

Research Article

Mental Vulnerability as a Factor of School Performance in Pupils of Young School Age – Report from Pilot Study

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Submitted: 16 February 2015

Accepted: 20 March 2015

Published: 23 March 2015

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Keywords

- School performance
- Mental vulnerability
- Younger school age
- Strengths and difficulties questionnaire

Abstract

The education of pupils with special educational needs (SEN) in inclusive settings and their specific needs, problems and behavior are still a challenge for teachers, mainly because of unexplored reasons and factors of disabilities which could complicate the educational process. The aim of the paper was to explore the relationship and differences between mental vulnerability and school performance in pupils of the standard population (N=100) and pupils with SEN (N=28) in the pilot study. Pupils were assessed by the Strengths and Difficulties Questionnaire (SDQ-Svk, Slovak version) which was first used in an educational context in the Slovak republic. School performance was expressed by teachers as an assessment of educational progress. Statistical analysis showed a significant positive association between school performance and emotional symptoms, conduct problems, hyperactivity and problems with peers in pupils from a standard population. Lower school performance was associated with lower prosocial behavior. However, school performance of pupils with SEN did not correlate with any of the scales of the SDQ-Svk; their higher scores of overall mental vulnerability played a smaller role in their school achievement than expected. Future research should be focused on analysis of the differences in factors determining school performance of pupils from the standard population and pupils with SEN. Results of the research call for changes in educational approaches towards pupils with SEN in inclusive settings.

ABBREVIATIONS

SEN: Special Education Needs; SP: Pupils From Standard Population; SDQ-Svk: Strengths and Difficulties Questionnaire – Slovak Version; ES: Emotional Symptoms; CP: Conduct Problems; H: Hyperactivity; PP: Problems with Peers; PB: Prosocial Behavior

INTRODUCTION

The imbalance between positive and negative events in children's lives is a factor which can significantly influence their development and has an impact on their future life and mental health. In an early definition vulnerable child syndrome is focused on children with severe behavioral and learning problems who had experienced a serious illness or accident early in childhood from which they had not been expected to recover [1]. However, current definitions of mental vulnerability also include children who experienced different negative events or who live in hard life circumstances. Children threatened by mental vulnerability are e.g. children growing up in foster care who experienced traumas, maltreatment or neglect [2], poverty [3,4], malnourishment [5], children from socially disadvantaged environments [4] or

children exposed to violent events in war situations, etc. [6]. Children who were exposed to negative life circumstances or to violence displayed a higher incidence of problem behavior such as depression, aggressiveness, noncompliance and poor overall mental health [7,8]. Mental vulnerability can already be manifested in behavior in pre-school age pupils by a wide range of activities, e.g. disobedience, fights with other children, anxiety, shyness, eating problems, tearfulness and tantrums but also in the behavior of low frequency, e.g. theft, bizarre mannerisms or self-harming [9]. Psychosocial problems as consequences of mental vulnerability are often not recognized or diagnosed immediately and they may get worse over time by living in negative life circumstances such as parent divorce, living in poverty, etc. In 2011, a comparative study, which involved 24 countries, showed that 14-26% of preschool children manifest symptoms of problem behavior, but several studies show prevalence of conduct problems as 38% [10,11].

The aim of the pilot study was to explore the relationship between mental vulnerability and school performance of pupils with special education needs and compare them with the pupils from the standard population.

MATERIALS AND METHODS

Study design and sample

From the sample of 132 pupils there were 28 pupils with special education needs (SEN) (9 girls and 19 boys) – 8 pupils from socially disadvantaged backgrounds, 8 pupils with learning disabilities, 7 pupils with speech impairments, 2 pupils with mild intellectual disability, 2 pupils with Attention Deficit Hyperactivity Disorder (ADHD) and 1 pupil with Autism Spectrum Disorder. Average age of the 100 pupils from the standard population (52 girls and 48 boys) was almost 10 years old (SD = 0.53) and from the sample of pupils with SEN it was almost 11 (SD = 8.34). Four pupils from the standard population were excluded from the sample because of incomplete questionnaires. All of the pupils were attending 4th grade of elementary school. The study was conducted after obtaining the informed consent from the parents of pupils.

