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A systematic review and synthesis of qualitative research: the influence of school context on symptoms of attention deficit hyperactivity disorder

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This systematic review and synthesis of qualitative research explored contextual factors relevant to non-pharmacological interventions for attention deficit hyperactivity disorder (ADHD) in schools. We conducted meta-ethnography to synthesise 34 studies, using theories of stigma to further develop the synthesis. Studies suggested that the classroom context requiring pupils to sit still, be quiet and concentrate could trigger symptoms of ADHD, and that symptoms could then be exacerbated through informal/formal labelling and stigma, damaged self-perceptions and resulting poor relationships with staff and pupils. Influences of the school context on symptoms of ADHD were often invisible to teachers and pupils, with most attributions made to the individual pupil and/or the pupil's family. We theorise that this 'invisibility' is at least partly an artefact of stigma, and that the potential for stigma for ADHD to seem 'natural and right' in the context of schools needs to be taken into account when planning any intervention.

Keywords: attention deficit hyperactivity disorder; ADHD; school stigma; attributions; qualitative research; meta-ethnography

Introduction

Clinical guidelines emphasise integrated care that involves both pharmacological and non-pharmacological treatment for attention deficit hyperactivity disorder (ADHD) (NICE 2013; Wolraich et al. 2011). Whereas the effectiveness of medication is well established in reducing symptoms of ADHD (Coghill 2004), such reduction of symptoms does not necessarily align with increased engagement and educational performance in pupils (Purdie, Hattie, and Carroll 2002). In addition, children respond variably to pharmacological treatment, with some experiencing side effects, little improvement in symptoms or resistance to medication. For such children non-pharmacological treatment is particularly relevant. The effectiveness of non-pharmacological treatment and factors that limit and/or enhance such interventions in schools is therefore an important research topic. Systematic reviews have reported beneficial effects of non-pharmacological interventions conducted in schools and other settings (DuPaul, Eckert, and Vilardo 2012; Evans, Owens, and Bunford

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2014; Pelham and Fabiano 2008; Sonuga-Barke et al. 2013). To our knowledge, however, there have been no systematic reviews focused on exploring contextual factors that may be relevant to the delivery of non-pharmacological interventions for ADHD in schools.

Systematic reviews involve the use of transparent methods to locate, consider, quality appraise and synthesise research with the aim of preventing bias. Initially developed in a health care context to synthesise quantitative trial data, systematic reviews are increasingly used in other disciplines such as business studies and education (Petticrew and Roberts 2006). Systematic reviews of qualitative research are gaining credibility for their capacity to explore questions about processes of interventions, the sociocultural contexts in which interventions take place and how these may interact with intervention effectiveness, as well as the perceptions people have about conditions, treatment and service (Pearson 2004).

The studies reported in this paper address the research question: 'What are the school-related experiences and perceptions of pupils diagnosed with or at risk of ADHD, their teachers, parents and peers?' This review was conducted in the context of a wider series of systematic reviews, the overarching aim of which was to evaluate non-pharmacological interventions delivered in school settings for pupils with, or at risk of, ADHD and to explore the factors that may enhance, or limit, their beneficial delivery (Richardson et al. 2015). In response to the findings of included studies about the school context, and consideration of theories of stigma (Goffman 1990; Thornicroft 2006), we further focused our synthesis to institutional (school)-level stigma.

The contested nature of ADHD

The current *Diagnostic and Statistical Manual of Mental Disorders* (*DSM-5*) describes ADHD as a neurodevelopmental disorder characterised by age-inappropriate levels of inattention, impulsivity and hyperactivity (APA 2013). The aetiology of ADHD is complex and may be most clearly understood as involving the interplay of biological, psychological and social factors (Barkley 1990). The syndrome involves uncertainties, such as its relatively new status as a childhood disorder, the ethics of prescribing drugs to children over the long term, particularly to 'control' behaviour, and the lack of a biomedical indicator to substantiate diagnosis. Such ambiguities have stimulated considerable debate and sometimes conflicting views over the disorder's validity within and between researchers, the media, practitioners and parents (Pajo and Cohen 2012). For example, in O'Regan's U.K. study (2009), 50% of general practitioners and 20% of special educational needs coordinators did not believe that ADHD was a 'real' condition (p. 4). Such difference in opinion about the nature of ADHD may contribute to uncertainties within schools about how to intervene with pupils diagnosed with or at risk of ADHD.

Method

The methods used to identify and select evidence followed the methodological approach recommended by the University of York's Centre for Reviews and Dissemination (CRD 2009). A registered protocol for this review and other associated systematic reviews was developed with input from topic experts, parents and educators (PROSPERO CRD4201100****).

Identification of evidence

Inclusion criteria

The following inclusion and exclusion criteria were used to determine eligibility.

Population: Those with experience of ADHD in school settings, including pupils diagnosed with or at risk of ADHD, aged 4–18 years, their parents, teachers and peers.

Methods: Primary research using qualitative data collection and analysis.

Outcomes: Experiences and perceptions related to ADHD in schools.

Location and language: Only papers from countries belonging to the Organisation for Economic Co-operation and Development and written in English were included to prevent distortion following from language translation or substantial cultural difference.

Date: Only studies conducted from 1980 onwards were included, reflecting significant changes to the diagnosis of ADHD that year (APA 1980).

Search strategy

A database search strategy was developed in consultation with education and child mental health practitioners. It consisted of (1) terms related to ADHD, (2) terms related to school contexts and (3) a bespoke qualitative research filter. It used a mixture of subject headings (controlled vocabulary) and free text terms. Twenty electronic databases were searched during July 2012 and again in March 2013: MEDLINE, EMBASE, PsycINFO, Health Management Information Consortium (via OvidSP); ASSIA, British Education Index, Australian Education Index, ERIC (via ProQuest); Education Research Complete (via EBSCOhost); The Cochrane Library (CDSR, DARE, CENTRAL, CMR, HTA, NHS EED); The Campbell Library; Social Sciences Citation Index; Conference Proceedings Citation Index; Conference Proceedings Citation Index – Social Science and Humanities (via ISI Web of Science). For an example search strategy used for the MEDLINE/OvidSp database, please contact the corresponding author.

Forward and backward citation chasing, consultation with expert advisors and hand searching of key journals were completed to identify additional relevant work. EndNote X7 reference management software was used to organise the search results, screening and full text retrieval processes.

Study selection

Two reviewers conducted title/abstract screening independently for each record (six researchers shared this screening: RGJ, DM, TND, RW, RA, MRo). Full texts of potentially relevant records were obtained where possible, and were screened independently by two reviewers (RGJ, DM) for inclusion and exclusion. