

THE LEVEL OF SCHOOL MATURITY AND INTELLECTUAL LEVEL OF CHILDREN FROM SOCIALLY DISADVANTAGED SETTINGS IN THE CONTEXT OF (NON-) PARTICIPATION IN THE SCHOOL PREPARATION

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Abstract: *The author brings experience of school psychologist working with children from socially disadvantaged settings, whereby comparing the results of two diagnostic methods: the non-verbal test of intellectual abilities (SON-R 2 1/2 -7) and the school maturity test (Göppingen) among three groups of children: a) those who attended kindergarten, b) those who did not attend any kindergarten and c) children who absolved first half-year of the preparatory (zero) grade.*

Keywords: *intellectual abilities, school maturity, school psychologist, children from socially disadvantaged setting.*

The school maturity or school preparedness is a complex indicator of maturity of a child and his capacity to adjust oneself to the education process. It means a child should be able to reach such a level of his/ her development that enables him/her to acquire the school knowledge in a successful way. To master the school, a child should be prepared not only from physical and motor point of view, but also from mental, social, emotional and language skills.

So far as mental maturity is concerned, we have to take into consideration especially the level of perception, graphomotor skills, intellectual recognition, language development, psychomotor pace and attention. Emotional and social maturity is characterised by emotional stability, frustration tolerance and capacity for accepting potential failure, the capacity to be separated from mother, respect authority and adjust to peers collective.

Several studies (Farkašová, E., 2007, Hannelová, K., 2007, Dočkal, V.; Kopčanová, D. Farkašová, E., 2007) but also the results in OECD-PISA (2006) show that children who did not have enough social-cultural stimuli before they entered the school have later some problems with mastering school and vice versa.

In the Central and Eastern Europe the problem of insufficient stimulation and preparation of children to school is related namely to Roma children, who, compared to major-

ity population, usually do not attend the kindergarten. Also the relationship between the school success and socio-economic status cannot be ignored, although success or failure of children at school is affected also by their talent, learning potential and willingness to learn. The standardisation research on SON-R 2 1/2-7 test in Slovakia, recently done in the Research Institute for Child Psychology and Pathopsychology confirmed, that differences between Roma and non-Roma children were more bound to the stimulation effects in the socio-cultural settings than ethnic origin (Dočkal, V.; Kopčanová, D.; Farkašová, E, 2007).

The truth is, that children participating the research were attending the preschool facility.

However, those children who did not absolve any preparation for school before being enrolled to school can make use of so called „zero“ grade of a mainstream school.

Its task is to accelerate the child development in a way that he/she would be able to master the enrolment to school and manage the requirements of the first grade.

It is a good opportunity especially for the children from socially disadvantaged settings, or had a one -year delay in school attendance from any reasons.

The research goals: To discover if and to what extent the results in the school maturity test of children from socially disadvantaged settings who attended the kindergarten (or attended at least one semester of zero class) might differ from those who did not attend any pre-school facility. Compare results with the intellectual level of children from socially disadvantaged settings reached in a non-verbal test SON-R 2 1/2-7.

Basic hypotheses:

1. We assume that in the school maturity test (Göppingen) some significant differences might occur among those children who did not attend any pre-school facility and those who attended the kindergarten
2. We assume that children who attended the kindergarten will achieve better in the school maturity test than those, who attended only one semester of zero class
3. We assume that there can be statistically significant difference among children from all groups also in achievements of non-verbal test SON-R 2 1/2-7.
4. We assume that there can be statistically significant difference among right-handed and left-handed children

Tests used:

a) Göppingen – one of the well-known screening technique for evaluation of school maturity, used by specialists in the centres for pedagogic-psychological counselling and prevention throughout the last 40 years.

Consists of 10 subtests: 1. Shape perception and ability to distinguish the patterns 2. Soft motor skills 3. Perception of the size, amount and order 4. Attention capacity

5. Critical observation 6. Concentration 7. Visual memory 8. Comprehension of visual objects and situations 9. Language and content comprehension 10. Overall development indication.

b) SON-R 2 1/2-7. Non-verbal individual test consists of 6 subtests: Mosaics, Categories, Puzzles, Analogies, Situations and Patterns. Subtests have two levels of difficulties. This method is used particularly with the young children and children of preschool age and particularly useful for the assessment of cognitive skills level of this age.

