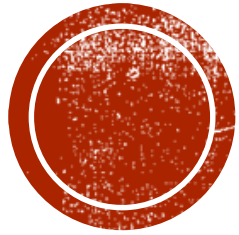


# PREDICTORS OF EDUCATIONAL ATTAINMENT



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# INTRODUCTION

- The estimation of psychophysical maturity in children is implemented for each child aged six years up to April 1st of the year of admission.
- School doctor specialist evaluates the developing capacity and maturity of the child before entering school as well as addressing future challenges in education.



# INTRODUCTION

- Medical check-up for the admission to school includes:
  - 1. Health and social history of child including other family members.
  - 2. Medical examination – physical check-up, screening, evaluation of motor skills, perception, graphomotorics, intellectual development, social and emotional maturity as well as behaviour.
  - 3. Professional observation on psychophysical maturity and behaviour of child during check-up, on the appropriate diagnostic and therapeutic procedures if necessary, on health disorders possibly impeding educational attainment as well as potential future difficulties affecting further education.



# THE AIM

- To indicate relationship between school admission testing and educational attainment during primary school education.
- If low test scores regarding evaluation of speech, motor skills, perception, graphomotorics, intellectual development, emotional and social maturity as well as behaviour affect educational attainment.
- If and when children with low test scores on school admission are provided with the appropriate educational programs during school education.



# SUBJECTS AND METHODS

- Having insight into preventive health records and by using correlation and regression analysis, data on school admission tests, school attainment at the fifth and eighth grade as well as follow-up during school education were analyzed.
- Using random selection method, data on 400 primary schoolchildren in the City of Split were processed.
- 200 schoolgirls and 200 schoolboys, having finished the eighth grade in the school year 2014/2015.
- On school admission children were aged from 5.11 to 7.08.
- Educational attainment was measured with scores from 2 to 5 (at the end of the 5th grade of primary school and at the end of the 8th grade of primary school).
- All grades lower than 4 indicated school failure.



# THE RESULTS



# EDUCATIONAL ATTAINMENT / GENDER

- Schoolgirls have a statistically significant success in the fifth ( $Z=-6,025$ ;  $p<0,001$ ) and the eighth grade ( $Z=-5,479$ ;  $p<0,001$ ).

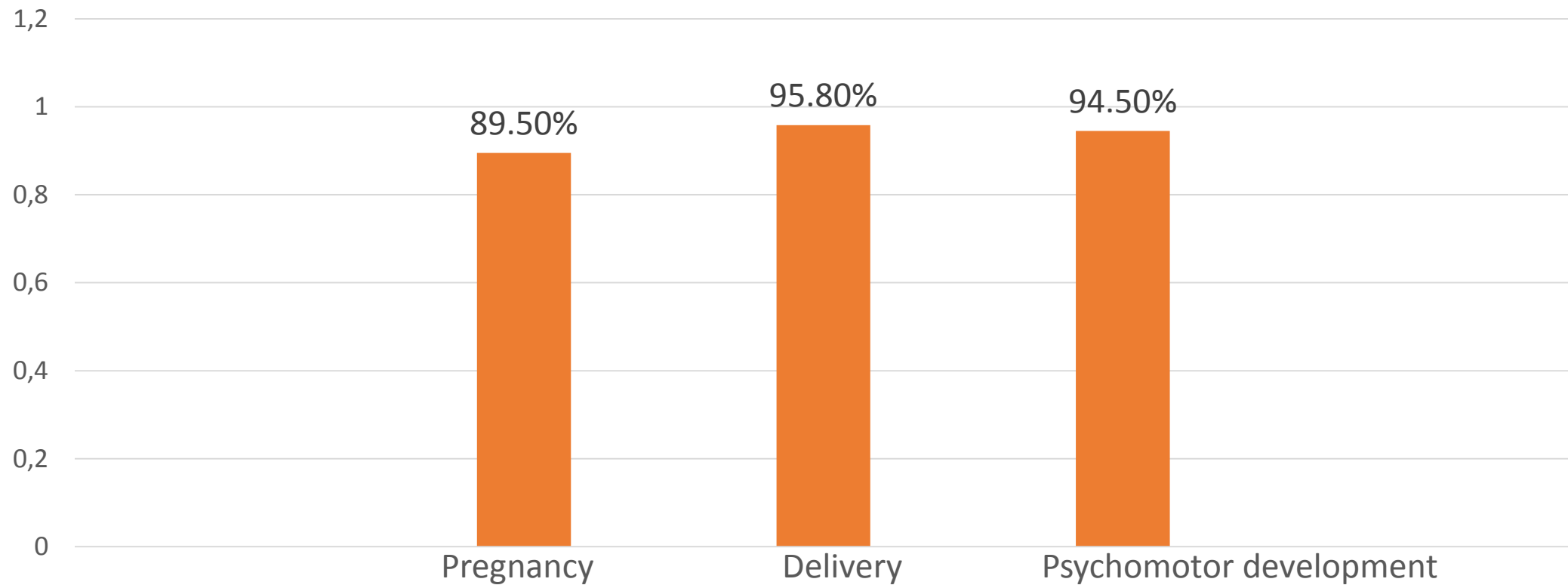
The Statistics

	Fifth grade	Eight grade
Mann-Whitney u	13554,000	14451,000
Wilcoxon W	33654,000	34551,000
Z	-6,025	-5,479
Asymp.Sig.(2-tailed)	,000	,000

