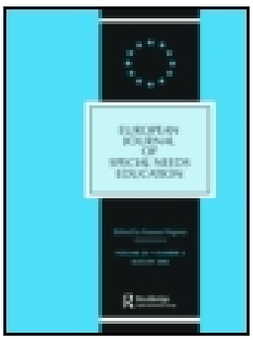

European Journal of Special Needs Education

ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/rejs20

# Teachers' gendered perceptions of attention deficit hyperactivity disorder – a literature review

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**To cite this article:** Åsa Olsson (2022): Teachers' gendered perceptions of attention deficit hyperactivity disorder – a literature review, European Journal of Special Needs Education, DOI: 10.1080/08856257.2022.2076476

**To link to this article:** https://doi.org/10.1080/08856257.2022.2076476



Published online: 20 May 2022.

EUROPEAN JOURNAL OF SPECIAL NEEDS EDUCATION
https://doi.org/10.1080/08856257.2022.2076476



# Teachers' gendered perceptions of attention deficit hyperactivity disorder – a literature review

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**ABSTRACT**

This study provides a systematic review of previous research about teachers' gendered perceptions of pupils with diagnoses or symptoms of attention deficit hyperactivity disorder (ADHD). This review was conducted using the databases Scopus, Web of Science and ERIC. Nineteen articles were selected after narrowing down a total of 121 articles, in accordance with inclusion criteria. In sum, previous research concludes that teachers' identification, assessment and attitudes related to pupils with ADHD diagnoses or symptoms are associated with the pupils' gender. When pupils exhibit academic, emotional or behavioural difficulties, teachers assess girls' impairments more severe than boys' impairments. Nevertheless, teachers are more likely to recommend treatment, counselling and/or medication to boys than to girls. While teachers' perceptions of pupils' difficulties are gendered, strategies or methods for teaching pupils with ADHD seem not to be. In the articles included in this review, there are hardly any examples given of gender-sensitive teaching methods. Furthermore, it is concluded that regardless of gender aspects, a deficit perspective dominates in research presented in this article, and it appears that children are held responsible for school difficulties while the school setting is not.

**ARTICLE HISTORY**
Received 22 January 2022
Accepted 28 April 2022

**KEYWORDS**
Attention deficit hyperactivity disorder; ADHD; gender; teachers' perceptions; support

## Introduction

Attention deficit hyperactivity disorder (ADHD) is a globally well-known diagnosis that hardly requires any introduction. It is described in the Diagnostic and Statistical Manual of Mental Disorders (DSM) as a neuro-developmental disorder with a persistent behavioural pattern of severe inattention and/or hyperactivity/impulsivity (American Psychiatric Association 2013). The behaviours must be uncharacteristic for the developmental age of the child, be manifest in different settings, have started before the age of 12, be present for at least six months and interfere with social and academic performance, according to the DSM. There is a scarcity of empirical research on ADHD from an educational perspective, according to Malmqvist (2018), possibly due to a neuropsychiatric research paradigm dominating the field. Combined with psychological research, ADHD is usually explained as pupils' individual difficulties caused by biological/organic differences in brain functioning. This calls for educational research that addresses the issues with which teachers deal on a daily basis (Malmqvist 2018; DuPaul et al. 2006; Prosser 2008). It has been argued that

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there are differences between boys' and girls' ADHD (Nadeau, Littman, and Quinn 2015; Zambo 2008; Ohan and Johnston 2007). Up until the twentieth century, ADHD was considered an almost exclusively male problem and research was largely concentrated on boys only (Kopp, Kelly, and Gillberg 2010). As girls show less disruptive behaviour they risk remaining unnoticed in the classroom and are thereby less likely to receive support, according to Ohan and Visser (2009). Boys with similar levels of school difficulties as girls, on the other hand, are far more likely to be prescribed medication (Derks, Hudziak, and Boomsma 2007), thus risking overmedication. Hence, prior research indicates that teachers assess girls and boys with equal symptoms differently. This article summarises previous research about teachers' gendered perceptions of pupils with diagnoses or symptoms of ADHD.[1]