Research group: 27 children of preschool age attended the evaluation, one third (9 children) absolved the preschool preparation in kindergarten, next third absolved one semester in the zero class and the last third did not attend any preschool facility nor went through any school preparation .

Statistical methods:

Analysis of variance (ANOVA), Welch and Brown-Forsythe test, Tukey HSD, Tamhane test and also tests for two independent variables for testing the differences of group means according to laterality were used .

Results:

As the robust tests Welch test as well as Brown_Forsythe- test measured a different significance among groups for IQ but also GHS, we refused the null hypothesis about parity means and searched more the factors I and J levels that had statistically significant difference of the group means as seen from the following table:

Table No. 1

Dependent Variable: Gop – hrube skore

Tukey HSD

(I) Skupina	(J)Skupina	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper bound
did not attend kindergarten	attended kindergarten	-16,667*	5,137	,009	-29,50	-3,84
	zero grade	-11,889	5,137	,073	-24,72	,94
attended kindergarten	did not attend kindergarten	16,667*	5,137	,009	3,84	29,50
	zero grade	4,778	5,137	,627	-8,05	17,61
zero grade	did not attend kindergarten	11,889	5,137	,073	-,94	24,72
	attended kindergarten	-4,778	5,137	,627	-17,61	8,05

* The mean difference is significant at the .05 level

According to this table it is clear that with regards to the raw scores of the Göppingen test:

- the difference between group means of those who did not attend the kindergarten compared to those who attended and vice versa are **statistically significant** – p significance (Sig) is 0,009
- there is **no significant difference** between the group means of the zero grade compared to those who did not attend the pre-school facility (kindergarten) – p significance (Sig) is 0,073
- also the difference between the mean groups of those who absolved the zero grade and those who absolved the kindergarten is **statistically not significant** – p significance (Sig) is 0,627.

For IQ SON we used Tamhane test, applied usually in cases of different diffusion factor level as seen from the table below:

Table No.2

Dependent Variable: iq

Tamhane

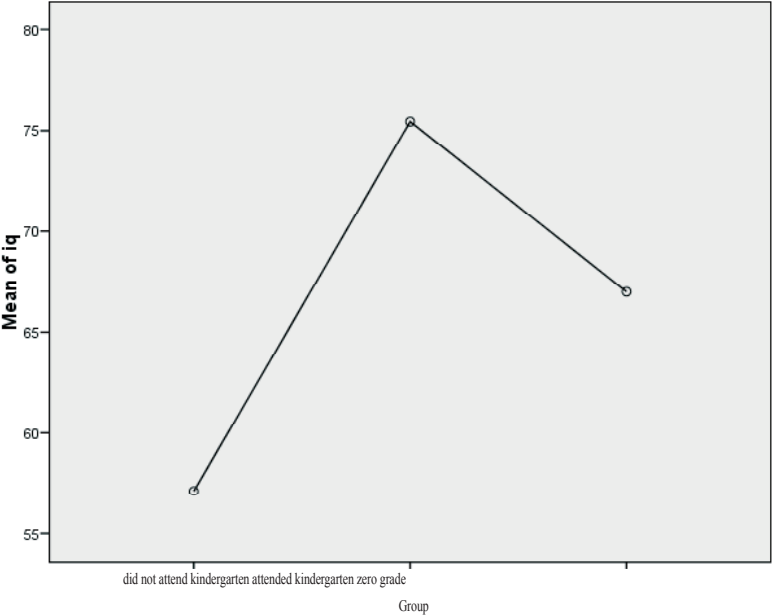
(I) Skupina	(J)Skupina	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper bound
did not attend kindergarten	attended kindergarten	-18,333*	5,641	,022	-34,04	-2,63
	zero grade	-9,889	4,118	,087	-20,96	1,18
attended kindergarten	did not attend kindergarten	18,333*	5,641	,022	2,63	34,04
	zero grade	8,444	6,039	,457	-7,96	24,85
zero grade	did not attend kindergarten	9,889	4,118	,087	-1,18	20,96
	attended kindergarten	-8,444	6,039	,457	-24,85	7,96