a. Grouping variable: Gender



# DEVELOPMENTAL FACTORS IN SUBJECTS





# VISION, HEARING AND SPEECH

- Hearing and visual impairments were reported in only few subjects.
- Speech disorders were noted in 12.5% subjects, therefore there was no statistically significant difference regarding educational attainment in the 5th ( $Z=-1,894$ ;  $p=0,058$ ) nor in the 8th grade ( $Z=-1,870$ ;  $p=0,061$ ) related to speech disorders.
- Trends in low educational attainment of schoolchildren with speech disorders are rising.

Speech				
Valid	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	350	87,5	87,5	87,5
No	50	12,5	12,5	100,0
Total	400	100,0	100,0	

Test Statistics		
	Educational attainment for the 5th grade	Educational attainment for the 8th grade
Mann-Whitney U	7410,000	7497,000
Wilcoxon W	8685,000	8772,000
Z	-1,894	-31,870
Asymp. Sig. (2-tailed)	,058	,061

a. Grouping Variable:Regular speech



# PSYCHOMOTOR DEVELOPMENT

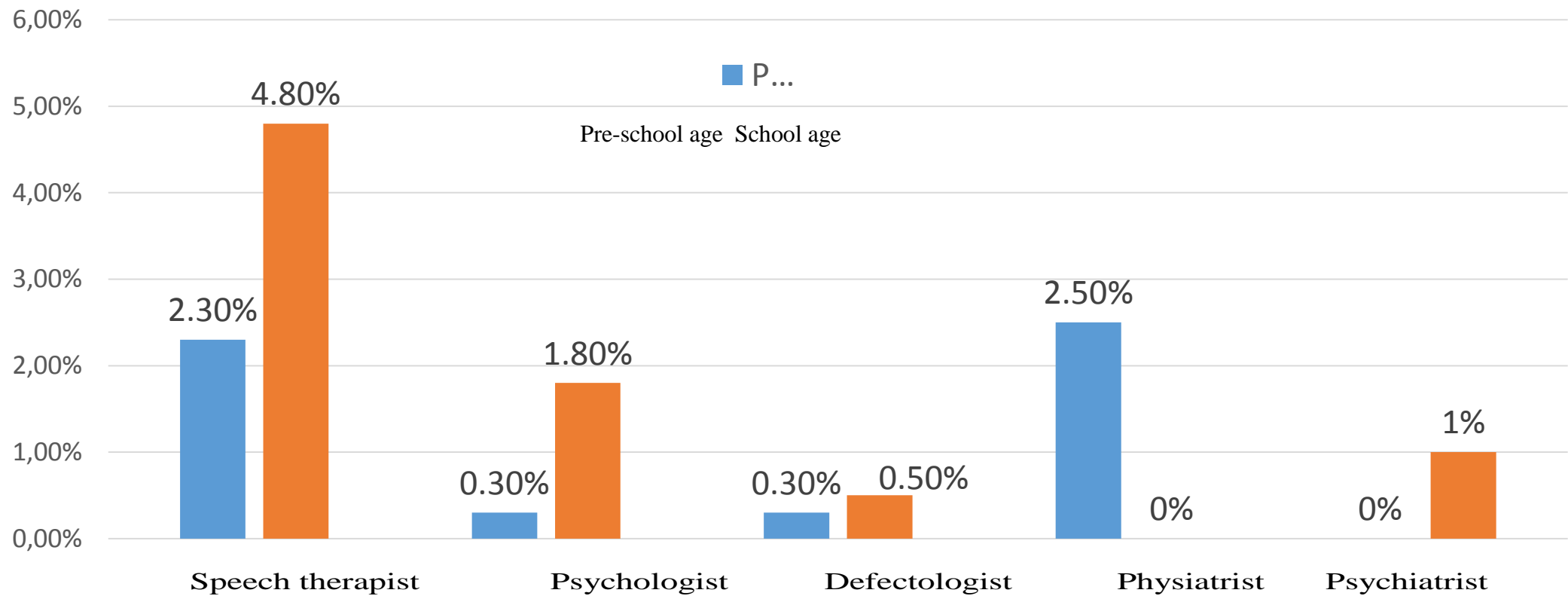
- Subjects with developmental psychomotor disorder had statistically significant low attainment in the 5th ( $Z=-3,864$ ;  $p<0,001$ ) and in the 8th grade ( $Z=-3,103$ ;  $p=0,002$ )

