

Title

Teachers as Disorder-Spotters: (In)decisiveness in assigning a Child's Hyperactivity, Impulsivity and/or Inattention to ADHD as the Underlying Cause

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Teachers as Disorder-Spotters: (In)decisiveness in assigning a Child's Hyperactivity, Impulsivity and/or Inattention to ADHD as the Underlying Cause

Abstract

Their unique observational position in the classroom allows teachers to take on an informal role as disorder-spotter. By means of focus groups in four Flemish elementary schools, this study investigates teachers' decisiveness in assigning a child's hyperactivity, impulsivity and/or inattention to Attention-Deficit/Hyperactivity Disorder (ADHD) as the underlying cause. Results show that, when teachers talked about specific children who exhibited hyperactivity, impulsivity and/or inattention, they were, more often than not, decisive in their observation that ADHD was or was not the underlying cause of the child's behaviors. However, several child-related factors caused teachers to be indecisive about whether ADHD was indeed at the base of a specific child's hyperactivity, impulsivity and/or inattention.

Keywords: Disorder-spotter, teachers, ADHD, SEN children

Word count: 6934

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Introduction

Attention-Deficit/Hyperactivity Disorder (ADHD), a psychiatric disorder characterized by abnormal levels of hyperactivity, impulsivity and/or inattention (American Psychiatric Association 2013), is among the most diagnosed conditions in preschoolers and children in elementary school (Willcutt 2012). The most common conceptualization of ADHD comes from a neurobiological perspective, which describes ADHD as caused by brain dysfunction (Wright 2012). Therefore, principal treatments for ADHD are pharmacological (Bachmann et al. 2017). Nevertheless, no objective biological markers for ADHD can be detected in the brain of an individual child (Te Meerman et al. 2017) and the diagnostic process of ADHD as a whole is largely based on subjective assessments of student behavior by teachers and parents (Gualtieri and Johnson 2005; Sayal, Letch, and Abd 2008).

Singh (2006) described how Western educational institutions are mandated to screen for potential behavioral and academic problems in students. To achieve this, schools are populated with medical and psychological staff. However, non-medical staff as well are increasingly integrated into the detection of behavioral, emotional, and learning disorders, particularly so in the case of ADHD (Conrad 1992, 2006). Teachers have the opportunity to constantly compare a student's behaviors to the behaviors of other students in the classroom (Elder 2010; Salmon and Kirby 2009). This unique observational position allows teachers to take on an informal role as 'disease-spotters' (Phillips 2006), and, by extension, also the task of spotting disorders, such as ADHD. In practice, this means that teachers are often the first to signal a child's hyperactivity, impulsivity and/or inattention to parents (Sayal et al. 2006; Sax and Kautz 2003; Snider, Busch, and Arrowood 2003).

Not much empirical research has been conducted on teachers' perspectives of and experiences in their role as disorder-spotter with regard to ADHD. Prior research has discussed teachers' willingness to take on the role of disorder-spotter, to refer students for assessment by a medical practitioner, and to suggest medical treatment to parents (Malacrida 2004; McMahon 2012; Wiene et al. 2019). Research on all steps of the diagnostic process of ADHD is highly relevant, since students with a medical diagnosis of ADHD encounter significantly more difficulties in their educational career than other students (DuPaul and Stoner 2003): They repeat a grade more often (Fried et al. 2016) and have a higher chance of school dropout (Fredriksen et al. 2014; Kent et al. 2011).

By means of focus groups in four Flemish elementary schools, this study investigates teachers' decisiveness in assigning a child's hyperactivity, impulsivity and/or inattention to ADHD as the underlying cause. Concretely, we will examine to which extent teachers are decisive or indecisive in their observation that ADHD is, or is not, the underlying cause of a child's hyperactivity, impulsivity and/or inattention. We propose it is important to investigate teachers' decisiveness in assigning a child's hyperactivity, impulsivity and/or inattention to ADHD, since it is likely that their decisiveness plays a role in the information and recommendations they give to parents. Furthermore, when teachers have assigned the child's behavior to ADHD as the underlying cause and the label of ADHD is applied to the child, the effects of this label according to educational researchers are potentially far-reaching, since teachers' academic perceptions and expectations are considerably lower for students with a label of ADHD (Batzle et al. 2010; Ohan et al. 2008). Therefore, cautiousness by teachers when labeling children with ADHD and suggesting medical assessment and medication to parents is advised. In the result section, we will discuss teachers' decisiveness and the nature of child-related factors that made teachers indecisive about whether ADHD was indeed at the base of a specific child's hyperactivity, impulsivity and/or inattention.

Background

Since the end of the nineteenth century, non-medical staff in schools have been increasingly integrated into the detection of behavioral, emotional, and learning disorders (Petrina 2006). In their role as disorder-spotters, teachers have the opportunity to constantly compare a student's behavior to the behavior of other students in the classroom (Elder 2010; Salmon and Kirby 2009). As such, currently, teachers are often the first to suggest the presence of ADHD in a child to the parents (Sax and Kautz 2003). Additionally, teachers play another crucial part in the diagnostic process of ADHD: They are often asked by medical practitioners to fill out ADHD behavioral ratings regarding a child (American Psychiatric Association 2013). When the medical diagnosis is known, teachers fulfill the role of treatment-brokers, in which they discuss and evaluate different forms of treatment with parents (Phillips 2006).