## *Prevalence and causes*

Estimations of the total number of children who have ADHD, with or without a diagnosis, vary considerably among researchers, between approximately 5–10% of all children (Kopp, Kelly, and Gillberg 2010; te Meerman et al. 2017; Quinn and Lynch 2016). Most research reports on considerable increases over the years (Sellers et al. 2015), and boys are estimated to be overrepresented by 2–4 times in comparison with girls (Coles et al. 2012). Along with trends referred to as 'skyrocketing increases' (Langager 2014) of the number of children with ADHD, debates have arisen about medicalisation and over-diagnosis (Quinn and Lynch 2016; te Meerman et al. 2017).

Several researchers have been concerned with investigating potential causes of ADHD, such as brain structures (Nadeau, Littman, and Quinn 2015) perinatal risks (Perricone, Morales, and Anzalone 2013) parents drug abuse (Sayal et al. 2014) and psychosocial factors (Amiri et al. 2010). Thapar et al. (2013) reviewed research published between 1997–2012 about possible causes and concluded that no single risk factor explains ADHD. Both inherited and non-inherited factors contribute and their effects are interdependent, according to the authors. te Meerman et al. (2017) argue that although many factors have been associated with ADHD, there is no proven single cause of ADHD. A majority of all research about ADHD is carried out within the fields of medicine, neuroscience and psychology (Malmqvist 2018; Exley 2008), thereby gaps remain on research about pupils' school functioning (DuPaul et al. 2014, 2006).

## *Gender differences*

Research has put forth that girls' ADHD is different from boys' concerning, for example, development trajectories, difficulties, symptoms and diagnose criteria (Mahone and Wodka 2008; Nadeau, Littman, and Quinn 2015). Conduct disorder and oppositional defiant disorder are reported to be twice as common among boys compared to girls (DuPaul et al. 2006). According to the DSM-5 (American Psychiatric Association 2013), three types of ADHD can be distinguished: one type with predominantly inattentive symptoms, one type with predominantly hyperactive/impulsive symptoms and one type with a combination of those two symptoms. Research has established that girls and women present fewer hyperactive/impulsive symptoms and more inattentive symptoms compared to males with ADHD (Nadeau, Littman, and Quinn 2015; Zambo 2008). A lower degree of hyperactivity and

disturbing manners may result in girls' symptoms remaining unnoticed more often (Ohan and Visser 2009). Further, girls are described as more likely to internalise symptoms and become anxious, depressed and socially withdrawn (DuPaul et al. 2006; Soffer, Mautone, and Power 2007). According to Kopp, Kelly and Gillberg (2010), girls with ADHD often have various types of anxiety disorders, and the authors argue that there is a risk that only the anxiety is recognised, while an underlying neuropsychiatric disorder is missed.

It seems, however, that there is a scattered picture about girls' ADHD, regarding to what extent it is different from boys' ADHD and whether difficulties and problems are more or less severe. For example, Derks, Hudziak, and Boomsma (2007) found that even though teachers rated boys with ADHD as having higher scores on reports of attention problems and aggression than girls with ADHD, mothers reported similar levels of aggression and attention problems in girls with ADHD. The researchers concluded that gender differences vary across settings. Vildalen et al. (2019) found, contrary to previous research, that female adults with ADHD reported more severe symptoms than males, on both inattention and hyperactivity/impulsivity subscales. Thus, it appears as if there are still great uncertainties about ADHD gender differences.

