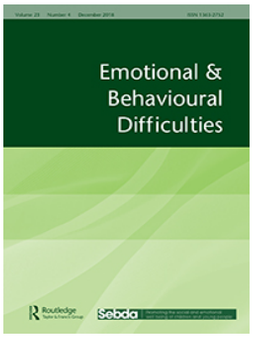

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Has schooling of ADHD students reached a crossroads?

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ABSTRACT
The aim of the present study was to examine and describe educational leaders' mindset types related to schooling of students with ADHD in five municipalities with ADHD special education classes and in five pair-matched municipalities without such classes. Selection of the ten municipalities was based on the results from a nationwide survey (response rate 76%) aimed at investigating how Swedish municipalities organise schooling for ADHD students. Interview data was analysed with the use of a theoretical framework presented as a typology table describing mindsets more or less in line with either the neuropsychiatric paradigm or inclusion. The perceived neuropsychiatric influence on ADHD students' schooling seemed to affect educational leaders' decision making, leading to different schooling for ADHD students in different municipalities. The findings, presented as municipality profiles, are discussed in relation to the notion of inclusive education and alternative educational paths leading either towards inclusion or exclusion.

KEYWORDS
ADHD; inclusion; special classes; special education; school

Introduction

Attention-deficit/hyperactivity disorder (ADHD) 'is considered to be a biologically based, educational disability that is treatable but not curable by treatment (Pfiffner and DuPaul 2015, 597).' The authors state that teachers should be aware of this fact. In contrast, Allen Frances, former chair of the DSM-IV and co-author of a critical update for educational professionals (Meerman et al. 2017), warns that teachers are misinformed about ADHD and about how to deal with behavioural problems. The ADHD diagnosis, and even the existence of ADHD, is debated (Timimi and 33 Coendorsers 2004). The behavioural 'symptoms' among ADHD students[1] in the classroom are not questioned, however. These 'symptoms' may evolve due to the push for greater academic performance and increased demands for higher productivity in schools, which are related to the needs of global economies (Harwood and Allan 2014; Hinshaw and Scheffler 2014; Tomlinson 2012). Teachers, who deal with these 'symptoms' among their pupils, encounter guidelines for ADHD students' schooling based on the neuropsychiatric paradigm, which enjoys a strikingly prominent position in the area of dealing with behavioural issues in schools (cf. Langager 2014, 284).

In Sweden, a recent national-survey study revealed the existence of classes specifically designed for students with ADHD (Malmqvist and Nilholm 2016), which is contrary to the notion of inclusion and to national policy (Hjorne and Evaldsson 2015). Little is known about why these ADHD classes have been established in some municipalities and not in others. Therefore, this article presents results from a follow-up, case-based, interview study with ten pair-matched municipalities.

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More specifically, the aim of this explorative study was to examine and describe educational leaders' mindset types related to schooling of ADHD students in five municipalities with ADHD classes and in five pair-matched municipalities without ADHD classes. This was done in order to investigate the municipalities' 'ADHD schooling profiles' related to the perceived influence of the neuropsychiatric paradigm on schools. Addressing two key areas concerning schooling for students with ADHD, two research questions were posed in pursuit of the aforesaid aim:

(1) What characterises mindsets among municipal leaders – representing the overall municipal *policy level* in education – concerning the job of dealing with student behaviour and teaching academic subjects to ADHD students in municipalities with or without ADHD classes?
(2) What characterises mindsets among educational leaders – representing the municipal educational *practice level* – concerning the job of dealing with student behaviour and teaching academic subjects to ADHD students in municipalities with or without ADHD classes?

Educational leaders on the policy level often have broad responsibility for all special needs education within their jurisdictions, whereas leaders on the practice level are responsible for classes in which ADHD students have their schooling. The use of the word 'mindset' has been chosen based on the assumption that interviewees each have a conception of how the schooling of ADHD students should be organised, planned, and practically implemented that is based on beliefs stemming from various scientific disciplines or perspectives.

ADHD special education classes in the swedish school system

A research review showed that there is a lack of knowledge about the school situation for ADHD students in Sweden (Swedish Schools Inspectorate 2012). It should be noted that special needs provision should be received regardless of whether a child has a neuropsychiatric diagnosis (SFS 2010, 800 Swedish Education Act). Many municipalities, however, have not adhered to this legislation and have required a medical diagnosis for special needs provision (Swedish National Board of Health and Welfare 2014). Swedish municipalities (There are 290 municipalities ranging from 2,400 to 864,000 inhabitants in 2011, Statistics Sweden 2012) have a certain degree of freedom in interpreting state-governed policy, but they must follow educational legislation.

The aforementioned nationwide-survey study sent to all municipalities (234/308, response rate 76%) is an important backdrop to the present study (Malmqvist and Nilholm 2016). The survey revealed that as many as 40 municipalities (17%) had classes specifically designed for students with ADHD. The definition of a special education ADHD class (ADHD class) used in the earlier survey and in this paper is *a special education class in compulsory school (grades 1–9) with a group of students in which the majority have an ADHD diagnosis*. These students spend most of their school time in a separate unit that might be located within a regular school or isolated from other school facilities. An ADHD class must have existed for more than one semester to be considered established and qualified to be part of this study.

The survey (Malmqvist and Nilholm 2016) clearly showed that there are conditions other than municipality size that are of substantial importance for the presence of ADHD classes. This may indicate that the influence of neuropsychiatry varies across municipalities, which is in agreement with findings revealing very large regional differences in the prevalence of ADHD diagnoses and especially large differences between municipalities. At present, we still know very little about the influence of psychiatry on ADHD students' schooling and its impact on school policy and on educational practice in municipalities with or without ADHD classes. The present study was designed to give thorough knowledge about the perceived influence of psychiatry in different municipal contexts.

The survey results of special importance for the present study were:

- Most ADHD students have their schooling in regular educational settings.

- Principals and/or chief education officers were often considered initiators in establishing ADHD classes (in 31 of 40 municipalities).
- The four most important reasons to establish ADHD classes were ADHD students' needs for specific teaching methods, for a special pedagogy, for accommodations in work speed, and for a calmer classroom environment.
- The two most important features of ADHD classes were that they were structured and used a special methodology.
- ADHD classes are small, with eight students on average and a high proportion of adults employed.
- Experts in special education (SENCOs and special education teachers) worked to a low extent in ADHD classes.
- There was a lack of evaluation of the long-term effects of schooling in ADHD classes.

The use of special methods and a special pedagogy indicates a mindset among educational leaders that ADHD students require something different than other students in order to learn and behave appropriately (Cooper 2005). If they require something 'special', this may be viewed as a legitimate cause to have ADHD classes.