Since no clear-cut test indicating the presence of ADHD in children is available, children's behaviors are primarily understood and evaluated by teachers in comparison to the behaviors of other children (Elder 2010). Teachers' fallibility in their role as disorder-spotter is therefore evident in the selectivity with which teachers would suspect ADHD in some students, but not in others, depending on student, teacher, class, and school characteristics (Kypriotaki and Manolitsis 2010; Mashburn et al. 2006). For example, teachers more often detected ADHD in students who are younger compared to their classmates (DuPaul et al. 2014; Elder 2010). It is not surprising then that parents, teachers, and medical practitioners are often not in agreement regarding the presence of ADHD in a child as an explanation for the child's hyperactivity, impulsivity and/or inattention (Antrop et al. 2002; Gomez 2007; Hartman et al. 2007; Murray et al. 2007; Wolraich et al. 2004).

Research has shown that not all teachers are equally inclined to take on the role of disorder-spotter. Gesser-Edelsburg and Boukai (2019) addressed the persuasive role Israeli teachers and school counselors played in the parents' decision-making about consulting a

medical practitioner and medicating their child. Malacrida's (2004) research showed that Canadian teachers were quick to label a child with ADHD and press for medical treatment, while British teachers refused to do so. She proposed that Canadian teachers had few alternative forms of social control available to them in the classroom and therefore, they were more willing to suggest a diagnosis and medical treatment to parents. Furthermore, research has shown that teachers who experience lower self-efficacy levels in the classroom were more likely to believe that children with mild academic problems should be placed in Special Education (Podell and Soodak 1993; Urton, Wilbert, and Hennemann 2014).

The variability in teachers' willingness to take on the role of disorder-spotter can be linked to teachers' understandings of and beliefs about ADHD (Kos, Richdale, and Hay 2006; McMahon. 2012; Wright 2012). Research has demonstrated that teachers who understood ADHD from a neurobiological perspective and as such as a condition with a somatic origin (McMahon 2012; Wienen et al. 2019), evaluated the medical diagnosis of ADHD as a logical explanation for undesirable behaviors and disappointing academic achievement. They found that the diagnosis was helpful, since it removed blame for behaviors from students, parents, and teachers and put it with a pathological condition (Tait 2003). When the different actors involved have dispelled notions of blame, according to researchers, only then there is the possibility of collaboration (Pffifner, Barkley, and DuPaul 2006; Wienen et al. 2019). Furthermore, teachers mentioned that diagnosis by a medical practitioner opened up the possibilities of pharmacological treatment and the right to additional support for the child (Wienen et al. 2019).

Another perspective on ADHD is the social constructionist perspective that focuses on the rising number of ADHD-diagnoses worldwide (Conrad and Bergey 2014) as part of the process of medicalization (Wright 2012). Medicalization is the process in which non-medical problems are increasingly defined in medical terms and treated as medical conditions (Conrad 1975; Petrina 2006). Social constructionists have pointed out that the neurobiological

perspective is plagued by the problem of reification (Gambrill 2014; Hyman 2010): Although no innate brain defect can be detected (Te Meerman et al. 2017), in the process of reification a particular kind of behavior, in this case, behavior that is characterized by hyperactivity, impulsivity and/or inattention, that in itself lacks objective qualities, is explained by a supposed concrete neurobiological defect (Gambrill 2014; Wienen et al. 2019). As did a small number of the interviewed teachers in the research of Wienen and colleagues (2019), in Malacrida's research (2014), British teachers assumed a social constructionist perspective and showed a strong antipathy towards the medicalization of children's behaviors.

In this study, we aim to investigate teachers' decisiveness in assigning a child's hyperactivity, impulsivity and/or inattention to ADHD as the underlying cause. To our knowledge, no research has been conducted regarding teachers' decisiveness in assigning a child's hyperactivity, impulsivity and/or inattention to ADHD as the underlying cause. We will investigate to which extent teachers are decisive or indecisive in their observation that ADHD is, or is not, the underlying cause of a child's hyperactivity, impulsivity and/or inattention as well as the nature of child-related factors that made teachers indecisive about whether ADHD was indeed at the base of a specific child's hyperactivity, impulsivity and/or inattention.

Data and Methods

The data for this research were collected in elementary schools in East-Flanders, a province in Flanders, the Dutch-speaking part of Belgium, as part of an international comparative project titled 'ADHD and psychostimulants intake: the role of school environments in student identification'. Before advancing with the data collection, the research project was approved by the Ethics Committees of the faculty of Political and Social Sciences of Ghent University and the University of Québec in Chicoutimi. Compared to the percentages of ADHD-diagnoses worldwide, Flanders scores on the low side with a diagnosis prevalence of 2.19% in children in elementary education (Geerts, Heyninck, and Van den Broeck 2012).

Most Flemish children are diagnosed by a medical practitioner, such as a child psychiatrist or a physician, outside of the school setting. The decision to consult a medical practitioner lies with the parents. However, also after the parents have decided to consult a medical practitioner, teachers play a crucial part: They are often asked by clinicians to fill out ADHD behavioral ratings regarding a student (American Psychiatric Association 2013). Generally, in Flanders, children who have obtained a diagnosis by a medical practitioner, attend regular schools.

For this study specifically, we conducted focus groups in four elementary schools in the fall of 2018, reaching 23 teachers in total. The participating schools were randomly selected based on a list of stratified characteristics, such as their socioeconomic composition, location, and size. During the focus groups, teachers were asked about their experiences with ADHD in the classroom. The focus groups lasted between 60 and 90 minutes and were recorded, but not filmed. The specific time and place were chosen by the teachers. A consent form informed the teachers of the research goal of the project and the voluntary nature of their participation. Furthermore, the participants were assured that their data would be kept in a secure place to ensure the confidentiality of the data and all data-output would be made anonymous.