### *ADHD debate*

ADHD is a contested diagnosis and subject of debate, critique and controversy (Exley 2008). Research, as well as contemporary debate about ADHD, is dominated by a psycho-medical discourse that explains behavioural dysfunction through neurological deficits, according to Prosser (2008), who argues that if only medical questions are asked, only medical answers will be found. He continues: 'What is needed is an alternative way of conceptualizing ADHD that answers the questions that the psycho-medical explanation alone cannot. One such question is the relationship between ADHD diagnosis and schooling' (82). Some theorists argue the diagnosis is socially and culturally constructed (Svenaeus 2015; Stearns 2015; Evaldsson 2014), designated to categorise and label children who fail to meet the standards of a well-behaved pupil in school. Exley (2008) criticises the focus on what is lacking in a student; deficits within an individual compared to an imaginary norm. Deficit theories fail to serve the interests of students, Exley argues. Rather, they blame them, thereby holding them responsible for their difference. Quinn and Lynch (2016) explored research both supporting and criticising ADHD diagnoses. They argue that on the one hand, there is a broad consensus based on empirical research among international experts that ADHD is a genuine neurodevelopmental disorder. On the other, some critics have viewed ADHD as a social construct and an example of the medicalisation of children's annoying behaviours in the classroom. The authors conclude that even though ADHD has been scientifically explored, serious gaps in knowledge remain, and they highlight the need for further research into a 'controversial and contested condition' (66).

## Aim

This introduction serves to sketch some features of a complex and contested field. A point of departure for this article is that there are still great uncertainties about causes, prevalence, criteria, treatments, gender differences and other aspects regarding the diagnosis. Nevertheless, ADHD is an existing diagnosis according to manuals such as the DSM-5

(American Psychiatric Association 2013). Given the statistics suggesting that 5–10% of all children have ADHD, it is likely that every teacher will face the challenges of educating pupils diagnosed with ADHD (Weyandt et al. 2009; Russell, Moore, and Ford 2016).

As previously mentioned, it has been argued that there are differences between boys' and girls' ADHD (Nadeau, Littman, and Quinn 2015; Zambo 2008; Ohan and Johnston 2007). Therefore, this article aims to map and analyse previous research about teachers' gendered perceptions of pupils with ADHD. The following research questions are addressed:

- How do teachers assess and perceive pupils with ADHD?
- How do teachers arrange for appropriate support for pupils with ADHD?
- What differences related to gender can be identified in teachers' assessment and perceptions of, and support for pupils with ADHD?

## Method and material

A systematic review aims to examine recent literature and draw together known knowledge on a topic area by searching for and synthesising research evidence (Grant and Booth 2009). It may include a wide range of study designs incorporating quantitative, qualitative and mixed-method studies. Furthermore, it should be transparent in the reporting of its methods. To identify relevant research, a comprehensive and systematic search was conducted (see Figure 1). The search was undertaken using the databases Web of Science (WoS) and Scopus, in order to include the most influential research in the field (i.e. the most cited articles). Since relevance is an important criterion for inclusion in this article, Education Resources Information Center (ERIC), a comprehensive database of education research, was also utilised. Key terms in the search were 'ADHD', 'Attention Deficit Hyperactivity Disorder' and 'AD/HD'. These were combined with Boolean search terms 'girl/boy' 'gender' or 'sex', and with 'teacher', 'school' or 'education'. The search was restricted to peer-reviewed journals and to articles published from 2005–2021.

The search yielded 121 articles after duplicates were removed. Abstracts for all articles were screened. Articles that met the inclusion criteria (see Table 1) were selected for further examining.

Nineteen studies met the inclusion criteria and were selected for analysis (see Table 2).

Three studies were qualitative and another three were literature reviews. Two studies used mixed methods and the rest were quantitative, where vignettes or rating forms had been used in several studies. The ages of the target groups varied from 5 to 17 years, however with a mean of about 8–9 years in most studies. A narrative analysis (Grant and Booth 2009) was undertaken to summarise and interpret what is known about teachers' perceptions of pupils' with ADHD.