Strengths and Difficulties Questionnaire (SDQ-Svk)

The SDQ-Svk can be used for screening as part of a clinical assessment, as a treatment-outcome measure, and as a research tool for children and adolescents [12-14]. Each pupil of the sample was assessed by the teacher on a 3-point Likert scale (0-not true, 1-somewhat true, 2-certainly true) of the Slovak SDQ version, published by authors of the questionnaire on their webpage www.sdqinfo.com. The SDQ-Svk consists of 5 scales: *emotional symptoms* (ES), *conduct problems* (CP), *hyperactivity* (H), *peer problems* (PP) and *prosocial behavior* (PB). All of the sub-scales, except the last scale, are summed to generate a total difficulties score. The range score for each scale varies from 0 to 10; a total difficulties score ranges from 0 to 40.

Each of the scales has a specific cut-off point for assessment of the pathology categorizing the pupils behavior as normal (ES (0-4), CP (0-2), H (0-5), PP (0-3), PB (6-10)), borderline (ES=5, CP=3, H=6, PP=4, PB=5) and abnormal (ES (6-10), CP (4-10), H (7-10), PP (5-10), PB (0-4)) behaviors (<http://www.sdqinfo.com/>). The SDQ-Svk questionnaire was not previously used in any research of pupils of younger school age in Slovakia, but in the presented pilot study showed high internal consistence in all of the scales expressed by Cronbach's alpha: *emotional symptoms* (0.755), *conduct problems* (0.769), *hyperactivity* (0.835), *peer problems* (0.816) and *prosocial behavior* (0.785).

School performance

Pupil assessment is a necessary part of the educational process with informative, corrective, and motivational functions

[15]. The Slovak system of school performance consists of 5 grades: 1 means excellent, 2 – praiseworthy, 3 – good, 4 –sufficient and 5 – failures or insufficient learning of subject matter. In the research analyses we counted overall school performance from the average marks of school performance from all subjects.

Statistical analyses

The Statistical Package for the Social Sciences (SPSS 20) software was used to analyze the data. First, the descriptive analysis of data was conducted. Second, Pearson's correlation coefficient was used to determine the strengths of the relationships between the study variables that were the school performance and the scales of SDQ-Svk: emotional symptoms, conduct problems, hyperactivity, problems with peers, prosocial variables and total difficulty score.

RESULTS

Pupils from the standard population and pupils with SEN were divided into groups based on the achieved scores of the pathology: normal, borderline and abnormal. Pupils with SEN achieved a higher average score in each of the SDQ-Svk scales (except in prosocial behavior) and more of them achieved an abnormal level of pathology than pupils from the standard population (Table 1).

Surprisingly, the correlations of each of the SDQ-Svk scales with school performance also showed differences between both groups of the pupils. A lower school performance average was significantly associated with lower scores in dimensions of emotional symptoms, hyperactivity and peer problems in pupils from the standard population, but no significant correlation was found between dimensions conduct problems or prosocial behavior and school performance. It could mean that problems with self-regulation and problem behavior do not associate with the ability of the pupil to achieve better school valuation.

However, school performance of pupils with SEN did not correlate with any of SDQ-Svk scales (Table 2). Mental vulnerability of those pupils could be caused by different factors than pupils from the standard population which can have an impact on the clearness of the relationship between mental vulnerability and school performance.

DISCUSSION

Pupils with SEN are not only an educational challenge for teachers, but their conduct, emotional and social problems are perceived negatively by teachers as well. Diagnosis of a child for the purposes of education is mainly focused on problems relating

Table 1: Comparison of the percentage of pupils from the standard population and pupils with SEN in terms of pathology in various dimensions of the SDQ-Svk.

	ES (%)		CP (%)		H (%)		PP (%)		PB (%)		Total difficulty score (%)	
	SP	SEN	SP	SEN	SP	SEN	SP	SEN	SP	SEN	SP	SEN
Normal	73.0	61.6	83.7	59.1	82.8	50.0	83.7	64.3	88.0	67.9	80.7	31.8
Borderline	14.3	11.5	6.5	4.5	4.0	7.1	6.5	10.7	8.0	7.1	5.7	18.2
Abnormal	12.7	26.9	9.8	36.4	13.1	42.9	9.8	25.0	4.0	25.0	13.6	50.0

Abbreviations: SP: Pupils from Standard Population; SEN: Pupils with Special Education Needs; ES: Emotional Symptoms; CP: Conduct Problems; H: Hyperactivity; PP: Peer Problems; PB: Prosocial Behavior

Table 2: Correlation between school performance and achieved scores in different dimensions of the SDQ-Svk in pupils from the standard population and pupils with SEN.