We will refer to the four participating schools as the Spring School, the Summer School, the Autumn School, and the Winter School. At the time of the focus groups, the Summer school had the lowest percentage of children with a low educated mother (16%), the lowest percentage of children who did not speak the official educational language, Dutch, at home (13%), and the lowest percentage of children who received a school allowance (17%) (Agency for Educational Services, 2018). The Autumn school had the highest percentages of the participating schools on all three accounts (respectively 44%, 44%, and 40%). The ratio preschool/elementary school of teachers who participated in the focus groups differed from school to school, with the Spring School having the lowest ratio (1:4) and the Autumn School the highest (3:1). We only found

female teachers prepared to share their experiences with ADHD in the classroom. With a percentage of 82.3 female teachers in Belgian elementary education (OECD, 2017), this could be expected. In all schools, the participating teachers presented a good mix with regard to years of work experience in an educational setting and all teachers said they had experience with ADHD in the classroom. In the Summer school, two teachers were mothers of a child who was diagnosed with ADHD by a medical practitioner. We summarized the information regarding school and participant characteristics in Table 1.

[Table 1 near here]

The first author of this paper conducted the focus groups and was responsible for the verbatim transcriptions of the recordings of the focus groups, the analysis of the verbatim transcriptions, and the translation of the quotes used in this paper from Dutch to English. The transcriptions of the focus groups were analyzed in the tradition of conventional content analysis by means of the software package NVivo 12. Conventional content analysis is generally used when a study aims to describe a phenomenon and when existing theory or research literature on this phenomenon is limited (Hsieh and Shannon 2005). Unlike other qualitative methods, conventional content analysis helps with reducing the amount of material: The researcher focuses on aspects that relate to the overall research question (Schreier 2012). To find answers to our research question, we focused on teachers' statements when they were asked to think back about a time when they had a child in their classroom that exhibited behaviors that they thought could be indicative of ADHD. To ensure systematics in the analysis process, we rigorously followed the series of steps of conventional content analysis as described by Schreier (2012).

Since the research literature on the phenomenon of teachers' decisiveness in assigning a child's hyperactivity, impulsivity and/or inattention to ADHD is limited, the categories and names for the categories were not preconceived, but rather emerged from the data, as is

customary with conventional content analysis (Kondracki, Wellman, and Amundson 2002). With conventional content analysis, code development, and application have to be performed separately (Schreier 2012). In practice, this means that we generated a coding frame in accordance with the research question during a pilot phase and that the coding frame did not change during the main analysis phase. Each child that teachers talked about was coded under one of two main categories: *Decisiveness in specific cases* and *Indecisiveness in specific cases*. Often for one child, multiple subcategories applied. In Table 2, we summarized the coding framework for each school by reporting on the number of specific cases that could be coded under each of the main categories and the subcategories that were found regarding these specific cases within each school. The main categories are linked to teachers' understandings and beliefs about ADHD and their perception of their capability to detect ADHD in children.

[Table 2 near here]

Results

Teachers as Disorder-Spotters

To ask about teachers' decisiveness in assigning a child's hyperactivity, impulsivity and/or inattention to ADHD as the underlying cause is to ask if they take on the role of disorder-spotter in the first place and which understandings of and beliefs about ADHD underlie their motivation to do so. Overall, teachers in this study had a neurobiological perspective on ADHD: They considered ADHD as a medical condition that could be determined by a medical practitioner. Some teachers suggested a genetic cause, others compared ADHD to a physical disability. Teachers would take the initiative to inform the parents of the child's behaviors and although they found that it was 'not up to them to diagnose', these information moments with parents were meant to guide parents in the direction of consulting a medical practitioner, under the assumption that a consultation would result in a medical diagnosis. In the next quote, Anna and Nadia (preschool teachers, Summer School) discussed how they handled a conversation

with parents of a child that they suspected had ADHD. As teachers, they did not directly suggest the diagnosis of ADHD, rather, they suggested that the teacher and parents in collaboration should try to find out the origins of the child's behaviors.

Anna: We can't name it, we can't say: "I suspect ADHD".

Nadia: We don't do that.

Anna: We never do that, we never say it, we give concrete examples and we say: "We have to try to find out why he behaves like this".

Teachers' Decisiveness in assigning a Child's Hyperactivity, Impulsivity and/or Inattention to ADHD as the Underlying Cause

In three of four schools, when teachers talked about specific children who exhibited hyperactivity, impulsivity and/or inattention, they were, more often than not, decisive in their observation that ADHD was, or in a few cases was not, the underlying cause of the child's behaviors. When teachers of the Spring, the Summer, and the Winter School spoke about their capability to detect ADHD in children in general terms, they said they "just know" when ADHD was the underlying cause of a child's hyperactivity, impulsivity and/or inattention and that years of experience in an educational environment helped them to decide on the presence or absence of ADHD when being confronted with hyperactivity, impulsivity and/or inattention in a child.

Aside from talking to parents or guardians about their child's hyperactivity, impulsivity and/or inattention and consulting the Counsel for Student Guidance, teachers' decisiveness in assigning a child's hyperactivity, impulsivity and/or inattention to ADHD manifested itself in a change of expectations for the child's behaviors and an implementation of educational treatments. When teachers suspected a child had ADHD, they would adjust their expectations of the child's behaviors. Nicole (first year, Spring School) stated: "If the child has ADHD, I can't always demand that he sits nice and quiet". Furthermore, when teachers suspected a child had ADHD, they implemented educational treatments, as if "the child was diagnosed". These

educational treatments included dividing tasks into smaller pieces, giving the children a fixed place in the classroom, and providing a separate space where children could settle down if needed. These findings show that ADHD-labeling by teachers has practical, real effects for the teacher and children in the classroom.