Prior research

The overall impression from reviewing ADHD research literature is that there is a scarcity of empirical research using an educational perspective (Purdie, Hattie, and Carroll 2002; Schnoes et al. 2006). Forness and Kavale (2001) claim this is due to the lack of a tradition of addressing neuropsychiatric disorders such as ADHD. ADHD is, on the other hand, 'one of the most widely researched disorders in the psychological and psychiatric literature' (Cooper 2005, 127). The neuropsychiatric research paradigm, with psychological research perspectives incorporated, totally dominates research on the school situation for students with ADHD. This paradigm postulates, according to Ljungberg (2008), that deviant behaviour among ADHD students is explained by biological/organic differences in brain functioning. This has become the dominant way of explaining why some students have difficulties with attentiveness, impulsivity, and hyperactivity. Prosser (2008) criticises this dominance, stating, 'If only medical questions are asked, only medical answers will be found'. Twenty years ago, Slee posed another critical question: 'Whose interests are served by the discovery and spread of ADHD?' (1998, 133).

The ADHD track in schooling – the influence of neuropsychiatry in schools

Children with ADHD diagnoses are described as having 'significant impairments in the educational domain' (Rogers et al. 2015, 23). DuPaul and White (2006, 57–58) describe ADHD as a 'disruptive behaviour disorder' typically involving a lot of verbal and physical aggression. Schnoes et al. (2006; cf. Ferrin and Taylor 2011) report research where '43% to 93% of children with ADHD have conduct disorder or oppositional defiant disorder'. The condition must be carefully diagnosed, according to Forness and Kavale (2001), who suggest a return to the medical model in special education. In school settings, the most common intervention includes treatment with psychotropic medication, often combined with behaviour modification based on behaviourism (DuPaul, Weyandt, and Janusis 2011). Except for a small group with ADHD, the long-term effects of medication have *not* been beneficial for children with ADHD (Meerman et al. 2017), and 'the ethics of prescribing drugs to children over the long term, particularly to *"control" behaviour* have been questioned' (Gwernan-Jones et al. 2016, 84; emphasis added). Additionally, research has not proved that medication yields long-term improvements in academic achievement and classroom behaviour, and the efficacy of non-pharmacological, classroom-based interventions grounded on behavioural theory to improve problematic behaviour still needs to be confirmed (Tarver, Daley, and Sayal 2014).

The neuropsychiatric research literature on ADHD students' schooling that was reviewed in this study focuses almost entirely on interventions to address behavioural issues in the classroom. Two

distinct behaviour areas are discernible (Rogers et al. 2015; DuPaul, Weyandt, and Janusis 2011): First, there are the primary (core) symptoms, such as inattentiveness, impulsivity, and hyperactivity, which require school-based interventions focused on teaching and learning; second, there are secondary (comorbid) difficulties of a disruptive character, such as aggression/anger, noncompliance, and difficulties with social relationships, which require focus on the management of classroom behaviour. These areas are often conflated, but they serve here as a broad division that will be used in the analysis of mindsets.

The teaching dimension – dealing with primary ADHD symptoms

The ADHD literature reviewed almost exclusively addresses different kinds of behaviours, such as 'off-task behaviour' and 'assignment completion'. These behaviours may be caused by an 'impaired delayed responding to the environment', which is proposed to be the core deficit behind ADHD (DuPaul, Weyandt, and Janusis 2011, 36, referring to Barkley 2006). Stimulant medication and behavioural interventions lead to behavioural improvements but have minimal effect on 'academic achievement' (DuPaul, Weyandt, and Janusis 2011). In addressing the aforementioned core deficit, a number of behavioural modification strategies are described by DuPaul, Weyandt, and Janusis (2011) and Pfiffner and DuPaul (2015); these strategies are antecedent-based interventions,[2] such as classroom rules, guidelines about seating, monitoring students, praise, visual aids, reminders, reduction of demands and assignments, etc. Teaching strategies, such as 'direct instruction', which is based on behavioural principles, and computer-assisted instruction, among other things, are also used in interventions. Teaching strategies are used in combination with competition, rewards, and bonus points in accordance with behavioural theory principles (Pfiffner and DuPaul 2015).

The disruptive behaviour management dimension – dealing with secondary ADHD symptoms

Behavioural interventions are often based on consequence-based strategies addressing disruptive behaviours through the manipulation of events *after* specific behaviours occur (DuPaul, Weyandt, and Janusis 2011). The aim is to reduce the frequency of disruptive behaviours. Contingent positive reinforcement, the most common behavioural intervention in the research literature according to DuPaul, Weyandt, and Janusis (2011), is a consequence-based strategy. Teachers use praise, or token reinforcement programs, in this strategy. Another consequence-based strategy, response cost, means that tokens are removed when students behave in an inappropriate way. A third consequence-based strategy described by DuPaul, Weyandt, and Janusis (2011) is the use of time-out, where disruptive students or their materials are removed or students are told to put away their work and put their heads down (Pfiffner and DuPaul 2015). Some treatments include suspension (from school or in-school suspension programs) and punishment (including corporal punishment), where the use of the latter 'is often limited for ethical and legal reasons' (Pfiffner and DuPaul 2015, 612).

A framework of educational mindsets about ADHD and schooling (FEMAS)

The theoretical framework is constructed to make it possible to compare different mindsets among educational leaders responsible for ADHD students' schooling. It is based on assumptions underlying neuropsychiatric schooling, educational integration, or work towards inclusive education. The framework also contains the two dimensions of schooling focused on previously in this article: *teaching* and *affecting behaviour*[3] (Figure 1). Although each dimension comprises a continuum, only three positions are described for each one for the sake of simplicity. This part of the analysis ends in a presentation of the interviewees' mindset types within a two-dimensional typology, which will be presented in the results section. The six positions in the framework, with their main characteristics, are as follows:

Assumptions

Neuropsychiatric assumptions	Educational integration	Towards inclusive education

Two dimensions

Teaching dimension		
Neuropsychiatry-based teaching	*Integration-based teaching*	*Inclusive education – based teaching*

Affecting behaviour dimension		
Treating and controlling behaviour	*Normalisation in educational settings*	*Inclusive education-based approach*

Figure 1. Theoretical framework: Assumptions and dimensions.

