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## When Parents and Teachers Assess Intellectual Giftedness of Preschool Children

### Abstract

The paper deals with the possibility of using a screening method for the assessment of intellectual giftedness at preschool age by two groups of persons – nursery teachers and parents. It presents The Characteristics of Giftedness Scale (CGS) for preschool children from Linda Silverman and its Czech translation that was verified from the aspect of parallel validity with a standardized IQ test. The CGS was filled in by experienced nursery teachers and by parents of preschool children and their assessments were analysed from the aspect of similarity and diversity. The results show that teacher assessment is closer to the IQ test results compared with parents who tend to overestimate their children. Eight items with low agreement between the two groups of respondents were identified and their expected sources discussed.

**Keywords:** *Characteristics of Giftedness Scale, preschool children, assessment of giftedness, parents, nursery teachers*

### Introduction

At present we can see a shift in the interest of both the professional community and wider public in the Czech Republic to the topic of giftedness. Many studies show that compared to other children, an extraordinarily gifted child has different manifestations and special needs, whose implementation is dependent, inter alia, on their identification (Hall & Skinner, 1980, Laznibatová, 2001, Portešová, 2009, Burešová et al, 2012). Therefore, if a potentially gifted child at pre-school age is to be

stimulated in an optimum way, it is essential to recognize his or her giftedness as early as possible. Experts confirm the importance of identifying extraordinary giftedness as early as at pre-school age, on the other hand, however, they point out disputable reliability of early prediction of extraordinary giftedness (Laznibatová, 2001).

The first adult assessors who usually nominate the child for objective assessment of his or her giftedness are parents and teachers. They are mainly the scales which have become a method frequently used abroad. They help to focus non-professional assessors' attention on typical manifestations in the behaviour of gifted children, which would never have been associated with giftedness otherwise. They make use of the experience of adults who have the opportunity to get to know the child in a variety of situations over a longer period of time. Individual items on such a scale are typically descriptions of manifestations of extraordinarily gifted children, which had been observed and verified through research.

Reliability of the prediction of giftedness, as mentioned above, is disputable with preschool children. It depends, among other things, on the assessor's observation skills and perceptiveness, which is also affected by his or her opinion on the child's behaviour. According to Winebrenner (2001) gifted children whose educational needs have not been recognised may manifest themselves in the educational process mainly through negative behaviour, such as: rejection of schoolwork, negligence in fulfilling tasks, nervousness due to the work pace of the class, which is too slow for them, daydreaming, a tendency to control class discussions, reluctant submission to and cooperation with others, looking for alternative activity in the form of clowning in class. Betts and Neihart (1988) also state that a gifted child may show a wide range of behaviour, and describe six types of manifestations of above-average giftedness in pre-school children: besides the successful and highly creative type of child, it is also the child who hides abilities in order to feel accepted by their peers, the 'dropout' child who demonstrates negativism when fulfilling tasks, as well as in his or her relationships with teachers and peers, the type of a handicapped child (so-called double-labelled) and the autonomous child who is independent and self-directed.

These findings, although concerning school-age children, show difficulty in identifying gifted children at an early age, and the importance of the assessors being well-informed. In our terms, people have minimum experience with using assessment scales for the identification of gifted children. A survey carried out in nursery schools in a part of Prague in 1991–1992 was a rare experiment (Hříbková, Charvátová, 1991, as cited in Hříbková, 2009).

Over the last few years, we have seen activity in the field of creation of behaviour scales for both school-age and pre-school children. In 2006 the Behaviour Scale for

Assessment of Pre-school Children was created for nursery school teachers under the supervision of Hříbková (2009). In 2009-2010 the Behaviour Assessment Scale for the 1<sup>st</sup> and 2<sup>nd</sup> Year Elementary School Children and the Behaviour Assessment Scale for the 3<sup>rd</sup> to 5<sup>th</sup> Year Elementary School Children were developed in the Institute of Pedagogical-Psychological Counselling, which are designed for teachers (Dotazníky a inventáře, 2013).

This study uses another, but similar, tool for research, its indisputable asset being its validity on a sample of over 1,000 gifted children. The aim was to use a sample of Czech pre-school children to verify parallel validity of the scale with the standardised IQ test (Study I) and to compare the level of concurrence in assessing pre-schoolers using this scale between parents, for whom the scale had been actually created, and nursery school teachers (Study II). Although it would have been useful to verify the ability of the scale to identify highly gifted children, for which purpose it had originally been created, due to the small representation of such children in the research file, and to the fact that identification has not been carried out yet, it was not possible to set such an objective within our research.