Test Statistics		
	Educational attainment for the 5th grade	Educational attainment for the 5th grade
Mann-Whitney U	2273,000	2725,000
Wilcoxon W	2526,000	2978,000
Z	-3,864	-3,103
Asymp. Sig. (2-tailed)	,000	,002

a. Grouping Variable: Regular psychomotor development



# PROFESSIONAL TREATMENT



# PREDICTORS OF EDUCATIONAL ATTAINMENT/5TH GRADE OF PRIMARY SCHOOL

- There is statistically significant difference between subjects in relation to their educational attainment in the 5th grade.
- Subjects with better educational attainment had better motor skills ( $Z=-3,033$ ;  $p=0,002$ ), body scheme test ( $Z=-3,505$ ;  $p<0,001$ ) and lower scores regarding behaviour ( $Z=-2,146$ ;  $p=0,032$ ).

Test Statistics<sup>a</sup>

	Motor skills	Body scheme tests	Graphomotor	Drawing
Mann-Whitney U	15676,50 0	15672,50 0	17995,50 0	17112,000
Wilcoxon W	46801,50 0	46797,50 0	49120,50 0	48237,000
Z	-3,033	-3,505	-,869	-1,683
Asymp. Sig. (2-tailed)	,002	,000	,385	,092

a. Grouping Variable: Educational attainment in the 5th grade.

Test Statistics<sup>a</sup>

	Emotional development	Social maturity	Behavior
Mann-Whitney U	18397,500	18323,000	17753,500
Wilcoxon W	29873,500	29799,000	29229,500
Z	-,641	-,613	-2,146
Asymp. Sig. (2-tailed)	,521	,540	,032

a. Grouping Variable: Educational attainment in the 5th grade.



# PREDICTORS OF EDUCATIONAL ATTAINMENT/ 8TH GRADE OF PRIMARY SCHOOL

- There is statistically significant difference between subjects in relation to their educational attainment in the 8th grade.
- Subjects with better educational attainment performed better motor skills ( $Z=-3,909$ ;  $p<0,001$ ), body scheme test ( $Z=-2,894$ ;  $p=0,004$ ), draw test ( $Z=-3,439$ ;  $p=0,001$ ) and lower scores regarding behaviour ( $Z=-2,968$ ;  $p=0,003$ ).

Test Statistics<sup>a</sup>

	Motor skills	Body scheme tests	Graphomotor	Drawing
Mann-Whitney U	15522,500	16997,000	17972,000	16111,500
Wilcoxon W	30573,500	32048,000	33023,000	31162,500
Z	-3,909	-2,894	-1,760	-3,439
Asymp. Sig. (2-tailed)	,000	,004	,078	,001

a. Grouping Variable: Recoding scheme for the 5th grade educational attainment

Test Statistics<sup>a</sup>

	Emotional develoment	Social maturity	Behavior
Mann-Whitney U	19452,500	19472,500	18157,000
Wilcoxon W	45330,500	45350,500	44035,000
Z	-,286	-,205	-2,968
Asymp. Sig. (2-tailed)	,775	,837	,003