	ES	CP	H	PP	PB	Total difficulty score
Average school performance of pupils from standard population (N = 100)	.403**	.132	.388**	.374**	-.121	.473**
Average school performance of pupils with SEN (N = 28)	.307	-.065	-.097	.040	.070	.157

Abbreviations: ES: Emotional Symptoms; CP :Conduct Problems; H: Hyperactivity; PP :Peer Problems; PB: Prosocial Behavior; * $P \leq 0.05$, ** $P \leq 0.01$

to education, such as intelligence or cognitive skills, but the wider context of their home or medical history is unknown to a teacher. The concept of mental vulnerability of pupils with SEN seems to be useful for better understanding of an actual pupil's behavior in education. The aim of the pilot was to explore the relationship between mental vulnerability and school performance of pupils with special education needs. Comparison of the results with pupils from the standard population brought interesting results and suggestions for future research.

More pupils with SEN achieved abnormal levels in each scale of the SDQ-Svk than pupils from the standard population. Almost one third of the pupils with SEN in the sample came from socially disadvantaged backgrounds. In these families occurs harsh, unresponsive and punitive parenting, less interpersonal trust and lower emotional support in social relationships than in families with higher incomes [4]. Poor maternal mental health, deprivation, and exposure to violence are associated with vulnerability, while good maternal education and self-rated health are associated with resilience in child mental health [8]. Thus, this group of pupils from disadvantaged environments in the sample can lower overall score of all pupils with SEN.

Generally, the mental health of pupils from the standard population is closely related to their actual school performance; however in pupils with SEN, as expected, their mental vulnerability is less associated with school performance. The correlation showed a significant association between emotional symptoms, hyperactivity and peer problems with school performance – the lowest score in these scales of SDQ-Svk was associated with lower school performance in pupils from the standard population. These results are comparable with findings of other researchers. DeSocio and Hootman identified poor academic functioning and inconsistent school attendance as early signs of mental health problems during childhood and adolescence [16]. Mental health and socioeconomic deprivation was recognized also as one of the key risk factors of school success [17].

However, the relationship between mental health and school performance of pupils with SEN is not so clear. Results showed big differences in the level of mental difficulties between both groups of pupils but none of SDQ-Svk scales associates with school performance in pupils with SEN. School performance of pupils with SEN probably correlates stronger with other factors than with mental vulnerability. We can hypothesize that the model of school performance of pupils with SEN comes from other factors than the model of school performance of pupils from the standard population. Future research will focus on comparison of pupils with different types of SEN; the importance of each factor will be determined using regression analysis.

Differences in the results between pupils' groups in our sample could be due to the heterogeneity of the sample of pupils with SEN – there is possibility that each group (children with ADHD, learning disabilities, socially disadvantaged, etc.) shows specific problems different from other groups. The correlations do not indicate causality in the relationship between mental vulnerability and school performance in pupils from the standard population. Future research should clarify a direction of this relationship; because emotional problems, hyperactivity and problems in peer relationships may be the cause but also the consequence of low school performance. A limitation of this study is the small and heterogeneous sample of pupils with SEN – each SEN is different in terms of causes and behavioral manifestations. The relatively high proportion of pupils with low socioeconomic status may increase symptoms of deprivation in the sample caused by the environment.

It is a mistake to reduce the problems of the child with SEN only on education problems. Based on the pilot study, it can be assumed that without a comprehensive and complex approach, involving cooperation and support of experts from various areas, these children can suffer problems of mental health which could have been avoided.

CONCLUSION

This pilot study confirms the legitimacy of the hypothesis about the relationship between academic performance and mental vulnerability. Its clarification will help to identify the problems and difficulties of pupils with SEN that will be reflected in the search for new effective strategies in their education. The stability of pupils' mental health might possibly have an impact on their later academic and life success. The SDQ-Svk seems to be a helpful tool for teachers in assessment of pupils' problems and the identification of their problem areas in behavioral, emotional and social domains.

ACKNOWLEDGEMENTS

The study was supported by the Slovak Research and Development Agency under the contract no. APVV-0851-12.

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Cite this article

Dubayova T (2015) Mental Vulnerability as a Factor of School Performance in Pupils of Young School Age – Report from Pilot Study. *Ann Psychiatry Ment Health* 3(3): 1028.