## **Research Methodology**

The Characteristics of Giftedness Scale (CGS) was developed in the Gifted Development Centre in Denver in 1973 by Linda Silverman. It contains 25 items capturing behavioural characteristics of the child, which contribute to early identification of an intellectually gifted one. The descriptors were selected to meet the following specific criteria: a) applicable to a wide age range; b) generalizable to children from different socioeconomic backgrounds; c) gender fair; d) easily observed in the home environment; e) brief and clearly worded for ease of interpretation by parents; f) research verifiable (Silverman, 1993). Each item is assessed on a four-level scale. The scale is of a screening method nature, and norms are not available, 75% agreement is considered a fulfilled criterion of giftedness, i.e. those children are nominated as gifted who possess at least  $\frac{3}{4}$  of the presented characteristics.

Validity of the scale was confirmed in a number of studies – intellectual giftedness was proved by intelligence tests in 84% out of over 1000 children nominated as gifted by their parents, another 11% of them showed above average and higher abilities in some areas only, while being weaker in some other ones, taking their overall IQ below the level of 120 points. Extraordinarily gifted children (IQ over 160 points) showed 80 to 90% of examined characteristics. The results prove high

reliability of the method. Due to its simplicity and universality, the method is considered suitable for application in the conditions of other countries (Pfeiffer, 2008).

The author of the method was asked to give her consent to use the method in the Czech environment, and then the method was translated from English by the method of double blind translation. Parts with discrepancies were discussed with an expert in the area of giftedness assessment (Characteristics of Giftedness Scale, 2013).

The first stage of the research – verifying the parallel validity of the CGS method and IQ test (Study I) was carried out at Sluníčko kindergarten in Hradec Králové. Complete research data were obtained from 56 children whose age at the time of the survey was between 5;6 and 6;6. Individual examination of intelligence was carried out by a psychologist using the WISC III method. Silverman's scale was completed both by the teachers and the children's parents. The assessors worked individually. Afterwards, individual interviews with the parents were carried out, focusing on commented results. At the second stage of the research (Study II), all nursery schools in the city of Hradec Králové were addressed, and 805 pre-school children were assessed by nursery school teachers using the CGS. The complete data were obtained from 335 pre-schoolers.

## **Results of Research**

### **Study I**

Four groups of data were obtained for each child: socio-demographic data (age, gender), intelligence test results, CGS filled in by kindergarten class teacher and CGS filled in by parents. From the WISC III we used the overall IQ result for the purpose of this paper. The results indicate that distribution of the sample corresponds with expected normal distribution of intelligence quotient in non-pathological population: the lowest IQ measured being 67, the highest measured IQ is 131, the mean score being 98.65, it is therefore possible to consider the research sample as representative in this regard. Descriptive statistical data for the CGS scale indicate normal data distribution in surveys completed by the teachers (minimum 25 points corresponds with the minimum achievable score, maximum number of points being 85 corresponding with the expected range of high giftedness, the mean of about 55 point is slightly lower than expected – half of the achievable score is 62.5 points), and a slight tendency towards higher figures in surveys filled in by the parents (minimum score 46, maximum 93 and mean almost 70 points).

The validity of the CGS method in the assessment of intellectual giftedness in preschool children was tested by the Pearson correlation between the CGS and the

IQ score obtained through the WISC III. The bivariate correlation coefficient in the assessment of the children carried out by the kindergarten teachers (CGS teacher) and WISC III,  $r=0.557$  ( $p<0.01$ ) indicates a significantly close relationship between the examined variables. The correlation between the assessment results provided by the parents (CGS parent) and WISC III,  $r=0.446$  ( $p<0.01$ ) also indicates a close relationship, which, however, remains within a moderate range ( $<0.5$ ).

## Study II

The concurrence in the assessment of intellectual giftedness in preschool children evaluated using the CGS method between the children's parents and teachers was tested by calculation of a paired t-test using variables CGS total scores obtained in the parents' and the kindergarten teachers' assessments. The resulting difference between the groups is statistically verifiable ( $t=13.19$ ,  $df=334$ ,  $p<0.001$ ). In general, the parents tend to overestimate their child compared to the teachers, by 10 points out of 100 point scale on average (cf., item 26, Table 1).