Table 1. Criteria for inclusion and exclusion of articles.

| Inclusion Criteria | Exclusion Criteria |
|---|---|
| Topics and studies related to: | |
| School settings | Other settings |
| Teachers' perceptions, assessments, attitudes, views, etc. related to pupils with ADHD | Pupils' with ADHD school achievements |
| Teaching policies, strategies, methods, materials, etc. | Focus on medical treatments and drugs |
| Pedagogical, psychological or sociological research approaches | Medical or biological approaches |
| Gender perspective on pupils with ADHD | Gender perspectives concern teachers/pre-service teachers |

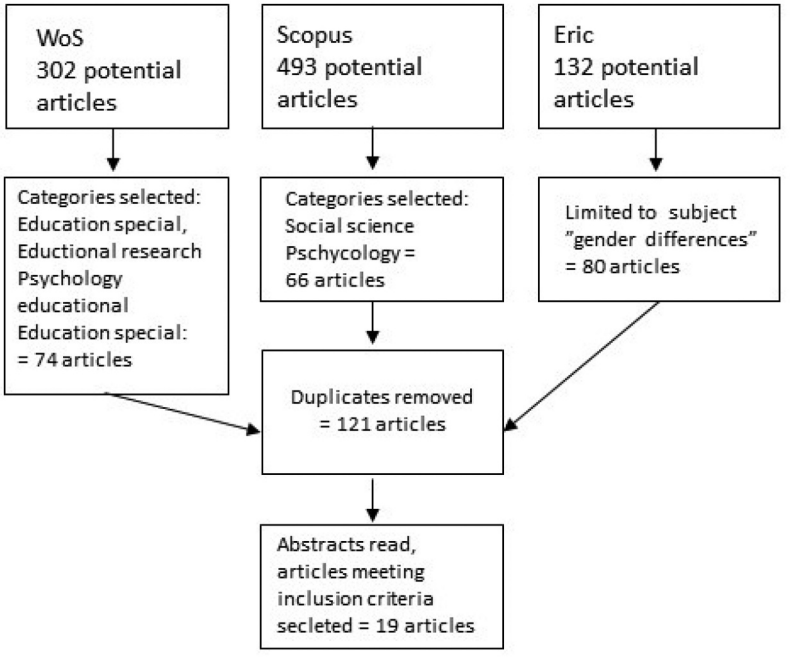


Figure 1. Search process.

## Results

### *Teachers' gendered assessments of pupils' ADHD*

Several studies have investigated teachers' views and assessments of children with ADHD. DuPaul et al. (2006) examined differences in school functioning between boys and girls with ADHD in elementary school. Methods utilised were teacher ratings, classroom observations and achievement tests. Although girls were much less likely to have ADHD than were boys, when they did exhibit this disorder, their impairments were as severe, or possibly more severe. Minor differences between boys and girls were found concerning teachers' reports of academic, emotional and behavioural difficulties. Altogether, the researchers concluded that ADHD is not milder or less impairing in girls. In a study by Moldavsky et al. (2013), there was no evidence that primary school teachers were less likely to recognise ADHD in girls than in boys. Primary school teachers (n = 496) read a vignette describing the behaviour of a 9-year-old boy or girl with an inattentive or combined subtype of ADHD. They were asked about the child's difficulties and needs for interventions. Results showed that the teachers identified the presence of a problem regardless of the child's gender. The lack of gender influence on teachers' recognition was explained by the fact that the ADHD subtype seemed more important than child gender.

In contrast, some studies conclude that teachers rate boys and girls with similar behaviours differently. Havey et al. (2005) examined teachers' perceptions of the causes and incidence of ADHD. They further examined different identification rates by gender and ethnicity. Results showed that teachers rated girls, particularly in the