* The mean difference is significant at the .05 level

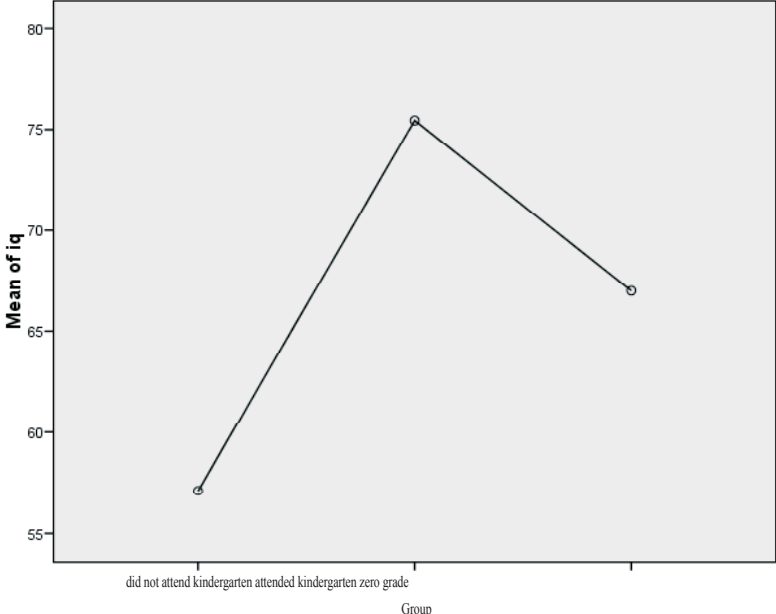
From this follows that with regards to the IQ SON:

- the group means of those who did not attend the kindergarten to those who did and vice versa **statistically differ significantly**, p significance (Sig) is 0,022
- there is **no statistical significance** in between two group means of zero grade compared to those who did not attend any pre-school facility, p significance (Sig) is 0,087
- also there is **no statistical significance** between the group means of the zero grade and those who attended the kindergarten, p significance (Sig) is 0,457.

For better illustration here are the graphs of the different levels of the factor (group means):

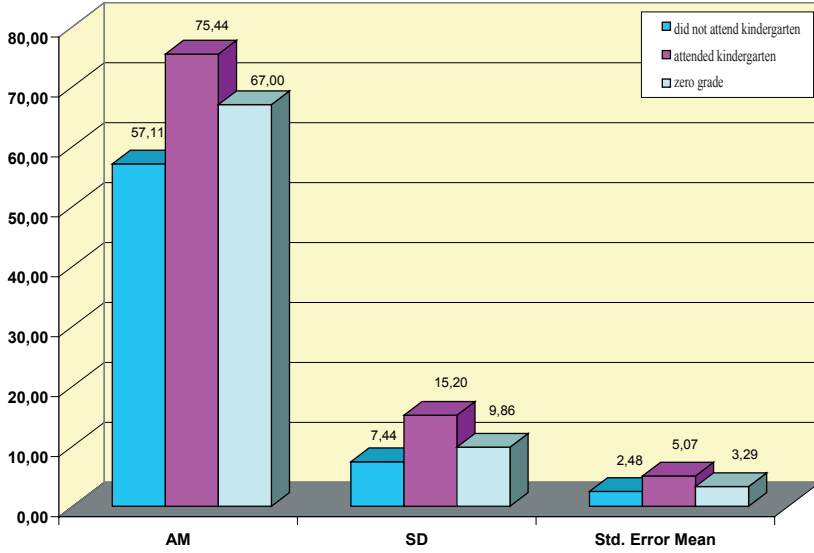


Graph No.1. Group means (mean IQ scores in SON-R 2 1/2-7)