**Table 1.** CGS items: paired t-test (parents – teachers) and descriptive statistics (N=335)

Item	Variable name	M parent	M teacher	Mean diff.	SD	t	Sig.
1	Reasons well	3.28	2.81	.466	1.00	8.48	.000
2	Learns rapidly	3.01	2.71	.304	1.03	5.37	.000
3	Has extensive vocabulary	3.05	2.83	.215	1.04	3.75	.000
4	Has an excellent memory	3.10	2.67	.424	1.11	6.98	.000
5	Has a long attention span	2.46	2.59	-.131	1.15	-2.07	.039
6	Sensitive (feeling hurt easily)	2.99	2.41	.573	1.21	8.62	.000
7	Shows compassion	3.16	2.66	.501	.97	9.38	.000
8	Perfectionistic	2.08	1.85	.227	1.25	3.30	.001
9	Intense	2.30	1.88	.418	1.13	6.74	.000
10	Morally sensitive	2.81	2.60	.212	.97	3.98	.000
11	Has strong curiosity	3.03	2.28	.743	1.26	10.78	.000
12	Perseverant when interested	3.04	2.80	.236	1.16	3.70	.000
13	Has a high degree of energy	2.99	2.21	.770	1.19	11.81	.000
14	Prefers older companions / adults	1.87	1.74	.122	1.24	1.80	.072
15	Has a wide range of interests	2.65	2.18	.472	1.14	7.56	.000
16	Has a great sense of humour	2.72	2.02	.699	1.09	11.67	.000
17	Early or avid reader	2.15	1.68	.475	1.21	7.14	.000

Item	Variable name	M parent	M teacher	Mean diff.	SD	t	Sig.
18	Concerned with justice, fairness	2.68	2.48	.200	1.15	3.18	.002
19	Judgment mature for age at times	2.72	2.13	.597	1.19	9.16	.000
20	Is a keen observer	2.84	2.44	.397	1.16	6.25	.000
21	Has a vivid imagination	3.19	2.57	.618	1.15	9.77	.000
22	Is highly creative	2.87	2.23	.648	1.21	9.72	.000
23	Tends to question authority	1.80	1.30	.499	1.11	8.17	.000
24	Shows ability with numbers	2.60	2.28	.316	1.18	4.90	.000
25	Good at jigsaw puzzles	3.12	2.81	.310	1.09	5.19	.000
26	CGS sum score	68.49	58.18	10.310	14.30	13.19	.000

The paired t-test for individual questionnaire items shows statistically significant difference among all 25 items on the questionnaire (which is a predictable result for a data set of this size). The correlation analysis of individual characteristics showed that a statistically significant relationship, which we perceive as a demonstration of consentaneity between the assessors, can be found with items No. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 13, 17, 19, 20, 22, 24 and 25. On the contrary, the lowest agreement can be seen with items No. 11, 12, 14, 15, 16, 18, 21 and 23.

## Discussion

The level of discrepancy revealed the total scores obtained from the teachers and the parents differ in means by 10 points, which may have different causes. First of all, different assessment of a child given by the teacher and the parent may result from **different understanding of the meaning of a given characteristic**. For instance, the meaning of the term perfectionist (item 8) – the teachers describe the term rather in the sense of tidiness, whereas the parents often relate it to the sense of detail observed in the products of the child’s activities, such as drawing or Lego structures. Professionals perceive perfectionism as a general tendency towards setting higher goals and systematic effort to fulfil them. The key feature of this trait, as observed in gifted children, is appreciating quality, as Winebrenner et al. (2008) say it makes “the difference between the mediocre and the superior”(p. 52). Implicitly, however, the term is associated with negative connotation (“perfectionism means you can never fail, you always need approval, and if you come in second you are a loser”).

Many differences in the assessment of the child on the assessment scale may result from **limited opportunity of the assessors to observe some of the characteristics in a given environment**, e.g. because the given environment does not provide enough space for them to be demonstrated. For instance, with item 15,

“Has a wide range of interests,” the parents are more likely to attribute a wide range of interests to their child because they are aware of a number of activities which the child does together with them or within different after-school clubs, the teachers, on the contrary, are often unable to assess this characteristic as the child very often does not get a chance to show his or her interests in class.