Teachers' Indecisiveness in assigning a Child's Hyperactivity, Impulsivity and/or Inattention to ADHD as the Underlying Cause

Only in the Autumn School, when teachers talked about specific children who exhibited hyperactivity, impulsivity and/or inattention, they were, more often than not, indecisive in their observation that ADHD was or was not the underlying cause of the child's behaviors. Teachers in this school explicitly agreed with each other that they generally lacked the expertise to assign a child's hyperactivity, impulsivity and/or inattention to ADHD as the underlying cause. They mentioned their non-medical training and perceived a diagnosis by a medical practitioner as 'the only way to know for sure' and to take appropriate action in the classroom. Annelies (preschool teacher, Autumn School) perceived the diagnosis as the end of a period of doubt and therefore as a relief: "It is an endpoint for you as a teacher, that you know: "Ok", it's a relief that you know: "This is it", and we can all deal with it in this or this way." Hence, for teachers in the Autumn School, the diagnosis not only erased the teacher's doubts about the causes of the child's hyperactivity, impulsivity and/or inattention, it also helped them with the decision which educational treatments to implement.

Several child-related factors made teachers in all schools indecisive about whether a specific child's hyperactivity, impulsivity and/or inattention were caused by the disorder and not by "something else". Teachers in this study mentioned several factors outside of ADHD that, in their opinion, were possibly at the basis of a child's hyperactivity, impulsivity and/or inattention. In the next paragraphs it will become clear that, according to these teachers, children's hyperactivity, impulsivity and/or inattention can be caused by ADHD and thus by a

medical condition, but could also be caused by a child's young age, problematic home situation, chaotic upbringing, the possible presence of another disorder, and a high IQ which results in boredom in the classroom. Finally, teachers in the Summer School discussed how mutual adjustments on the child's and teacher's part during the first weeks of the school year complicated the detection of ADHD in the child.

Generally, teachers were cautious to assign a child's hyperactivity, impulsivity and/or inattention to ADHD at preschool age. Teachers stated that children needed time to develop and that they would "possibly outgrow these behaviors". Nevertheless, preschool teachers also said that they were "never surprised" when children were later diagnosed by a medical practitioner and they made sure that the parents of preschoolers who exhibited hyperactivity, impulsivity and/or inattention were informed about these behaviors to prepare the parents to consult a medical practitioner in case of persistent behavioral and learning problems in their child. In the quote below, Machteld (preschool teacher, Winter school) described how she has difficulties convincing parents that their child's behaviors in the classroom might be problematic, since there are no standardized tests or grades in preschool to support her claims. Mieke (second year) agreed and stated that grades indeed do help in communication with parents.

Machteld: You can show them drawings and compare drawings with those of other children, how they do it, only a drawing, is it colored quickly or is it colored very minuscule. Those things you can, but you always have to compare to another, because I can't say: "This is not colored very well". Who says it isn't well-colored, you have to be able to compare.

Mieke: We can substantiate it better by means of grades.

According to teachers in this study, a child's hyperactivity, impulsivity and/or inattention could be caused by social circumstances in the home environment of the child.

Children's upbringing could result in a child exhibiting hyperactivity, impulsivity and/or inattention, for example, when parents did not succeed in setting clear boundaries regarding their child's behaviors. Furthermore, teachers were doubtful about the presence of ADHD when they were confronted with hyperactivity, impulsivity and/or inattention in children who also had a problematic home situation. In the next quote, Nicole (first year, Spring School) evaluated these circumstances of a problematic home situation as a possible cause for these behaviors.

His dad was back in the picture for a while and then he disappeared again; very frustrating for that child and eventually, you don't know anymore and you have a very hyperactive child that doesn't perform at school and then you actually wonder, one intersects with the other, what is really the fundamental cause of what makes that he has difficulties learning, that is a big question mark.

Hyperactivity, impulsivity and/or inattention could also be indicative of other medical behavioral and learning disorders. Teachers stated that they had difficulties allocating hyperactivity, impulsivity and/or inattention to ADHD, since the behaviors could also be the result of a crossing of other disorders. Lieve (fourth year, Autumn School) stated: "To find out then what is ADHD, what is ADHD, because yes, they very much overlap and then I always find it difficult." In this regard, teachers in the Spring School referred to a child whose hyperactivity, impulsivity and/or inattention could, according to them, solely be allocated to the disorder of ADHD, as being "a pure case of ADHD", a term that is also frequent in scientific studies investigating the comorbidity of ADHD (see for example August and Garfinkel 1989; Kadesjö and Gillberg 2001; Rubia et al. 2009).

Lieve also talked about her doubts regarding the hyperactivity, impulsivity and/or inattention of a child in her classroom that, according to her, could also be caused by boredom. She perceived the child in question as being highly intelligent and therefore, boredom in the classroom possibly caused the child to behave the way it did. Her cautiousness in assigning a

child's hyperactivity, impulsivity and/or inattention to ADHD as the underlying cause in a child that she considered as highly intelligent, resonates within educational research. Studies warn against misdiagnosis of giftedness and ADHD, because of an overlap of behavioral symptoms such as high activity levels, attention difficulties, and impulsivity (Hartnett, Nelson, and Rinn 2004; Webb, Amend, and Webb 2005).