- *Neuropsychiatry-based teaching*, which is based on individual ADHD students' neurological deficiencies[4] and the goal to reduce primary (core) symptoms to keep ADHD students on-task.
- *Integration-based teaching*, in which ADHD students need to adjust to the main teaching strategies offered to all students and in which ADHD students are offered individual adaptions.
- *Inclusive-education–based teaching*, where teaching is designed so as to attend to diverse needs and where the main teaching strategies *are changed* when students encounter difficulties.
- *Treating and controlling behaviour* involves classroom behaviour management, mainly employing consequence-based strategies within a behavioural modification approach to treat secondary symptoms (such as aggression). Also used in the treatment are clinical interventions such as behavioural modification, child psychological therapies, and medication.
- *Normalisation in educational settings* – the handling of inappropriate behaviours in regular settings according to principles of normalisation (Nirje 2003), which means the provision of a normal lifestyle. Here, ADHD students are offered opportunities to be part of the mainstream schooling, and individually designed adaptations are made.
- *Inclusive-education–based approach*, where behavioural challenges of students are met with changes in educational practices in order to be responsive to variation among individuals. This means that teachers need to reconsider the existing teaching and classroom procedures in order to remove barriers for social inclusion. If this does not work, improvements in teacher competence and/or reinforcement in staff are required. A main focus is on creating and providing a positive classroom culture that is flexible and accommodating of all learners' social needs.

The results, as mindsets on the levels of policy and practice, are presented in Table 3. The analysis ends finally in municipality profiles, where policy and practice levels in each municipality are described together.

Method

Selection procedure

A purposeful sampling procedure was used (Creswell 2013) in which ten municipalities were selected from the previous survey to increase the possibility of capturing contrasting mindsets about ADHD students' schooling. Five municipalities of different sizes with a strong preference for ADHD classes were pair-matched with municipalities without ADHD classes. The ten municipalities, all of them 'first choice' in the selection procedure, agreed to participate.

Five A municipalities (ADHD municipalities: A1–A5) were chosen because their answers in the survey met the criteria in this study of having a neuropsychiatric-paradigm approach. A number of criteria were used to identify this approach: the use of special education classes for students with neuropsychiatric diagnoses, the use of ADHD special classes, a great emphasis on neuropsychiatric diagnoses in arranging education, a great emphasis on neuropsychiatric diagnoses for allocating resources, a low ambition to keep students with ADHD in regular classes, a low proportion of ADHD students in regular classes, the use of special teaching methods for ADHD students, and the use of a special pedagogy in ADHD classes.

The five M municipalities that were pair-matched with the A municipalities (matched municipalities: M1–M5) were chosen per criteria that contrasted with a neuropsychiatry-oriented approach. They were matched to the A municipalities based on 'municipality type' (Swedish Association of Local Authorities and Regions 2011) and population size (Statistics Sweden's website), which can be seen in Table 1.

The matching of the four smallest municipalities according to 'municipality type' did not succeed: A1 is classified as a suburban municipality, whereas M1 is a municipality within a densely-populated region; A2 is a municipality in a densely-populated region, whereas M2 is an industrial municipality.

Municipalities selected for this study

Procedure for data collection

Interview data was mainly collected during one-day visits to municipalities. Information about municipalities, schools, psychiatry units, and social services were collected from websites prior to the visits. These visits also included informal talks with staff, visiting lessons, and photographing educational settings.

Table 1. Population size of municipalities and number of ADHD classes and other special education classes.

	Municipalities with ADHD classes	Number of ADHD special classes (Total number of special education classes)	Municipalities with no ADHD classes	Number of ADHD special classes (Total number of special education classes)
Approximate population				
10,000	A1	2 (4)	M1	0 (0)
25,000	A2	4 (6)	M2	0 (0)
30,000	A3	4 (14)	M3	0 (1)
35,000	A4	5 (5)	M4	0 (0)
90,000	A5	8 (15)	M5	0 (7)
Total number of inhabitants	189 000	23 ADHD special education classes (In total, 44 special education classes)	190 000	0 ADHD special education classes (In total, 8 special education classes)

Table 2. Description of interviewees and interviews.

	Professional background				
	Pedagogy	Pedagogy + Neuropsychiatry	Neuro-psychiatry	Other	Interview length min.
A1 – pol	1				50
A1 – Pract		1			79
A2 – Pol	1				56
A2 – Pract	1				71
A3 – Pol		1			73
A3 – Pract	1				52
A4 – Pol	1				60
A4 – Pract	2				66
A4 – assist.					
A5 – Pol	1				94
A5 – Pract	1				53
M1 1st interview	3				67
M1 2nd interview					65
M2 – Pol	1				45
M2 – Pract	1				55
M2 – compl.	1				54
M3 – Pol		1			58
M3 – Pract			1		39
M3 – compl.	2				83
M4 – Pol	1				63
M4 – Pract	1				67
M5 – Pol	1				61
M5 – Pract				1	88

Pol is an abbreviation for leaders on Policy level and Pract is an abbreviation for leaders on Practice level.
Assist is an abbreviation for a teacher who assisted the practice level educational leader in municipality A4 (A4 – Pract) during the interview. Compl. stands for complementary conducted interviews with teachers.

Interviewees

Interviewees were chosen based on their knowledge of the topics, not their municipal positions, as the conditions differ radically between municipalities in their ways of organising their educational systems. The chief education officer in each municipality proposed interviewees based on two interviewee profiles provided by the author. The profiles contained descriptions of the required knowledge on two educational levels. The policy level profile prescribed an educational leader high in rank within the municipality and with responsibility for the whole area of special needs education. This leader was to possess a sound knowledge of organisational decisions and of intentions on the local political level. The practice level profile prescribed a school leader close to the educational settings where ADHD students have their schooling, as in an ADHD class or in another educational context where ADHD students are present in the matched municipalities. The solution in M municipalities often included interviews with principals and additional interviews with special educators or teachers. M1 was an exception. The chief education officer wanted three SENCOs to be interviewees and to cover both educational leader levels because they also had central educational positions concerning special educational needs within the municipality. See table 2 for details about the interviews!

Interviews. Semi-structured interviews (Kvale 1997) were conducted. Several questions were identical in all interviews, such as the question 'What school placements are used for students with severe ADHD symptoms?' One specific question used in A municipalities was 'Which students are placed in ADHD special education classes?'

In summary, 22 interviews with an average length of 63 minutes (range: 39–94 minutes) were conducted with a total of 25 interviewees. Ten interviews focused on the 'policy level' and 12 on the 'practice level'. The three SENCOs from M1 participated in two interviews.

All interviewees provided verbal consent to participate before the interviews were conducted. They were all informed that they had the right to withdraw from the interview at any time. They also received information that data would be handled in a confidential way and that the report would not contain names of the municipalities. All interviews were audio-recorded and transcribed verbatim for subsequent analysis (423 A4 pages of text).

Data analysis

The step-wise analysis used for all interviews contained a first step aimed at getting condensed descriptions of each respondents' descriptions. This step included an initial reduction of text by removing text irrelevant to the aim or the research questions, followed by a further reduction of text through extracting meaning units with original formulations intact (Kvale 1997).