Differences may also arise from different ways of the child’s behaviour determined by the **different character of two different environments** – the preschool facility environment and the environment of the child’s home. The rules of coexistence in these two communities are naturally different as well as the dynamics of the groups, the coexistence takes place at different times (the child participates in the kindergarten life on weekdays, whereas in the home environment on weekday evenings and at weekends) and at different places (school classroom and garden, close surroundings of the kindergarten versus more rooms in a flat or a house, and usually a wider radius connected to shopping, after-school clubs, friends, leisure and other activities of the family). Environments may naturally give rise to different manifestations of behaviour (Talay-Ongan & Ap, 2005, Melhuish & Petrogiannis, 2006). The child, especially a gifted one, may behave in a different manner in the family environment where he or she usually has a maximum of one brother or sister, and enough free space to manifest him-/herself distinctively, and in another way under the conditions of kindergarten where, on the contrary, the child has to conform to the pace of other children and to existing rules. This may explain, for instance, different assessment of item 23 – a tendency towards questioning authority. In the home environment, the child may be provided with more space to express his or her own opinion and will even in relation to authority, whereas in the kindergarten the teachers mostly aim to build up their authority and are very sensitive to it being potentially questioned (Heffernan & Todd, 1960). The kindergarten environment mostly applies the old model of traditional authority (Omer, 2010), whereas the home environment in the Czech society of the 21<sup>st</sup> century uses a variety of authority models (Gillernová et al., 2011).

When taking into account the expectations in the context of talent, an educated and well-informed parent can, for instance, seek, welcome, support and develop extraordinary curiosity in the gifted child, while a uninformed parent or a parent with other preferences may find the child’s curiosity annoying. Also, among teachers the awareness of problems concerning gifted children, and their ability to lead children with different education needs in one group may vary a lot (Kotková, 2011).

Last but not least, different assessment of the child may also result from **differences in produced behaviour on the part of adult assessors**. For example – in the

scale it is item 11. It is typically manifested through asking questions. It was found that the Czech school provides pupils with minimum space for asking questions (Havigerová, Juklová, 2011).

The study explores the issue of screening giftedness at pre-school age. Although its results appear clear at first sight, it is necessary to take into account some limitations of the study. The first one of them is the choice of the method for screening giftedness – the CGS which was used for our study is originally a) designed for parents b) of potentially extraordinarily gifted children and c) from the age of 3 years. In our study the CGS scale was used *for a population restricted only to pre-school age children*. This criterion was designed in accordance with the whole research strategy, including its proposed application level: from the pedagogical-psychological point of view it is very convenient to have gifted children identified before they start elementary school. In addition, narrowing the file to one age category allows more indisputable generalisation, from the methodological point of view, it is therefore a convenient choice. We used the scale *for the whole population of pre-school age children*. We tried to find out whether it is possible to extend the application of the scale to roughly assess the level of cognitive giftedness, or intelligence in the whole of its range, although it is not the primary purpose. The resulting correlation coefficient confirmed our assumption. The Scale was *used not only for parents – non-professional assessors, but also for nursery school teachers, i.e. professionally trained assessors from a slightly different environment*.

An obvious limitation is the method for measuring the level of cognitive giftedness – only one intelligence test was used, which has not been even normalized for population below six years of age. WISC III test was used because it is still commonly used for these purposes in P-P counselling centres (some of our children had already been identified as gifted through this method in the P-P counselling centres). It was our intention to maintain criterion consistency, therefore we used the same test also for other children, while being aware of inaccuracy in measuring younger children.

## **Conclusions**

Assessing giftedness at preschool age is an important component in systematising the care of gifted children. The most common and also the most appropriate assessors of giftedness in children of this age are their parents and teachers. It is an advantage if these assessors have an instrument at their disposal which may help to make the nomination of giftedness more precise. The research we carried



out suggests that the CGS is a method which can be used to roughly assess the intellectual level of giftedness in pre-school children in our terms. Although the method, originally devised to identify extraordinarily gifted children, was verified on a file of children with average IQ, the results show a great extent of concurrence with the IQ test.

Despite a high level of concurrence in assessment provided by both groups (nursery school teachers and parents) with the outside criterion, in some items assessment by the teachers differs from that provided by the parents. The fact that the teachers display higher concurrence with the IQ test may be attributed to several factors, the most important one of them being the possibility to compare the child with his or her peers, the lack of tendency to project one's own ambitions in the child, which is typical of parents, and also the teachers' higher awareness of the issue of extraordinary giftedness. Especially the last factor is gratifying in the light of practice and future of extraordinarily gifted children education. With regard to the limitations of our completed studies, resulting mainly from the above-mentioned characteristics of the research file of children, this is, however, only an assumption which should be verified through future research.

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