a. Grouping Variable: Recoding scheme for the 5th grade educational attainment



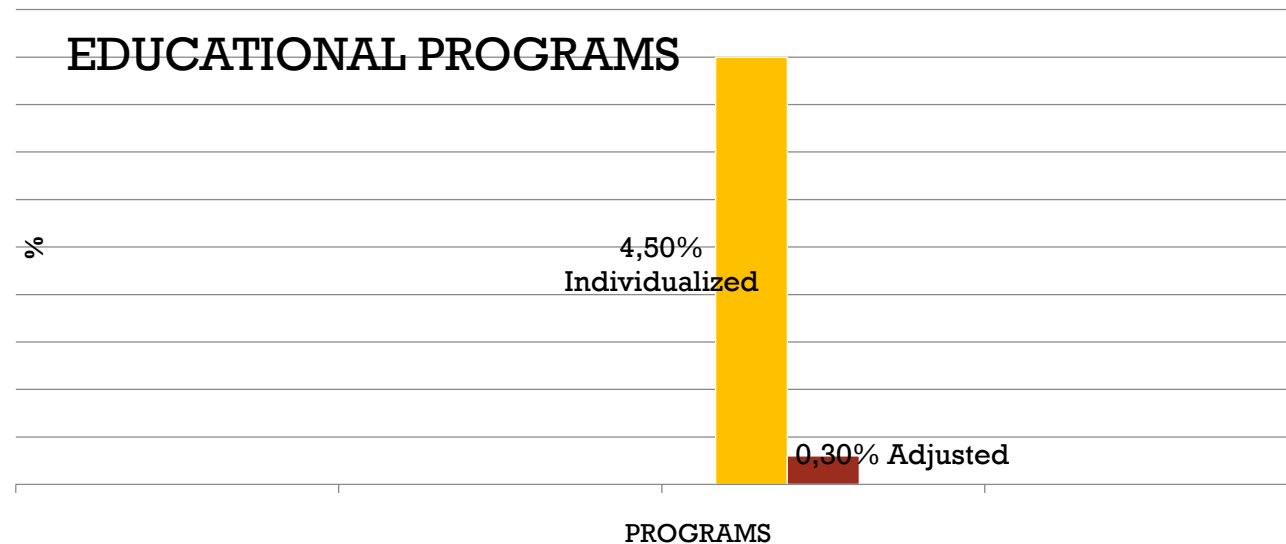
# TEST SCORES

- 5.3% children had lower test scores
- 1% children had opservation
- 4.3% children had follow up



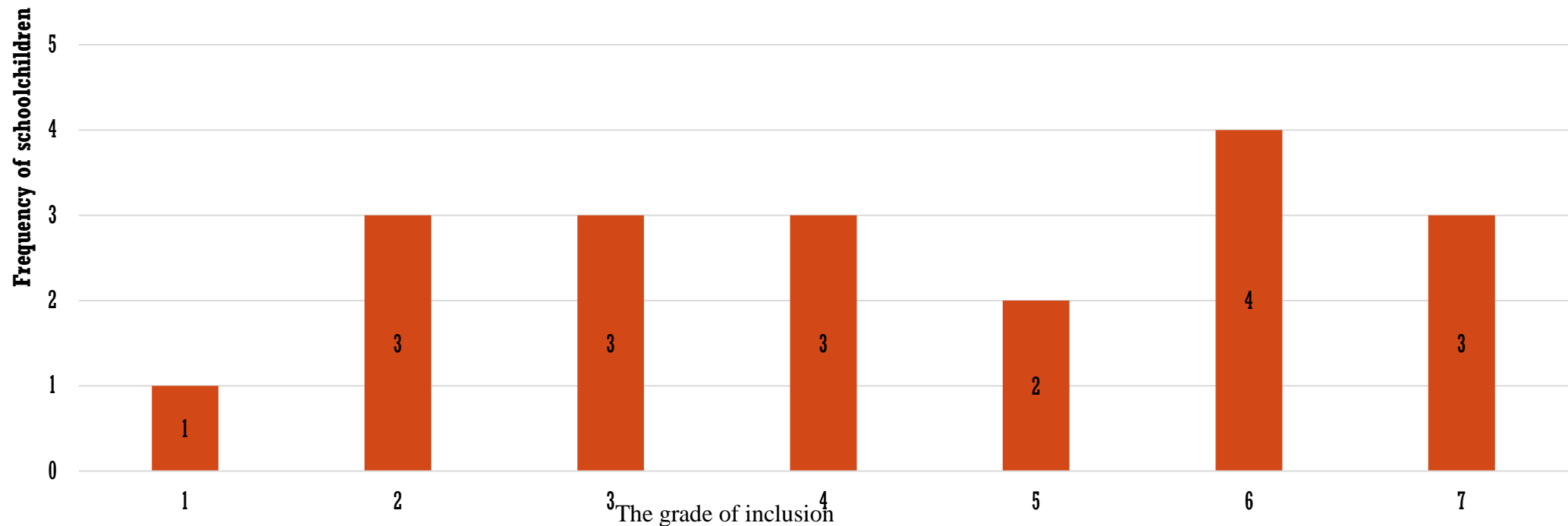
# TYPE OF EDUCATION

- 4.8% children were provided with the appropriate educational programs during education
- There were 4.5% receiving individualized education program and 0.3% the specific one.



# FREQUENCY OF SCHOOLCHILDREN INCLUDED IN EDUCATIONAL PROGRAMS BASED ON THE GRADE OF INCLUSION

Number of schoolchildren/the grade of inclusion into the educational program





# CONCLUSION

- Factors affecting future educational attainment on school admission can be related to:
  - Motor and cognitive skills
  - Attention and behavioural disorders
  - Emotional and social skills appeared to have no impact as educational attainment factors.



# CONCLUSION

- Enhanced parental and special education support, as well as follow-up, treatment and rehabilitation counseling of children with low test scores on school admission can affect their educational attainment.
- In collaboration with parents, teachers and professional school service it is essential to follow-up child's progress during the entire education.
- Working together in order to reduce detrimental effects, as well as timely recognizing and treating difficulties is important.