In the second step, meaning units were divided into the two dimensions: the *teaching* dimension and the *affecting behaviour* dimension.

In the third step the content of meaning units was analysed to see if it coincided with any of the criteria that would indicate a certain mind-set according to the theoretical framework. Examples of criteria for indicating a 'neuropsychiatric mindset' in managing behaviour included claiming a biological aetiology for disruptive behaviour, describing medication as a main solution for behavioural issues, and describing the use of behavioural management methods in line with the neuropsychiatric research literature.

In the fourth step, the meaning units from each interview within a municipality were positioned in summary tables, one for each municipality. This table structure was based on the *teaching* dimension continuum, with its three positions, and the *affecting behaviour* dimension continuum, also with three positions (see Figure 1). In each position, policy level meaning units were separated from practice level meaning units in order to show similarities and differences between leaders in the same municipality.

In the final fifth step, each respondent's mindset based on the analysis procedure was positioned within the two-dimensional typology (Table 3). These positions show how mindsets of the educational leaders within and across municipalities are related to the *teaching* dimension and the *affecting behaviour* dimension.

In the final step, the positions of mindsets from each municipality are summarised as a municipal profile of educational leaders' mindsets about ADHD students' schooling. Note, however, that the educational leaders in 'practice' level positions from M municipalities only represent part of their municipalities.

Other meaning units that were important for understanding municipal profiles were assembled to provide a fuller description of each municipality.

Trustworthiness

Several measures were used in order to enhance the quality of this study, and some of them will here be related to credibility, transferability, and dependability (Bryman 2008). For enhancing credibility, a thorough preparation was done based on the answers to multiple-choice and open-ended questions of the previous survey (Malmqvist and Nilholm 2016). This preparation was important during the selection and matching of municipalities and in the formulation of the aim, research questions, and interview questions. Original formulations from the interviewees have been kept intact throughout the analysis process. For transferability, there has been an ambition to provide the reader with carefully chosen quotes from all interviewees. These quotes represent the interpreted gist of each interview, and it is hoped that they will

Table 3. A typology of mindset types among educational leaders based on the theoretical framework.

		Teaching dimension		
		Neuropsychiatry–based teaching	*Integration–based teaching*	*Inclusive-education–based teaching*
Affecting behaviour dimension	*Treating and controlling behaviour*	A1-Pract A2- Pract **A3-Pol** A3- Pract A4- Pract **A5-Pol** A5- Pract **M3-Pol** M3- Pract M5-Pract		
	Normalisation in educational settings		**A2-Pol** **A4-Pol** *M1* **M2-Pol** M2- Pract **M5-Pol**	M4- Pract
	Inclusive-education–based approach			**A1-Pol** **M4-Pol**

Italics pinpoint that M1 interviewees were accountable for both the policy level and the practice level responses.
The grey cross underscores the divide between mindsets with and without neuropsychiatric content. It symbolises the crossroads between ADHD schooling that is mainly based on the neuropsychiatric paradigm and schooling that is not.

contribute to the reader's understanding. For dependability, there has been an ambition to provide the reader with thorough descriptions of different steps in this study and to use clear definitions and criteria for complex concepts (especially in the selection process of interviewees and municipalities, and also in the analysis).

Results

Five municipalities (A3, A5, M1, M2 and M3) have leaders on both the policy and the practice levels who have been positioned in the same cells. This means that there is a congruence in mindsets among them.

Overall, practice-level leaders, in contrast to policy-level leaders, tend to have a neuropsychiatric mindset. Three leaders (M3-Pol, M3-Pract and M5-Pract) have a neuropsychiatric mindset even though there are no ADHD classes in their municipalities. In contrast, there are three leaders (A1-Pol, A2-Pol and A4-Pol) from A municipalities who do not possess a neuropsychiatric mindset. This complexity will be scrutinised below, where municipal profile types are described based on mindset positions in Table 3. These types are called congruent neuropsychiatry-based, conflicting mindsets dominated by neuropsychiatry, conflicting mindsets dominated by educational integration, complete disagreement in a transformation phase, educational integration with eclectic approach, and striving towards inclusion. A short vignette precedes the descriptions of each municipality type, pinpointing important aspects of the municipal context. In a few cases, the accompanying teachers' descriptions are included, as requested by some municipalities, to contribute to a fuller picture of the practice level.

Congruent neuropsychiatry-based (A3, A5, M3)

There is a congruence in three municipalities, A3, A5, and M3, where respondents on both levels clearly have a neuropsychiatry-based mindset about ADHD students' schooling. M3 had previously had ADHD classes, and the interviews revealed one ADHD class with five students situated in the municipality, but the class was governed by the county council and had a catchment area covering several municipalities. A suggestion had recently been made in M3 to re-establish ADHD classes instead of paying for ADHD class placements in other municipalities or in independent schools specialised in ADHD schooling, with their *'outrageous prices for placements'*. A3-Pol also commented on economic issues in an almost identical way, which was the main cause for having a large number of special classes. Very young children start their schooling in these ADHD classes (grade 1, 7 years of age). A3-Pol, with a long background in psychiatry units, had developed the organisational structure for special needs support in the municipality and organised in-service training for large groups. A5-Pol, in A5 municipality, had also worked for a long period within the neuropsychiatric area. A5-Pol described a strong pressure from parents who demanded neuropsychiatric diagnoses and ADHD classes.

Teaching (M3)

Over many years, M3-Pract had collaborated with a psychiatric unit to provide parent education and in-service. The two interviewed teachers, who had worked in the former ADHD classes under M3-Pract's supervision, worked with a group of students in which some had an ADHD diagnosis. The two teachers' views were fully in line with M3-Pract's views. They had established a strong structure in the classroom, with strict norms aimed at having 'almost complete silence' (Teacher 1). Reward systems were no longer in use, as they were viewed as unfair and difficult to handle. M3-Pract as well as the two teachers regarded the short attention span as being very problematic in teaching, as 'not possible to go beyond'.

Affecting behaviour (M3)

M3-Pol emphasised the importance of having structure, predictability for ADHD students, small groups, and facilities that are detached and quiet. M3-Pol did not mention medication; neither did M3-Pract. The two teachers, however, required their ADHD students to medicate. Teacher 1 explained, *'It is impossible to sit and listen to a teacher when you cannot focus on the whiteboard longer than maybe 15 seconds, then you look out through the window or look at what your peers are doing, then you do not learn anything… Some of them have really high medication dosages. We notice in 10 seconds if they have taken their medicine or not. They take their medicine here at school so we can have better control'.*

A3

Teaching (A3)

Medication of ADHD students seemed to be a cornerstone of educational practices, together with strategies based on neuropsychiatric thinking, such as structure, rewards, and token economies, which were designed together with the psychiatry unit. In addition, the interviewees emphasised the importance of using teaching strategies that were not based on behaviourism. The leaders also repeatedly emphasised the importance of supporting academic achievement. A3-Pract emphasised that many students had a good progress academically. A3-Pol declared: 'Schooling is the best "protection factor" for achieving a good life'. Follow-ups, however, were not done.