Finally, in the Summer School, teachers discussed how mutual adjustments on the child's and teacher's part during the first weeks of the school year complicated the detection of ADHD in the child. Anna (preschool teacher) stated that the child's hyperactivity, impulsivity and/or inattention was most apparent in the first week of the school year and therefore, ADHD could be best detected during this time. In this first week, the teacher had not had the time to implement any treatment interventions in the classroom to accommodate children with hyperactivity, impulsivity and/or inattention or to adjust their expectations about the child's behaviors, and the child itself had not had the time to adjust its behaviors to the expectations and circumstances of school life.

And actually, that is the moment the child gives a lot of signals because, if it is ADHD or something else, after a few weeks they adjust and then it comes less and you also adjust, unconsciously too, so you, yeah, and then the problem is not that big anymore, but actually that first, actually you have to think back: "How was that first day, that first week, what struck me then".

Discussion

In this study, by means of focus groups in four Flemish elementary schools, we investigated teachers' decisiveness in assigning a child's hyperactivity, impulsivity and/or inattention to ADHD as the underlying cause. In three of four schools, when teachers talked about specific children who exhibited hyperactivity, impulsivity and/or inattention, they were, more often than not, decisive in their observation that ADHD was or was not the underlying

cause of the child's behaviors. However, the presence of several child-related factors such as a child's young age, problematic home situation, chaotic upbringing, the possible presence of another disorder, and a high IQ which results in boredom made them indecisive about the cause of hyperactivity, impulsivity and/or inattention in specific children they talked about.

Multiple implications about the detection of ADHD in children by teachers follow from our results. Firstly, teachers' decisiveness in assigning a child's hyperactivity, impulsivity and/or inattention to ADHD might be more school-related than teacher-related. Amongst each other, teachers of the same school were largely in agreement on the presence or absence of ADHD in specific children, and on the factors that made detection difficult. In one school, teachers explicitly agreed with each other that they generally lacked the expertise to assign a child's hyperactivity, impulsivity and/or inattention to ADHD as the underlying cause. The Autumn School had the highest percentages of children with a low educated mother, of children who did not speak the official educational language at home (i.e., Dutch), and of children who received a school allowance (Agency for Educational Services 2018). It is possible that teachers in this school were overall less decisive, because they encountered more children in social circumstances that, according to teachers, could cause hyperactivity, impulsivity and/or inattention outside of ADHD. Furthermore, taking on the role of disorder-spotter might be no priority to these teachers and is possibly complicated by the language barrier between the teacher and the parents.

Secondly, it is important to note that, clearly, teachers in this study distinguish between causes of ADHD and causes of hyperactivity, impulsivity and/or inattention. According to these teachers, ADHD has a neurobiological cause, which in turn causes hyperactivity, impulsivity and/or inattention, however, these features do not necessarily have to be caused by ADHD. When phrased inversely, teachers in this sample were more likely to explain hyperactivity, impulsivity and/or inattention with ADHD when other factors that, according to them, could

cause these features to their knowledge were absent. Two implications arise. Firstly, whether or not a child is suspected of ADHD by his/her teacher depends on the teacher's perceptions about what factors outside of ADHD could cause hyperactivity, impulsivity and/or inattention. Secondly, a teacher might not have full knowledge of the child's situation and might miss the presence of a factor outside of ADHD that could cause a child to exhibit hyperactivity, impulsivity and/or inattention.

We conclude this paper with directions for future educational practice and research. We have stressed the importance of researching teachers' decisiveness in assigning a child's hyperactivity, impulsivity and/or inattention to ADHD as the underlying cause, next to their willingness to take on the role of disorder-spotter, since it is likely that teachers' decisiveness plays a role in the information and recommendations they give to parents. Furthermore, when teachers have assigned the child's behavior to ADHD as the underlying cause and the label of ADHD is applied to the child, the effects of this label according to educational researchers are potentially far-reaching, since teachers' academic perceptions and expectations are considerably lower for students with a label of ADHD (Batzle et al. 2010; Ohan et al. 2008). We recommend that teachers are made aware of and reflect on the mechanisms behind their practices as disorder-spotters that were revealed in this study, and their personal involvement in relation to the academic and social problems in children who exhibit hyperactivity, impulsivity and/or inattention (Rafalovich 2005). Future research should further assess the association between teachers' decisiveness in assigning a child's hyperactivity, impulsivity and/or inattention to ADHD and the actual numbers of medical diagnoses. Finally, a study with a larger sample size should aim to identify which contextual and individual characteristics are related to teachers' decisiveness in assigning a child's hyperactivity, impulsivity and/or inattention to ADHD as the underlying cause.

References

Agency for Educational Services. 2018. *Overzicht leerlingkenmerken basisonderwijs saldo werkingstoelagen schooljaar 2018-2019*.

https://www.agodi.be/sites/default/files/atoms/files/Publicaties_Leerlingenkenmerken_Overzicht_2018-2019_bao_2.pdf

American Psychiatric Association. 2013. *Diagnostic and statistical manual of mental disorders* (5th ed.).

Antrop, I., H. Roeyers, J. Oosterlaan, and P. Oost. 2002. "Agreement between parent and teacher ratings of disruptive behavior disorders in children with clinically diagnosed ADHD." *Journal of Psychopathology and Behavioral Assessment* 24 (1): 67-73.

<https://doi.org/10.1023/A:1014057325752>

August, G. J., and B. D. Garfinkel. 1989. "Behavioral and cognitive subtypes of ADHD." *Journal of the American Academy of Child & Adolescent Psychiatry* 28 (5): 739-748.

