forty-seven percent of results fell under -2 *SD*. In this lower range of results, 7% were children with an IQ less than 50, if their scores were converted to the IQ equivalent. Therefore, it could be assumed from the results

TABLE 1 Results of scores on Draw-a-Man test

Age	Regular school				Special school			
	N	Mean	<i>SD</i>	Range	N	Mean	<i>SD</i>	Range
5	10	15.8	4.82	10-24				
6	10	25.6	5.33	13-39				
7	10	25.2	5.37	21-35				
8	30	27.1	9.75	13-42	30	19.3	10.42	9-42
9	30	31.3	7.15	14-46	30	16.2	5.48	7-36
10	30	29.5	4.79	14-43	30	21.8	8.81	10-42
11	30	42.0	12.12	23-69	30	24.4	9.78	10-47
12	30	45.2	7.79	24-56	10	27.0	11.12	9-51

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FIG. 1 Means and range of standard deviations of raw scores on Draw-a-Man test using the Harris scoring system

of the Draw-a-Man test that 47% might be classified as children with mild mental retardation. The other 53% of the children (above $-2 SD$) were in borderline or normal range of intelligence. Their classification as children with mental developmental delay might be possible, according to the Draw-a-Man test, especially for those children whose results were in the normal range.

Study 2: Questionnaire for Teachers

1. Purpose

To clarify teachers' perception of children's intellectual functioning and limitations in adaptive skills according to the AAMR definition of mental retardation, and find out what factors contribute to the children's learning problems.

2. Method

1) Participants

Classroom teachers of the children ($N=130$) from the special schools who participated in the Draw-a-Man test in study 1 responded to the questionnaire.

2) Procedure

The questionnaire consists of two parts. Part 1 (Table 2) was comprised of the contents of the generally accepted definition of mental retardation by the American Association on Mental Retardation (AAMR, 1992), which is different from the definition of mental retardation used for assessment in Mongolia. Part 2 of the questionnaire includes factors contributing to learning difficulties (Table 3). In order to prevent the possibility of misinterpretation of questions because of teachers' subjective experiences, the content for each item was explained before the question-

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TABLE 2 Bi-serial correlation on Draw-a-Man test scores and questionnaire items

Items	Yes	%	r_{bis}
1. The child has sub-average intellectual functioning	94	72.31	-0.42**
2. The child has significant limitation in communication skills	41	31.54	-0.32**
3. The child has limitation in self care skills	56	43.08	-0.26*
4. The child has limitation in home living	77	59.23	-0.68**
5. The child has limitation in social skills	63	48.46	-0.49**
6. The child has limitation in community use	73	56.15	-0.41**
7. The child has limitation in self-direction	88	67.69	-0.36**
8. The child has limitation in health and safety	64	49.23	-0.34**
9. The child has limitation in functional academics	92	70.77	-0.19*
10. The child has limitation in leisure	67	51.54	-0.46**
11. The child has limitation in work	64	49.23	-0.47**

** $p < .01$, * $p < .05$

TABLE 3 The factors contributing to the child's ($N = 130$) learning problem

Factors	Yes	%
1. Emotional status	28	21.5
2. Vision	8	6.2
3. Hearing	11	8.5
4. Speech disorder	31	23.8
5. Health impairment	41	31.5
6. Motor disorder	8	6.2
7. Attention disorder	68	52.3
8. Different language	18	13.8
9. Inadequate learning opportunities	84	64.6

naire was distributed to respondents. The results from the questionnaires were compared to the Draw-a-Man test results by bi-serial correlation, in order to find out whether there is a link between the outcomes of these studies.

3. Results

A summary of the teachers' responses is presented in Tables 2 and 3. The data indicate that teachers' perceptions are more focused on the domain of limitation of intellectual functioning (72%) and academic competence (71%), than on social adaptive behavior skills. Other social adaptive skill areas varied from 31% to 67% (Table 2). Responses on this questionnaire contributed to understanding that these children share characteristics of mental retardation.

For the second part of the questionnaire, on factors contributing to the learning problems (Table 3), inadequate learning opportunities (64%) and attention disorder (52%) were seen most frequently as the factors influencing learning problems; 32% of responses indicated health problems, 24% on speech disorder and 21% on

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emotional disorders. These results demonstrate that children's disabilities are not discrete, but rather contain various different characteristics and are affected by environmental factors as well.

The bi-serial correlation coefficients of the Draw-a-Man test results and questionnaire part 1 items indicate a negative relationship ($p < .01, .05$): high scores on the Draw-a-Man test were associated with fewer limitations in adaptive skill areas and intellectual functioning (Table 2). However, the degree of relationship differs on each item. Teachers' responses towards items 3 (limitation on self-care skills) and 9 (limitations on functional academics) show low or almost no relationship to the Draw-a-Man test.

Discussion

Referring to results on the Draw-a-Man test, approximately half of the children in special schools in Mongolia are at the same intellectual level as children in regular schools, and might be classified as children with mental developmental delay. The other half could be classified as children with mild mental retardation. A low correlation of the Draw-a-Man test results with teachers' responses to the questionnaire part 1 item on functional academics suggests that within those who are at the highest rank according to the Draw-a-Man test results, there might be children who have learning problems other than mental retardation. In their responses to part 2 of the questionnaire, teachers indicated a prevalence of children who had inadequate learning opportunities and who had attention disorders. This result corroborates that children have specific learning problems and that other environmental factors affect their condition. Therefore, for those children whose results are in the borderline to normal intellectual range, classification in Mongolia is critical and should be clarified.

Furthermore, the Draw-a-Man test results reveal that most of the children with more severe mental retardation have been kept out of the school system, and indicate that today's special schools in Mongolia mainly have emphasized teaching children who have mild mental developmental problems.

It should be noted that the Draw-a-Man test measures only specific aspects of intelligence. So we need to include another battery of intelligence tests to evaluate children's intellectual level. For further research, it is recommended to investigate children in special schools using more comprehensive tools.

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