Affecting behaviour (A3)

A3-Pol claimed that it is impossible to draw a line between schooling and treatment, where medication was emphasised as an important part. Almost all students were on ADHD medication, often administered at school: *'The students get extra medicine at lunch because the ADHD medication does not cover the whole day'*(A3-Pract). A3-Pol also discussed medication: *'We try to decrease the use of medical terminology in schools, as the children get so fixated on…whether they have received their pills or not'.*

According to A3-Pract, physical corrections were only used when a student broke something or hurt himself or someone else. One description, however, included teachers who had lifted one student away when the student had not complied with an instruction.

A5

Teaching (A5)

No teaching methods were claimed to be 'special' in A5 ADHD classes. A5-Pract's descriptions of teaching, however, resembled to a large degree descriptions in the neuropsychiatric literature:

'There are many structures, a lot of things that the students recognise from before, a lot of preparation and a lot of structure as I said, a lot of recognition and structure, with days looking the same, where we do about the same things at the same place, and daily schedules and weekly schedules and short assignments and constant variation during lessons'.

Affecting behaviour (A5)

ADHD students' behaviour was managed with strategies favoured in the neuropsychiatric ADHD literature, and psychologists supervised the teachers. A5-Pol was responsible for in-service training and parental courses. The course material was based on the neuropsychiatric literature. During the interview, A5-Pol referred to leading national and even international authors within the field of ADHD research, such as Russel Barkley.

Conflicting mindsets dominated by neuropsychiatry (A2, A4)

Conflicting mindsets between policy-level and practice-level leaders existed in both A2 and A4 municipalities. Both policy-level leaders were against the neuropsychiatric influence on schooling and the presence of ADHD classes; both practice-level leaders exhibited mindsets fully in line with neuropsychiatric literature and research.

Psychiatric centres seemed to have a strong influence on schooling for ADHD students in both municipalities. This perceived influence, with its concomitant demands for establishing small classes for ADHD students, was criticised by both policy-level leaders, who argued for other pedagogical solutions. They described in a similar way how regular classroom teachers wanted ADHD classes and how demands came from parents who did not have ADHD children as well as from those who did. A2-Pol said, '*When there are demands on the schools from the external collaboration partner [a neuro centre], it affects parents, because parents listen to medical science and then the parents can demand that we have special ADHD classes for their children*'.

A4-Pol questioned the demands coming from one psychiatry unit and said, '*If we had received negative criticism* [from the Swedish School Inspectorate], *I would have worked strongly to get them* [the ADHD classes] *phased out*'.

Teaching

A2-Pol and A4-Pol both emphasised structure and a calm classroom environment as important for ADHD students, but they did not advocate neuropsychiatric strategies for teaching. A2-Pract and A4-Pract, on the other hand, did. They provided many descriptions of their work that included token economies, structure, rules, and clarity, among other things.

Affecting behaviour

A similar divide between policy-level leaders and practice-level leaders was found with regard to how to deal with ADHD students' behaviour. A2-Pract and A4-Pract both advocated medication and the use of behavioural management based on behavioural theory. They had learnt from courses provided by external neuropsychiatric centres, and they mentioned the usefulness of methods and therapies such as RePulse, Aggression Replacement Training (ART), and cognitive behavioural therapy (CBT). Their view of ADHD students' 'biology' being decisive for ADHD behaviour was apparent. A2-Pract, for example, described ADHD students as *'the concentration-disordered who cannot sit down and concentrate at all and who get into fistfights with their peers'*. The comorbidity issue, when a student has both ADHD and Asperger's syndrome, was elaborated by A4-Pract and the teacher when they described the causes for outbursts among some students: '*They* [the ADHD personality and the Asperger personality] *fight against each other and then they get so much chaos in their heads* [that leads to outbursts].

Complete disagreement in a transformation phase

A1

The A1 leaders revealed two completely contradictory mindsets about schooling for students with ADHD. A1-Pract, who had extensive education in neuropsychology at an advanced university level, described a view on schooling based on neurological deficits among ADHD students. A1-Pol, who had a background as a special education teacher, strongly questioned this neurological deficit thinking and emphasised the importance of critically examining the school environment. A1-Pol also strongly criticised A1-Pract's strong position with an impact on all schools in this small municipality.

A-Pract said that the main objective of ADHD classes was to get the ADHD students back to regular classes, which had only happened once over a ten-year period with a total of 50 students. The Swedish School Inspectorate had questioned the quality of the ADHD classes and their large

numbers of students and had said that educational legislation had not been followed. A1-Pol said that A-Pract's impact on ADHD students' schooling would soon cease because A-Pract's employment had come to an end and that the process of phasing out the ADHD classes would now begin.

Teaching. A1-Pract gave an extremely long and detailed account of the work with ADHD students in ADHD classes. It contained most of the strategies that may be found in the ADHD literature about schooling. Another main idea was to use TEAACH (Treatment and Education of Autistic and Communication Handicapped Children), 'which all students in the municipality would benefit from', according to A1-Pract. All work places for ADHD students had schedules, visual aids, and screens to reduce distractions. There were also detailed instructions about where they should be, what to do, with whom, etc. Their tasks, one at a time, were distributed in boxes.

A1-Pol argued for schooling in regular classes, stating that teachers' competence and working methods should be improved through in-service training and that teaching must be flexible and adapted to all students' needs.

Affecting behaviour. A1-Pract described the use of several behavioural management approaches such as medication, self-control strategies, behavioural therapies (such as ART), token economies, and rewards. A1-Pract described how teachers should think, using an example often used during supervision in schools:

'Yeah, okay, if he [ADHD student] *hit her 10 times and next time only five times – but did he get any praise when he stopped after hitting five times? – then, they always look at me as if I was a UFO! But he* should *have received praise because he did something good! You should have told him that you did not accept the behaviour but that he did well when he stopped after hitting five times. He should have got a reward for this* [behaviour]*'.*

A1-Pol gave a detailed description of how to deal with ADHD students who have 'black outbursts': the strategy is based on changing the educational environment, helping the student understand the social context, and working on social relationships with peers and adults in regular settings.