<https://doi.org/10.1097/00004583-198909000-00016>

Bachmann, C. J., L. P. Wijlaars, L. J. Kalverdiijk, M. Burcu, G. Glaeske, F. Hoffmann, L. Aagaard, and J. M. Zito. 2017. "Trends in ADHD medication use in children and adolescents in five western countries, 2005-2012." *European Neuropsychopharmacology* 27 (5): 484-493.

<https://doi.org/10.1016/j.euroneuro.2017.03.002>

Batzle, C. S., L. L. Weyandt, G. M. Janusis, and T. L. DeVietti. 2010. "Potential impact of ADHD with stimulant medication label on teacher expectations." *Journal of Attention Disorders* 14 (2): 157-166. <https://doi.org/10.1177/1087054709347178>

Conrad, P. 1975. "The discovery of hyperkinesis: Notes on the medicalization of deviant behavior." *Social Problems* 23 (1): 12-21. <https://doi.org/10.2307/799624>

Conrad, P. 1992. "Medicalization and social control." *Annual Review of Sociology* 18 (1): 209-232. <https://doi.org/10.1017/S1745855206004054>

- Conrad, P. 2006. *Identifying hyperactive children. The medicalization of deviant behavior*.
Hants: Ashgate Publishing, Ltd.
- Conrad, P., and M. R. Bergey. 2014. "The impending globalization of ADHD: Notes on the expansion and growth of a medicalized disorder." *Social Science & Medicine* 122: 31-43. <https://doi.org/10.1016/j.socscimed.2014.10.019>
- DuPaul, G. J., & Stoner, G. 2003. *ADHD in the schools: Assessment and intervention strategies* (2nd ed.). New York: Guilford Press.
- DuPaul, G J., R. Reid, A. D. Anastopoulos, and T. J. Power. 2014. "Assessing ADHD symptomatic behaviors and functional impairment in school settings: Impact of student and teacher characteristics." *School Psychology Quarterly* 29 (4): 409. <http://dx.doi.org/10.1037/spq0000095>
- Elder, T. E. 2010. "The importance of relative standards in ADHD diagnoses: evidence based on exact birth dates." *Journal of Health Economics* 29 (5): 641-656. <https://doi.org/10.1016/j.jhealeco.2010.06.003>
- Fredriksen, M, A. A. Dahl, E. W. Martinsen, O. Klungsoyr, S. V. Faraone, and D. E. Peleikis. 2014. "Childhood and persistent ADHD symptoms associated with educational failure and long-term occupational disability in adult ADHD." *ADHD Attention Deficit and Hyperactivity Disorders* 6 (2): 87-99. <https://doi.org/10.1007/s12402-014-0126-1>
- Fried, R., C. Petty, S. V. Faraone, L. L. Hyder, H. Day, and J. Biederman. 2016. "Is ADHD a risk factor for high school dropout? A controlled study." *Journal of Attention Disorders* 20 (5): 383-389. <https://doi.org/10.1177/1087054712473180>
- Gambrill, E. 2014. "The diagnostic and statistical manual of mental disorders as a major form of dehumanization in the modern world." *Research on Social Work Practice* 24 (1): 13-36. <https://doi.org/10.1177/1049731513499411>

- Geerts, E., Heyninck, K., & Van den Broeck, W. (2012). "Prevalentie-onderzoek naar diagnoseverklaringen in het Nederlandstalig basisonderwijs in Vlaanderen en Brussel." Unpublished master's thesis, Vrije Universiteit Brussel.
- Gesser-Edelsburg, A., and R. H. Boukai. 2019. "Does the education system serve as a persuasion agent for recommending ADHD diagnosis and medication uptake? A qualitative case study to identify and characterize the persuasion strategies of Israeli teachers and school counselors." *BMC Psychiatry* 19: Article e153.
<https://doi.org/10.1186/s12888-019-2120-9>
- Ghanizadeh, A., M. J. Bahredar, and S. R. Moeini. 2006. "Knowledge and attitudes towards attention deficit hyperactivity disorder among elementary school teachers." *Patient Education and Counseling* 63 (1-2): 84-88. <https://doi.org/10.1016/j.pec.2005.09.002>
- Gomez, R. 2007. "Australian parent and teacher ratings of the DSM-IV ADHD symptoms: differential symptom functioning and parent-teacher agreement and differences." *Journal of Attention Disorders* 11 (1): 17-27.
<https://doi.org/10.1177/1087054706295665>
- Gualtieri, C. T., and L. G. Johnson. 2005. "ADHD: Is objective diagnosis possible?" *Psychiatry (Edgmont)* 2 (11): 44-53.
- Hartman, C. A., S. H. Rhee, E. G. Willcutt, and B. F. Pennington. 2007. "Modeling rater disagreement for ADHD: Are parents or teachers biased?" *Journal of Abnormal Child Psychology* 35 (4): 536-542. <https://doi.org/10.1007/s10802-007-9110-y>
- Hartnett, D. N., J. M. Nelson, and A. N. Rinn. 2004. "Gifted or ADHD? The possibilities of misdiagnosis." *Roeper Review* 26 (2): 73-76.
<https://doi.org/10.1080/02783190409554245>