**Table 2.** Selected articles

| | Author/-s | Methods | Participants | Target sample M= male, F= female | Years | Gender differences |
|---|---|---|---|---|---|---|
| 1 | Coles, E. K., et al. (2012). | Vignette study | Teachers | M/F | 8 | Yes |
| 2 | Derks, E. M., et al. (2007) | Quantitive, rating forms | Teachers and mothers | 45 M/36 F | 7, 10, 12 | Yes |
| 3 | DuPaul, G. J., et al. (2020) | Quantitive, rating forms | Teachers and parents | 535 M/535 F | 5-17 | Yes |
| 4 | DuPaul, G. J., et al. (2006) | Quantitative, rating forms, observations and pupils tests | Teachers and parents | 133 M/ 42 F | M= 8.5 | Yes |
| 5 | Groenewald, C., et al. (2009) | Quantitative, questionnaire, vignette | Teachers | F | 9 | Yes |
| 6 | Grskovic, J. A., & Zentall, S. S. (2010) | Quantitative, questionnaire, vignette | Teacher, parents and girls | 262 F | M= 12 | No |
| 7 | Havey, J. M., et al. (2005) | Quantitative, survey | Teachers | 66 M/ 57 | 6-12 | Yes |
| 8 | Hodgson, K., et al. (2014) | Meta analytic review | | | | Yes |
| 9 | Imeraj, L. et al. (2013) | Observations | | 25 M/ 6 F | 6-12 | No |
| 10 | Isaksson, J., et al. (2010) | Qualitative, interviews | Teachers and principals | | | Yes |
| 11 | Lawrence, K., et al. (2017) | Qualitative, interviews | Teachers | | | Yes |
| 12 | Makransky, G., & Bilenberg, N. (2014) | Quantitative, Rating forms | Teachers and parents | 296 M/270 F | 6-16 | yes |
| 13 | Moldavsky, M et al. (2013) | Quantitative, vignettes | Teachers | M/F | 9 | No |
| 14 | Nind, M., et al. (2012) | Qualitative, interviews | Girls | F | 11-16 | No |
| 15 | Ohan, J. L., & Visser, T. A. W. (2009) | Quantitative, vignettes | Teachers and parents | M/F | 9 | Yes |
| 16 | Ohan, J. L., et al. (2011) | Mixed method, vignettes, | Teachers | M/F | 7-10 | Yes |
| 17 | Pfiffner, L., et al. (2013) | Quantitative Rating forms, observations, etc. | Teachers and parents | 40 M/ 17 F | M=8.1 | No |
| 18 | Rogers, M., et al. (2015) | Literature review | | | | No |
| 19 | Zambo, D. (2008) | Literature review | | | | No |
| 20 | Zendarski, N., et al. (2020) | Quantitative, questionnaires | Teachers and parents | 242 M/ 150 F | 6-8 | Yes |

hyperactive/impulsive subtype condition, as being significantly more impaired and more in need of services than boys. Teachers rated boys to be more likely to fidget or run around than girls, despite children having the same level of hyperactivity, in Makransky and Bilenberg (2014) study. Girls, on the other hand, were more likely to talk excessively or act angry and resentful. The researchers found the results congruent with previous findings that boys and girls with high levels of ADHD have different ways of expressing this behaviour. A similar conclusion was drawn by DuPaul et al. (2020) from the results of teachers' rating of ADHD children with equal symptoms. Behaviours involving overt motor activity (fidgets, runs about) were more likely to be endorsed for boys than for girls; while symptoms involving verbal social activity (talks excessively, interrupts) had higher probabilities of endorsement for girls than for boys.

Vignettes have frequently been used in studies of teachers' views on children and pupils with ADHD (Moldavsky et al. 2013; Ohan et al. 2011; Coles et al. 2012; Ohan and Visser 2009; Groenewald, Emond, and Sayal 2009). A common strategy is to present vignettes describing a child with, for example, inattentive, hyperactive/impulsive behaviour to the participants, and ask them to answer different questions about the child. Analyses are made to establish whether participants' assessments or ratings of difficulties are gender-biased. Parents and teachers read identical vignettes with either boys' or girls' names and then rated their likeliness to recommend services for each child, in a study by Ohan and Visser (2009). Both groups were less likely to seek or recommend services for girls than for boys with ADHD. The reason seemed to be, according to the researchers, that parents and teachers perceive greater benefits of learning assistance for boys.

Coles et al. (2012) examined the impact of the gender of children with ADHD on teachers' perceptions towards the children's behaviour, and how these perceptions relate to teachers' ratings of children's impairment and to their referral recommendations. Teachers were given eight vignettes describing the symptom presentation of 8-year-old boys and girls with inattentive, hyperactive/impulsive behaviours. For each behaviour subtype, vignettes varied by gender of the child's name. Teachers then completed measures of impairment and responded to questions about what services they would likely refer for the child and why. Results displayed that girls who were depicted with identical behaviours as boys were perceived by teachers as being more impaired and more in need of services than boys.