Conflicting mindsets dominated by educational integration

M5

M5 had had two ADHD classes that had been cancelled because they focused entirely on behavioural treatment. M5-Pol explained the closing of ADHD classes as a 'new' way of interpreting the policy handed down from politicians in the municipality.

Unlike M5-Pol, M5-Pract had a pro-neuropsychiatric mindset, had established special educational classes in other municipalities, and had advanced to the educational leader position without a degree in education science or teacher training. M5-Pract referred to evaluations from parents and students and argued for more special education classes. M5-Pol, on the other hand, said that the use of special education classes was negative, as students tend to remain there.

Teaching. M5-Pol stated that ADHD students could have a good learning environment in a regular classroom if the schooldays were structured. Among other things, they could have the advantage of shorter lessons. M5-Pol's view was that there is no need for ADHD classes because regular teachers have enough competence in and knowledge of ADHD students' schooling. M5-Pract, on the other hand, emphasised the use of strategies common in the neuropsychiatric literature and research, such as structure, routines, clarity, and direct instruction for ADHD students. Distractors (such as drawings and photos) should be removed, and, ideally, roof windows should replace windows in the walls.

Affecting behaviour. The same kinds of differences between the two leaders were evident in regard to the subject of dealing with ADHD students' behaviour. M5-Pol claimed that ADHD is a

description of behaviour that is elicited by environmental factors and that ADHD symptoms could depend on other things, such as reading and writing difficulties. M5-Pol also emphasised that special education classes are negative due to the lack of positive role models among the students. M5-Pract advocated the use of different kinds of ART, the use of token economies, and other consequence-based strategies. M5-Pract explained principles for dealing with ADHD aggression: '*Aggressive outbursts happen quickly* [speaker flicks his fingers], *like explosions, and then you need to hold them* [12-year-old students] *like you are holding a one-year-old having a real tantrum.'* M5-Pract described parental pressure for excluding ADHD students, as parents do not tolerate their own children being insulted or exposed to violence.

Educational integration with an eclectic approach

M1, M2

Both M1 and M2 held eclectic positions. All interviewees stated an ambition to keep all students in mainstreamed settings with the use of adaptions. Previous attempts by M1 to bring students experiencing school difficulties together in special classes had failed. The main strategy, instead, was to place ADHD students in separate regular classes with one additional teacher or a student assistant. Guidelines from psychiatry units were appreciated and followed to some degree.

M2-Pol emphasised a 'one school for all' principle and the need to make changes in the classroom environment when an ADHD student experiences difficulties. M2-Pol was critical towards staff in two schools who had not worked in a good way with ADHD students. They had acceded to demands from parents who did not have children with ADHD, which had led to exclusionary practices. M2-Pol underlined that in-service training about ADHD had been used to develop 'a school for all'. M2-Pract said that the ADHD competence was good at the school. Only once had the school excluded a student (1/1500 students) and the student had no neuropsychiatric disorder.

Teaching. The three SENCOs from M1 stated that neuropsychiatric diagnoses only confirmed what was already known and did not change the way they worked. They did say that they had benefitted by attending courses offered by a psychiatry unit and by using their checklists. They supervised teachers with ADHD students and guided them toward greater teaching structure. They 'hand-picked' teachers by placing ADHD students in classes with highly competent teachers, and they let student assistants[5] follow their ADHD students in transitions from one class to another. They stressed the importance of arranging seating to minimise distractions.

The three interviewees from M2 stressed the importance of structure in teaching ADHD students. Such structure was provided, in part, by student assistants, who helped students organise their schoolwork, among other things. Mobile apps were frequently used to support structure in schools. Token economies had been tried in some classes, with good results, but had not worked at all in other classes.

Affecting behaviour. M1 SENCOs emphasised the importance of having normal expectations and of being one step ahead of ADHD students to prevent outbursts. M1 SENCOs thought that ADHD-specific knowledge was not needed but that teachers must display distinct leadership and behave respectfully towards ADHD students. To prevent aggressive outbursts, they used 'isolated spots' where the students could go if they experienced difficulties.

M2 interviewees focused mainly on teaching strategies and establishing structure in schools when they answered questions about dealing with behavioural issues. M2-Pract described how deficiencies in providing structure could make a situation worse for ADHD students and retold what had been said to the staff: *'Then I said, "the reason this happens is that we as professionals do not have structure – it's nothing wrong with the kids"'.*

Striving towards inclusion

M4

Both M4 interviewees described a strong consensus among politicians from different political parties to work towards inclusion. This was initiated by a former educational leader in the 1990s, and the policy since then was that '*we shall have inclusive schooling, we shall not exclude students, they shall not be put aside, and this shall be our common point of departure for working with all students, including those who qualify for schools for students with intellectual impairments*' (M4-Pol). Both leaders emphasised that students should have special support based on pedagogical needs and irrespective of medical diagnoses.

M4-Pol.

Teaching. M4-Pol emphasised the need to increase teacher competence when a student experiences difficulties. M4-Pol gave the example of a recent school situation where M4-Pol and the principal agreed to assign one teacher the main responsibility for teaching a particular ADHD student's class. The teacher had proved to work better with the ADHD student than other teachers through providing the necessary classroom structure. The other teachers were asked to learn from this teacher's way of teaching.

M4-Pract also emphasised the importance of structure and of using the experience and competence available at the school. M4-Pract also described the importance of using the knowledge and competence already established among various professionals collaborating with regard to the ADHD student, such as staff from the psychiatry unit.

Affecting behaviour. M4-Pol described the job of addressing behavioural challenges similarly to that of addressing ADHD students' learning, as providing enough competence around the ADHD student. M4-Pract emphasised the 'crucial' importance of having at least one teacher who establishes a close relationship with the ADHD student. Other keys were to work proactively to avoid overly difficult situations for the ADHD student, to have shared responsibility among all adults concerning the ADHD student, and to always have two teachers present in the classroom when there might be behavioural challenges. The teachers' commitment to trying to understand ADHD students' feelings and behaviours was viewed as very important.

Summary of results

There was a strong perceived neuropsychiatric influence in some municipalities and less such influence in others. This was expected, given the selection procedure based on the strategy of having five A municipalities matched with five M municipalities as contrasts. But the results, based on educational leaders' mindsets, also revealed complexity within the municipalities. For example, three policy-level leaders from A municipalities did not have a neuropsychiatric mindset, whereas three M leaders did have such a mindset. Two were from M3, a metropolitan area, and instead of having ADHD classes in their own municipal schools, they had three alternatives for ADHD students' placements: in another municipality, in an independent school, or in a school run by the county council.