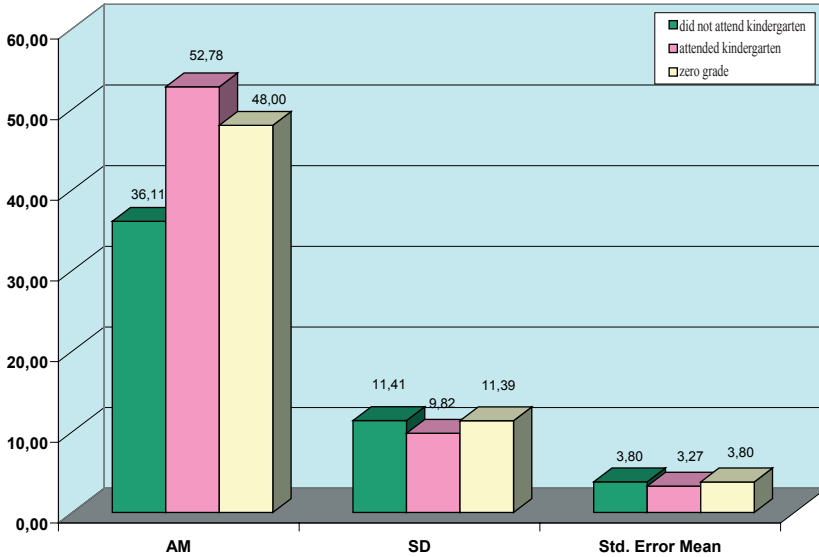
Graph. No. 2 Group means (mean raw scores in GOP)

Descriptive statistics –of IQ SON according to group 1



Graph No. 3 Statistical results – IQ SON-R 2 1/2-7 and group comparison

Descriptive statistics of GOP test according to group 1



Graph No. 4 Statistical results of GOP test and group comparison

Comparison of right-handed and left-handed children results

On behalf of applying the parametric tests (see table no. 3) we found out there was **no significant statistical difference**, among the group means.

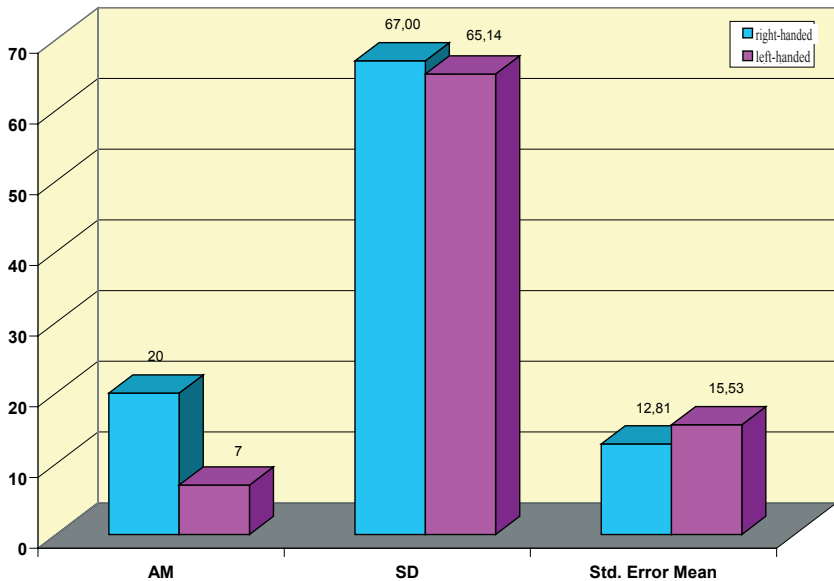
For illustration see the graphs No. 5 and 6 .

Comparison of mean scores of IQ SON and GOP according to laterality

Variables	Laterality 2	Descriptive statistics			Parametrics t-test		Mann-Whitney	
		N	AM	SD	t-value	Sig. of test	U-hodnota	Exact Sig.
IQ SON	right-handed	20	67,00	12,81	0,313	0,757	57,500	0,498
	left-handed	7	65,14	15,53				
GHS	right-handed	20	47,30	12,96	1,246	0,237	46,500	0,198
	left-handed	7	40,86	11,33				