Although there was only a modest influence of child gender in teachers' ratings in a study by Derks, Hudziak, and Boomsma (2007), girls with similar levels of school impairment to boys were far less likely to receive treatment than boys with ADHD. Only 6% of the girls with ADHD were prescribed medication, and 8% received counselling, compared to 47% and 38% in boys, respectively. Similar results were presented by Groenewald, Emond, and Sayal (2009). In their vignettes study, most teachers recognised girls' attentional and emotional difficulties but were less likely to correctly identify a girl with problems concerning inattentiveness, or to recommend clinical referral for girls. Few (15%) teachers thought that medication might be helpful for a girl meeting the diagnostic criteria for ADHD. Grskovic and Zentall (2010) concluded that teachers can identify girls with ADHD but fail to refer them to services, the reason being, according to the researchers, that perhaps teachers do not recognise the importance of early referral or due to the tractability of girls in school settings.

### *Teachers' gendered perceptions of pupils with ADHD*

Some studies have examined how girls and boys with ADHD are described by teachers. Girls with ADHD in Grskovic and Zentall (2010) study were characterised by teachers, parents and the girls themselves as more verbally impulsive and hyperactive, faster in conversations and schoolwork. Moreover, girls were described as more easily bored, more often stirring up trouble, having difficulty waiting and demonstrating greater moodiness, anger and stubbornness than their peers. Teachers interviewed by Isaksson, Lindqvist, and Bergström (2010) expressed that boys often behaved unruly and disturbing, while girls tended to be more introverted, quiet and miss school days more than boys. Teachers in a study by Lawrence, Dawson Estrada, and McCormick (2017) expressed differing

expectations and perceptions of boys and girls with ADHD. For example, boys were expected to play and be physically active, whereas girls would be chatty, loud, attention seeking and prone to starting drama, according to the teachers. DuPaul et al. (2006) reported that girls in their study were described as having greater school problems, lower adaptive skills and more severe inattention symptoms compared to boys.

The symptoms of ADHD interfere with the development of healthy relationships, according to Rogers et al. (2015a). From this point of departure, the researchers explored the relations between teachers and boys/girls with and without ADHD, to identify any differences in working alliance and students' academic motivation between the groups. Teachers reported lower scores on teacher-student bonds with the ADHD group than the non-ADHD group, yet the gender of the child was not reported to affect the relationship. However, according to students themselves, girls in the ADHD group were significantly more likely to report a weaker bond and less collaboration in their relationship with their teachers than did boys.

Zendarski et al. (2020) investigated student-teacher relationship quality in grade one. Children were recruited from 43 primary schools and comprehensively screened for ADHD, using parent and teacher reports. In children with ADHD, conduct problems and child sex (boys) predicted poorer teacher relationship quality. Ohan et al. (2011) investigated perceptions of and reactions to children with and without an ADHD diagnosis, among practising teachers. Findings pointed to a significant impact of the ADHD label on the feelings and behaviours of teachers. Moreover, teachers were more willing to help implement strategies for boys labelled with ADHD. In addition, participants generally reported less confidence in dealing with girls' behavioural problems than those of boys.

### *Teachers' support for pupils with ADHD*

In the articles included in this review, there are hardly any examples of gender-sensitive strategies or methods for teaching pupils with ADHD. DuPaul et al. (2006) suggest that girls with ADHD have equally severe impairments as boys. Thus, school-based assessment and intervention planning must be proactive and comprehensive in addressing the myriad of problems experienced by girls with ADHD. The authors do not, however, elaborate on specific methods or strategies for assessment and planning support.

In a meta-analytic study, Hodgson, Hutchinson, and Denson (2014) evaluated non-pharmacological treatments for ADHD such as behaviour modification, neurofeedback therapy, multimodal psychosocial treatment and working memory training. In general, psychological treatment for ADHD was found by the researchers to be more effective for girls than for boys, in the included studies. A possible reason for this is, according to the authors, that girls with the diagnosis tend to exhibit lower levels of ADHD symptoms. Children with the combined-type ADHD diagnosis were the least benefited. Ohan and Visser (2009) concluded that teachers expected boys to benefit more from learning assistance than girls; consequently, learning assistants were expected to be less effective for girls.