The perceived psychiatric influences often originated in some sort of collaboration with psychiatry units (in-service training, supervision, and parental courses) or ADHD centres (in-service training and parental courses). These influences were to some extent indirect, via parents of children with ADHD. Some municipalities had employed educational leaders with neuropsychiatric expertise in key positions in the work having to do with special needs. Another important factor was demand from parents whose children did not have ADHD and from teachers who wanted to have ADHD classes in their municipalities.

There were contrasting mindsets about how to provide teaching and how to deal with behavioural issues. In some municipalities ADHD students would have a schooling strongly dominated by medical treatment and behavioural approaches in a segregated setting. They may

start their schooling in grade 1 (at age 7) in an ADHD class and follow the ADHD schooling path throughout compulsory school to grade 9. Schooling in another municipality without ADHD classes may be entirely different. ADHD students may live in a municipality that works towards inclusion or they may live in one that follows the principle of having students with ADHD diagnoses divided into separate regular classes.

Discussion

The perceived strong neuropsychiatric influence, especially in A municipalities, was evident in the educational leaders' answers. The responses, together with descriptions of the impact of evaluations conducted by the [Swedish] Schools Inspectorate, reflect a dynamic or unstable situation in many municipalities. For instance, the results showed that one single inspection by national school authorities, in A1, dramatically changed the educational path in that municipality. It is also noteworthy that A1-Pract, 'alone', according to the interview data, had been able to build an extensive segregated-school institution based on schooling guidelines derived from the neuropsychiatric research paradigm. In contrast, one municipality (M4) seemed to display long-term stability and to be strongly based on a vision and a consensus among politicians to have inclusive education. The overall impression is that, according to the results, the perceived influence of the neuropsychiatric paradigm was strong. This is partly a consequence of the fact that there are students with ADHD diagnoses in schools, a condition, according to Forness and Kavale (2001), with a neurobiological aetiology. Hence, their very presence delivers a neuropsychiatric 'message' to educational leaders that those students' school difficulties are due, in part, to biological deficiencies.

The neuropsychiatric 'message' to educational leaders

Most research about ADHD, even that about schooling for students with ADHD, is conducted within the neuropsychiatric paradigm. One consequence of such dominance is evident in the municipalities in this study: Representatives of the neuropsychiatric paradigm, such as staff in psychiatry units or ADHD centres, seem to have come into positions of having the interpretative prerogative concerning the way schooling for ADHD students should be organised. They provide in-service training, guidelines, and supervision, among other things. The obvious risk is the established dominance of a single-focus, paradigmatic view of the way schools should understand ADHD students' behaviour and school difficulties. An adherent risk is that an emphasis on ADHD students' individual deficiencies will restrict schools' efforts to scrutinise environmental factors such as teaching quality. The 'message' about schooling in the neuropsychiatric guidelines to schools, parents, authorities, and the educational leaders in the present study is that ADHD students should have their schooling firmly based on medication, behavioural principles and psychological therapy (cf. Velasquez 2012). This kind of schooling, has been used in A municipalities in the present study for very young students (grade 1, 6–7 years of age). In M municipalities, there are no indications of such a school arrangement administrated by the municipalities. They have obviously chosen other educational solutions. However, the educational leaders in this study described schooling for students with ADHD as difficult to manage. Additionally, the in-service training material from the neuropsychiatric research paradigm offers clear guidelines for ADHD students' schooling based on principles that are easy to learn and follow. Meerman et al. (2017, 1), however, claim that 'teachers are misinformed'. Whose guidelines should teachers and educational leaders listen to?

The message from educational researchers

A strong theme in educational research journals is the questioning of ADHD diagnoses as such and of their use in educational practice. Cooper (2008, 14) disagrees with this ADHD-sceptical standpoint: He states that educators who are against the ADHD concept hinder effective interventions for ADHD and

that they are not well-read and should take 'the trouble to read the scholarly literature underpinning the ADHD concept'. The questioning of the ADHD diagnosis among educational researchers is probably a key explanation for the scarcity of *empirical* ADHD studies in education. A consequence is that teachers, principals, educational leaders, parents, and politicians, among others, have few educational researchers who provide guidelines for schooling. Without such guidelines, it is not surprising if educational leaders (re)turn to the medical model when it concerns ADHD students' schooling (Forness and Kavale 2001). At the same time, educational researchers who reject the use of ADHD diagnoses in education face a dilemma in that an empirical study focusing on ADHD students might be regarded as an approval of this neuropsychiatric diagnosis.

Neuropsychiatry-based schooling – does 'it' work?

The A municipalities in this study and in the previous study seldom or never followed up or evaluated their ADHD classes. On the other hand, we do not know much about schooling for this target group in M municipalities, either.

ADHD classes like the ones governed in the A municipalities are explicit examples of neuropsychiatry-based schooling in line with the neuropsychiatric research literature. ADHD classes partially serve the purpose of excluding students, according to the results in this study, as there are demands from parents with or without children with ADHD and from teachers and others to have such classes (cf. Harwood and Allan 2014; Hinshaw and Scheffler 2014). The effects of such exclusionary practices have been shown to be mainly negative for individuals in this kind of setting (Swedish National Agency of Education 2009). Yet, independent schools have recently been given permission to restrict their enrolment to certain groups of children, such as children with ADHD. This kind of 'independent special school' specialising in ADHD is a new phenomenon that was mentioned in the interviews. Furthermore, a recent verdict from the [Swedish] Supreme Administrative Court (2017) states that a municipality's having this kind of special class is in accordance with the national legislation. The main arguments in the verdict are that, first, such classes should be viewed as regular class placements; second, children and parents have the right to choose their own schools; and, third, it is possible to choose a school placement in an independent school that restricts enrolment to students with special needs, and therefore it should be possible in municipal schools as well.

The School Inspectorate lost the previously mentioned case in court. The previous interpretation of the educational legislation, which was in accordance with inclusive education, can no longer be used by the School Inspectorate. In other words, the verdict will probably make it easier for municipalities to establish ADHD classes and other types of special classes.

Special methods and special pedagogy?