- Hsieh, H. F., and S. E. Shannon. 2005. "Three approaches to qualitative content analysis." *Qualitative health research* 15 (9): 1277-1288.
<https://doi.org/10.1177/1049732305276687>
- Hyman, S. E. 2010. "The diagnosis of mental disorders: The problem of reification." *Annual Review of Clinical Psychology* 6: 155-179.
<https://doi.org/10.1146/annurev.clinpsy.3.022806.091532>
- Kadesjö, B., and C. Gillberg. 2001. "The comorbidity of ADHD in the general population of Swedish school-age children." *Journal of Child Psychology and Psychiatry* 42 (4): 487-492. <https://doi.org/10.1111/1469-7610.00742>
- Kent, K. M., W. E. Pelham, B. S. Molina, M. H. Sibley, D. A. Waschbusch, J. Yu, [E. M. Gnagy](#), [A. Biswas](#), [D. E. Babinski](#), and Karch, K. M. 2011. "The academic experience of male high school students with ADHD." *Journal of Abnormal Child Psychology* 39 (3): 451-462. <https://doi.org/10.1007/s10802-010-9472-4>
- Kondracki, N. L., N. S. Wellman, and D. R. Amundson. 2002. "Content analysis: Review of methods and their applications in nutrition education." *Journal of nutrition education and behavior* 34 (4): 224-230. [https://doi.org/10.1016/S1499-4046\(06\)60097-3](https://doi.org/10.1016/S1499-4046(06)60097-3)
- Kos, J. M., A. L. Richdale, and D. A. Hay. 2006. "Children with attention deficit hyperactivity disorder and their teachers: A review of the literature." *International Journal of Disability, Development and Education* 53 (2): 147-160.
<https://doi.org/10.1080/10349120600716125>
- Kypriotaki, M., and G. Manolitsis. 2010. "Teachers' evaluations for the detection of primary-school children with attention deficit hyperactivity disorder." *European Journal of Special Needs Education* 25 (3): 269-281.

- Jutel, A., and S. Nettleton. 2011. "Towards a sociology of diagnosis: reflections and opportunities." *Social Science & Medicine* (1982) 73 (6): 793-800.
<https://doi.org/10.1016/j.socscimed.2011.07.014>
- Malacrida, C. 2004. "Medicalization, ambivalence and social control: Mothers' descriptions of educators and ADD/ADHD." *Health: An Interdisciplinary Journal for the Social Study of Health, Illness and Medicine* 8 (1): 61-80.
<https://doi.org/10.1177/1363459304038795>
- Mashburn, A. J., B. K. Hamre, J. T. Downer, and R. C. Pianta. 2006. "Teacher and classroom characteristics associated with teachers' ratings of prekindergartners' relationships and behaviors." *Journal of Psychoeducational Assessment* 24 (4): 367-380.
<https://doi.org/10.1177/0734282906290594>
- McMahon, S. E. 2012. "Doctors diagnose, teachers label: the unexpected in pre-service teachers' talk about labelling children with ADHD." *International Journal of Inclusive Education* 16 (3): 249-264. <https://doi.org/10.1080/13603116.2010.481799>
- Murray, D. W., S. H. Kollins, K. K. Hardy, H. B. Abikoff, J. M. Swanson, C. Cunningham, B. Vitiello, M. A. Riddle, M. Davies, L. L. Greenhill, J. T. McCracken, J. J. McCough, K. Posner, A. M. Skrobala, T. Wigal, S. B. Wigal, J. K. Ghuman, and S. C. Chuang. 2007. "Parent versus teacher ratings of attention-deficit/hyperactivity disorder symptoms in the Preschoolers with Attention-Deficit/Hyperactivity Disorder Treatment Study (PATs)." *Journal of Child and Adolescent Psychopharmacology* 17 (5): 605-619. <https://doi.org/10.1089/cap.2007.0060>
- OECD. 2017. *Women teachers: Primary, % of teachers, 2005 – 2016*.
<https://doi.org/10.1787/ee964f55-en>
- Ohan, J. L., N. Cormier, S. L. Hepp, T. A. Visser, and M. C. Strain. 2008. "Does knowledge about attention-deficit/hyperactivity disorder impact teachers' reported behaviors and

- perceptions?" *School Psychology Quarterly* 23 (3): 436–449.
<https://doi.org/10.1037/1045-3830.23.3.436>
- Petrina, S. 2006. "The medicalization of education: a historiographic synthesis." *History of Education Quarterly* 46 (4): 503-531. <https://doi.org/10.1111/j.1748-5959.2006.00030.x>
- Pfiffner, L. J., R. A. Barkley, and G. J. DuPaul. 2006. "Treatment of ADHD in school settings." In *Attention deficit hyperactivity disorder: A handbook for diagnosis and treatment*. 3rd ed., edited by R. A. Barkley, 547-589. New York: Guilford Press.
- Phillips, C. B. 2006. "Medicine goes to school: teachers as sickness brokers for ADHD." *PLoS Medicine* 3 (4): Article e182. <https://doi.org/10.1371/journal.pmed.0030182>
- Rafalovich, A. 2005. "Relational troubles and semiofficial suspicion: Educators and the medicalization of “unruly” children." *Symbolic Interaction* 28 (1): 25-46.
<https://doi.org/10.1525/si.2005.28.1.25>
- Rubia, K., A. B. Smith, R. Halari, F. Matsukura, M. Mohammad, E. Taylor, and M. J. Brammer. 2009. "Disorder-specific dissociation of orbitofrontal dysfunction in boys with pure conduct disorder during reward and ventrolateral prefrontal dysfunction in boys with pure ADHD during sustained attention." *American Journal of Psychiatry* 166 (1): 83-94. <https://doi.org/10.1176/appi.ajp.2008.08020212>
- Salmon, G., and A. Kirby. 2009. "AD/HD: The role of teachers in the assessment of children suspected of having AD/HD." *British Journal of Special Education* 36 (3): 147-154.
<https://doi.org/10.1111/j.1467-8578.2009.00439.x>
- Sax, L., and K. J. Kautz. 2003. "Who first suggests the diagnosis of attention-deficit/hyperactivity disorder" *The Annals of Family Medicine* 1 (3): 171-174.
<https://doi.org/10.1370/afm.3>