Utilising visual methods such as photo elicitation and video diaries, Nind, Boorman, and Clarke (2012) listened to girls attending a small special school, excluded from mainstream education, due to behavioural, emotional and social difficulties. The authors concluded that the digital, visual and narrative methods opened up opportunities for

the girls to explore new ways of perceiving their educational exclusion and communicating aspects of their experiences. Girls with ADHD are socialised differently than boys Zambo (2008) argues. As a result, girls act and feel differently and develop a gender schema focused on care and relatedness, according to Zambo. Therefore, social skills training can be a key intervention for girls, concluded Zambo, including role-plays in natural settings with scenarios generated by the girls, with rewards when goals are met.

Aside from these examples, all other suggested methods, strategies, interventions, treatments and services to meet the needs of pupils with ADHD are presented in the articles as gender neutral. Suggested strategies are typically described on a general level. Behavioural interventions and strategies for pupil behaviour modification are put forth by several researchers (Coles et al. 2012; Moldavsky et al. 2013; Havey et al. 2005; Pfiffner et al. 2013). Teachers overwhelmingly reported preferring the use of behaviour modification, regardless of the child's gender (Coles et al. 2012), although no specific methods were suggested. Teachers strongly endorsed non-pharmacological intervention approaches for children with ADHD (Moldavsky et al. 2013). All of the teachers suggested learning support and 95% suggested behavioural interventions, however no specific interventions were suggested.

Using concrete and meaningful reward systems may help reinforce positive behavioural change for children with ADHD, according to Zendarski et al. (2020). Rewards such as 'stars' (Pfiffner et al. 2013, 28) or items from a 'treasure-box' (Lawrence, Dawson Estrada, and McCormick 2017, 146) have also been suggested in prior research as means to reinforce good behaviour among children with ADHD. Lawrence, Dawson Estrada, and McCormick (2017) discuss the importance of the physical environment. In their article, several specific examples of adjustments in the classroom suggested by teachers are provided. Several of the actions concern controlling pupils' hyperactivity. For example, teachers would allow pupils to move around, give them objects to fidget with, send them on errands and let them throw balls. To deal with inattentiveness, teachers would give the pupils exact time frames, break up assignments in smaller units or change activities every 15 minutes. From a different standpoint, Graham (2008) disapproves of treatment plans involving positive reinforcement. She also rejects strategies such as written behaviour contracts, routines, lists and daily planners.

## Discussion and conclusions

This article aims to map and analyse previous research about teachers' perceptions of pupils with ADHD. Research questions addressed concern how teachers assess and perceive pupils with ADHD. Further research about teachers' strategies to arrange for appropriate support for pupils with ADHD is examined. In sum, several studies suggest that teachers' assessment, perceptions and relations with pupils with ADHD are influenced by the pupils' gender. Although the studies presented point in slightly different directions, some tentative conclusions may be drawn:

- When teachers are presented with an identical case describing a pupil's difficulties or behaviours, with either a boy's or a girl's name, they will often draw different conclusions.

- If the pupil (boy or girl) exhibits academic, emotional or behavioural difficulties, teachers may assess girls' impairments more severe than boys' impairments. Nevertheless, teachers are more likely to recommend treatment, assistants, counselling and/or medication to boys than to girls.
- Teachers' perceptions of and relationships with pupils with ADHD are occasionally gendered. Some studies conclude that teachers report weaker bonds with boys, others studies report weaker bonds between teachers and girls. Boys' behaviour appears to be more accepted as normal and viewed positively than girls' behaviour. Teachers may occasionally feel uncertain in supporting girls with ADHD, possibly due to limited experience.
- Strategies for dealing with pupils with ADHD appear to be considered gender neutral.