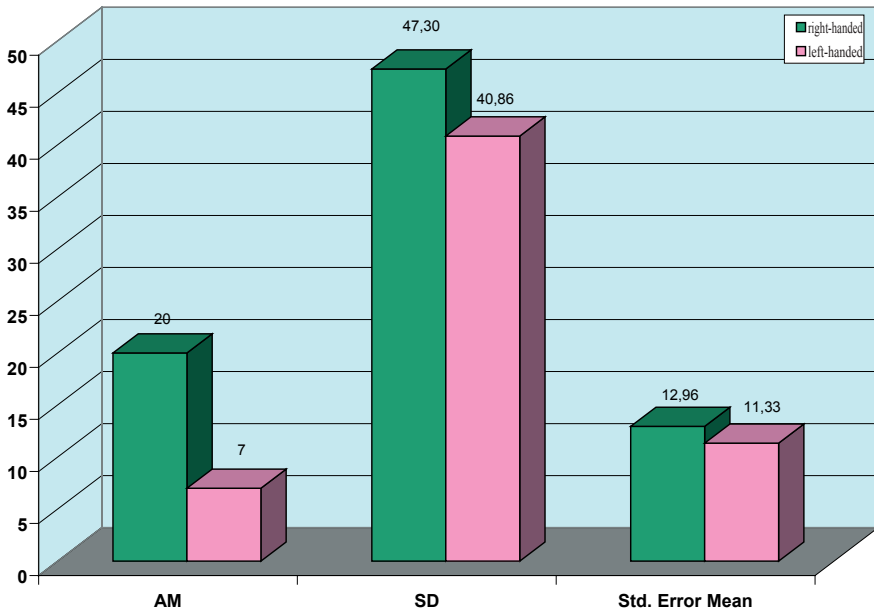
Table. No. 3 Comparison of mean scores of IQ SON and GOP according to laterality

Descriptive statistics of IQ SON according to laterality



Graph No. 5 Descriptive statistics of IQ SON according to laterality

Descriptive statistics of GOP according to laterality



Graph No. 6 Descriptive statistics of GOP according to laterality

Summary and results:

1. Hypothesis No. 1 has been verified: the difference between those children who did not complete the pre-school preparation and those who completed it **was statistically significant**
2. Hypothesis No. 2 has been also verified: those children who attended the kindergarten **had better results** in the school maturity test (GOP) than those who completed just half year in the zero class, as those were children with one year delay, suffering from other difficulties before enrolling the first grade.
3. Among children of all three groups there were **statistically significant differences** also in the achievements of the non-verbal test SON -R 2 1/2-7.
4. The differences between left-handed and right-handed children **were not significant**, because the difference was random and the results could not be assigned to any concrete factor.

It is quite obvious that these results cannot be generalised because of the small size of the sample, however they can serve as a concrete example of children coming from socially disadvantaged settings. Results will have an important contribution in the practice, because they enter the school in September 2008 and this information can be of help to teachers who can set up the concrete education goals in particular curriculum for particular pupil. Then also the school psychologist can help in elaborating the curricula used in the education process in a way that would be tailored to each pupil separately,

with regards to his/her cognitive skills level. In this case we can see that a big number of children need to be integrated as children with special needs. Only in this way we can reach the equal access and quality education for children from socially disadvantaged settings.

ÚROVEŇ ŠKOLSKEJ ZRELOSTI A INTELEKTOVÁ ÚROVEŇ DETÍ ZO SOCIÁLNE ZNEVÝHODNENÉHO PROSTREDIA V KONTEXTE (NE)ABSOLVOVANIA PREDŠKOLSKEJ PRÍPRAVY

Abstrakt: Autorka vo svojom príspevku prináša skúsenosti z práce školského psychológa s deťmi zo sociálne znevýhodneného prostredia, pričom porovnáva výsledky dvoch použitých diagnostických metód: testu intelektových schopností a testu školskej pripravenosti (Göppingen) medzi tromi skupinami detí: a) deti ktoré navštevovali predškolské zariadenie, b) tie ktoré neprešli žiadnou predškolskou prípravou, c) deti ktoré absolvovali prvý polrok prípravného (nultého) ročníka.

Kľúčové slová: duševné schopnosti, školská zrelosť, školský psychológ, deti zo sociálne znevýhodnených skupín