- Sayal, K., H. Hornsey, S. Warren, F. MacDiarmid, and E. Taylor. 2006. "Identification of children at risk of ADHD: a school-based intervention." *Social Psychiatry Psychiatric Epidemiology* 41 (10): 806-813. <https://doi.org/10.1007/s00127-006-0100-0>
- Sayal, K., N. Letch, and S. E. Abd. 2008. "Evaluation of screening in children referred for an ADHD assessment." *Child and Adolescent Mental Health* 13 (1): 41-46. <https://doi.org/10.1111/j.1475-3588.2007.00463.x>
- Schreier, M. (2012). *Qualitative content analysis in practice*. London: Sage publications.
- Singh, I. 2006. "A framework for understanding trends in ADHD diagnoses and stimulant drug treatment: schools and schooling as a case study." *BioSocieties* 1 (4): 439-452. <https://doi.org/10.1017/S1745855206004054>
- Snider, V. E., T. Busch, and L. Arrowood. 2003. "Teacher knowledge of stimulant medication and ADHD." *Remedial and Special Education* 24 (1): 46-56. <https://doi.org/10.1177/074193250302400105>
- Te Meerman, S., L. Batstra, H. Grietens, and A. Frances. 2017. "ADHD: a critical update for educational professionals." *International Journal of Qualitative Studies on Health and Well-being* 12 (suppl): Article e1298267. <https://doi.org/10.1080/17482631.2017.1298267>
- Tait, G. 2003. "Free will, moral responsibility and ADHD." *International Journal of Inclusive Education* 7 (4): 429-449. <https://doi.org/10.1080/1360311032000122483>
- Urton, K., J. Wilbert, and T. Hennemann. 2014. "Attitudes towards inclusion and self-efficacy of principals and teachers." *Learning Disabilities: A Contemporary Journal* 12 (2): 151-168.
- Webb, J. T., Amend, E. R., & Webb, N. E. (2005). *Misdiagnosis and dual diagnoses of gifted children and adults: ADHD, bipolar, OCD, Asperger's, depression, and other disorders*. Scottsdale: Great Potential Press, Inc.

- Wienen, A. W., M. N. Sluiter, E. Thoutenhoofd, P. de Jonge, and L. Batstra. 2019. "The advantages of an ADHD classification from the perspective of teachers." *European Journal of Special Needs Education* 34 (5): 649-662.
<https://doi.org/10.1080/08856257.2019.1580838>
- Willcutt, E. G. 2012. "The prevalence of DSM-IV Attention-Deficit/Hyperactivity Disorder: A meta-analytic review." *Neurotherapeutics* 9 (3): 490-499.
<https://doi.org/10.1007/s13311-012-0135-8>
- Wolraich, M. L., E. W. Lambert, L. Bickman, T. Simmons, M. A. Doffing, and K. A. Worley. 2004. "Assessing the impact of parent and teacher agreement on diagnosing attention-deficit hyperactivity disorder." *Journal of Developmental & Behavioral Pediatrics* 25 (1): 41-47.
- Wright, G. S. 2012. "ADHD Perspectives: Medicalization and ADHD Connectivity." In *Joint Australian Association for Research in Education and Asia-Pacific Educational Research Association Conference*. Sydney: Australia.

Table 1

School and participant characteristics

	Spring School	Summer School	Autumn School	Winter School
Percentage of children with low educated mother	26	16	44	27
Percentage of children who do not speak Dutch at home	28	13	44	16
Percentage of children who receive a school allowance	35	17	40	35
Ratio preschool/elementary school of participating teachers	1:4	5:3 (+ one teacher who taught both)	3:1	2:3
Range of years of experience of participating teachers	3 - 37	2 - 33	3 - 30	6 - 31

Table 2

Summary of coding framework per school

	Spring School	Summer School	Autumn School	Winter School
<i>Decisiveness in specific cases</i>				
Number of specific cases	7	5	1	4
Subcategories	<ul style="list-style-type: none"> ◦ Persuasion of others ◦ Change in expectations of behaviors ◦ Child not responsible for behaviors ◦ Referred to child as having ADHD without diagnosis ◦ Behaviors indicative of ADHD 	<ul style="list-style-type: none"> ◦ Persuasion of others ◦ Child not responsible for behaviors ◦ Referred to child as having ADHD without diagnosis ◦ Behaviors indicative of ADHD 	<ul style="list-style-type: none"> ◦ Persuasion of others ◦ Behaviors indicative for ADHD 	<ul style="list-style-type: none"> ◦ Persuasion of others ◦ Child not responsible for behaviors ◦ Referred to child as having ADHD without diagnosis ◦ Behaviors indicative of ADHD
<i>Indecisiveness in specific cases</i>				
Number of specific cases	2	3	3	0
Subcategories	<ul style="list-style-type: none"> ◦ Home situation possible cause for behaviors ◦ Upbringing possible cause for behaviors 	<ul style="list-style-type: none"> ◦ Home situation possible cause for behaviors ◦ Possible unknown cause for behaviors ◦ Also behaviors not indicative of ADHD ◦ Behaviors less indicative of ADHD after mutual adjustments 	<ul style="list-style-type: none"> ◦ Home situation possible cause for behaviors ◦ Possible unknown cause for behaviors ◦ Attachment problems possible cause for behaviors ◦ High IQ possible cause for behaviors 	