ADHD classes, in the present studies, have often been established by the same kinds of educational leaders that have been interviewed (Malmqvist and Nilholm 2016). School leaders have a strong position in handling policy issues and in influencing school practice, according to international research (Shevlin and Rose 2017). The descriptions from some of the municipalities showed that higher-positioned educational leaders were strongly influential in decisions about whether to have ADHD classes. They also had a strong impact on school practice by stating what kind of ADHD schooling was needed. Some of the main arguments for establishing ADHD classes have been that ADHD students need specific teaching methods and a special pedagogy. In the present study, teaching based on behaviourism seems to constitute what is 'special'. Furthermore, controlling behaviour seems to be the main focus in the ADHD schooling in these ADHD classes. The main strategy is to handle primary symptoms, which means having students focused and on-task, and to manage secondary symptoms when emotional outbursts occur. Two control 'mechanisms', medication and behaviourism, are used to control ADHD students. This is fully in line with what the neuropsychiatric paradigm postulates. The previous results from the five A municipalities in the

survey (Malmqvist and Nilholm 2016), that ADHD students need special methods and special pedagogy, seems to relate to these two 'mechanisms'. There were no other descriptions from the interviewees indicating anything else as 'special'. In other words, behaviour modification seems to be a key foundation for ADHD schooling in the ADHD classes in this study. This make sense, as behaviourism's perspective on learning mainly focuses on the acquisition of behaviour (Phillips and Soltis 2004).

Pfiffner and DuPaul (2015) raise a concern about teachers who object on theoretical grounds to the use of behaviour modification procedures. They suggest that parents should put pressure on the school administration when such a teacher's philosophy hinders interventions. This kind of pressure was described in several interviews, where interviewees expressed doubts about demands from psychiatry units and ADHD centres. An important question is why, in the present and in the previous study (Malmqvist and Nilholm 2016), there are municipalities that have no ADHD classes.

The resistance to using ADHD classes

The perceived influence from neuropsychiatry is also evident in municipalities without ADHD classes, even in municipalities striving towards inclusive education. This is not surprising, because ADHD is considered to be part of our culture today (Svenaeus 2015), with neuropsychiatry having a substantial role in the formation of opinion(s) about behavioural difficulties. This occurs partially because of social media as well as client organisations, which have strong support from medical companies.

The level of influence from the neuropsychiatry paradigm differs greatly between the municipalities, according to the present and the previous study (Malmqvist and Nilholm 2016). This coincides with the fact that there are large differences between municipalities in the prevalence of ADHD diagnoses (Swedish National Board of Health and Welfare 2016).

The results from the present study show that there were several interviewees who expressed a number of arguments against having ADHD classes that are based on medical treatment and behaviouristic approaches. The most common arguments referred to the following: the presence of a tradition of having no special education classes, that ADHD classes contradict the educational legislation, that the School Inspectorate may object, earlier negative experiences of having special education classes, preferences for other pedagogical strategies, a commitment to focus on deficiencies in the educational environment, and a conviction that the causes of the manifested behaviour are not only 'within' the students. Another common argument was that ADHD classes are contrary to the objective of having inclusive education.

A threat to inclusive education?

The neuropsychiatric paradigm is obviously a threat to inclusive education. This threat is mainly manifested as ADHD classes in this study and as pressure from experts in the neuropsychiatric paradigm who advocate exclusionary practices in dealing with ADHD students. But the influence from the neuropsychiatry paradigm is probably only one aspect in a major societal process. The strong influence from the neuropsychiatric paradigm coincides with the international expansion of special education since the 1990s. Tomlinson (2012) describes this as an expansion of the special educational needs (SEN) industry, which is an international phenomenon and supported by governments. Tomlinson offers some plausible explanations related to societal changes. There are groups of students 'who may be increasingly surplus to labour requirements in *knowledge economies* and in need of social control measures' (Tomlinson 2012, 267). The strong perceived influence of the neuropsychiatric paradigm, as has been evident in the present study, may be viewed as a natural consequence of this societal situation. The results relate to several issues that Tomlinson deals with in her article, such as ADHD classes' role in controlling students' behaviour, the use of medication, professional interests, parental demands, and the occurrence of independent schools specialising in 'difficult children' in the 'school market'.

One important question is related to this development: In what way will ADHD students have schooling that is based on their needs and that is beneficial for their future? Schooling based on the neuropsychiatric path and behaviouristic approaches is far away from the development of abilities and skills that will be needed in the workplace, according to the Organisation for Economic Co-operation and Development (OECD, 2012). Moreover, the principles for teaching that are based on extensive research, and therefore recommended by OECD, are substantially different from the kind of teaching recommended in the evidence-based literature for ADHD students.

Conclusions

The present study revealed a complexity concerning mindsets in municipalities of both kinds, those with or without ADHD classes. The situation for educational leaders and for society, with the perceived neuropsychiatric pressure on municipalities, leads to a difficult decision-making situation. Some of the municipalities are like disorientated travellers approaching a crossroads, with alternative paths to follow, when it concerns schooling for students with an ADHD diagnosis. One path, based on the neuropsychiatric research paradigm, which provides evidence-based guidelines, has recently enjoyed success in some municipalities, apparently at the expense of inclusive education. The claim that evidence-based research should be trusted, however, is misleading if such research favours schooling that rests on a false assumption about what schooling students will need for their adult lives in today's society. Hence, it is important to follow the long-term consequences of the neuropsychiatric influence, for individuals as well as for society. In other words, what is the 'price' for relying on neuropsychiatric belief on causes for ADHD students' behaviour and on 'managing' their behaviour with medication, behaviouristic methods and exclusive school practices? Thus, the influence of the neuropsychiatric paradigm and the use of ADHD classes need to be examined more thoroughly by educational researchers. Empirical research is needed from educational research that addresses the issues that principals and teachers deal with on a daily basis. Finally, the important question raised by Slee (1998) in the 1990s – 'Whose interests are served by the discovery and spread of ADHD?' – still needs to be answered; it is not self-evident that educational leaders' decisions serve students' interests.

Notes

1. In this paper, 'ADHD student' is often used instead of 'student with ADHD, as this expression makes many sentences less cumbersome. The author is fully aware of the fact that a categorisation, like ADHD, encourages the use of a simplified mindset about a group of students as being homogenous, when in fact there is a huge variety within such a 'group' (Thomas and Loxley 2001).
2. Note that the ADHD literature that was reviewed is not consistent in its use of terminology. Praise and token economies, among other things, are viewed either as part of an antecedent-based approach for dealing with primary symptoms such inattention (not being on-task) and academic achievement or as part of a consequence-based approach for dealing with secondary symptoms such as verbal aggression and social aspects of classroom behaviour.
3. The concept *affecting behaviour* has been chosen as neutral with respect to the terminology used within the neuropsychiatric paradigm.
4. ADHD is described as a neuro-developmental disorder in DSM-5 (American Psychiatric Association 2013).
5. A student assistant is an adult employed to assist a certain student and such assistance is a part of special needs provision.

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Johan Malmqvist is associate professor in special needs education. His main research interests are inclusive education, students in need of special support and students with disabilities. One of his present research studies is a total population study in Sweden, where the school situation for students with ADHD and/or hearing difficulties/deafness is examined. He is also lecturing at Jönköping University and at Linnaeus University.

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