Some researchers suggest that there may be a 'boys will be boys' narrative involved in teachers' assessments of boys' and girls' impairments (Havey et al. 2005; Lawrence, Dawson Estrada, and McCormick 2017; Jones 2005). Teachers in Lawrence, Estrada and McCormics' study portray ADHD girls as chatty, loud and attention seeking, while boys are described as active and playful. A teacher is quoted: 'That's just boys' (2017, 145). Jones (2005) claims that both girls and boys are depicted with stereotypical gender identities, while Havey et al. (2005) argues that teachers' characterisation of girls' behaviour as hyperactive and impulsive is not seen as normal, thus resulting in ratings that are more extreme for girls than for boys. Girls with ADHD have been found by researchers to be negatively affected in peer relationships and more likely to be bullied in comparison to other girls and to boys with ADHD (Elkins et al. 2011; Sciberras, Ohan, and Anderson 2012). This circumstance may correlate to teachers and peers relating to girls with ADHD as norm-breakers.

Rogers et al. (2015b) point out that any treatment or intervention for ADHD pupils must be individually tailored, and DuPaul et al. (2006) stress the importance of addressing the experiences of girls with ADHD in assessment and intervention planning in school. While teachers' perceptions of girls' and boys' difficulties or impairments differ, one would expect teachers to suggest different interventions, methods or strategies to support boys and girls. The previous research presented in this review does not, however, provide any such evidence.

Several strategies for dealing with pupils with ADHD, regardless of the pupil's gender, are oriented towards behavioural change. When schooling and teaching are discussed related to pupils with ADHD, it is discussed in terms of 'interventions', 'services', 'programmes' or 'treatments', while there are hardly any examples of the use of concepts such as 'special needs education' or 'inclusive education', with the one exception of Graham (2008). Graham argues that much attention is drawn to what can be done to facilitate the inclusion of an ADHD child into the regular classroom with traditional teaching techniques and a minimum of changed strategies. She further suggests that attention should be drawn to structural, pedagogical and environmental factors that may influence children's behaviours.

It is noteworthy that hardly any research presented conceptualises school difficulties as phenomena that arise in educational settings and processes. Rather, it is assumed that difficulties are innate features of the individual child. Exley (2008) criticises the focus on

deficits within the individual, and Graham (2008) finds that there is an emphasis on what adjustments can be made to the child, leaving pedagogy relatively unaltered. Isaksson, Lindqvist, and Bergström (2010) find that school difficulties are largely framed as pupils' individual shortcomings rather than as related to inadequate teaching or other school-related factors. With these few exceptions, a deficit perspective dominates in research presented in this article, and it appears that children are held responsible for school difficulties while the school setting is not.

### *Limitations*

A reflection on this literature review is whether the selected keywords may in fact have excluded articles presenting studies of inclusion of pupils with ADHD, which could have contributed with examples of effective strategies and methods to work with all pupils in inclusive education. A possible reason could be that inclusive approaches generally avoid analysing school difficulties at individual level but rather at an organisational level. Thus, a pupils' gender will be of less interest, while school settings, environment, teaching, material, relations, etc. will be in focus. Nevertheless, inclusive approaches may fail to recognise teachers' gendered perceptions of pupils with ADHD.

This study is limited to teachers' perceptions of pupils with ADHD. Thus, studies on children's experiences, emotions, self-esteem and identities related to ADHD diagnoses are not included in this review. In an initial explorative search in Scopus and ERIC, I found only a few such studies published in the last ten years, for example Grskovic and Zentall (2010), Uribe et al. (2019), Fugate and Gentry (2016) and Sciberras, Ohan, and Anderson (2012). This signals for a need for further research about school experiences of pupils with ADHD, from a gender perspective. Moreover, in my searches in the databases Web of Science, Scopus and ERIC, no studies were found focusing on the schooling of non-binary or transgender pupils with ADHD. Thus, there is an urgent need to initiate research to fill serious gaps in knowledge in the field.

## Note

1. Hereafter, 'pupils with ADHD' will refer to pupils either diagnosed with or displaying symptoms of ADHD.

## Disclosure statement

No potential conflict of interest was reported by the author(s).

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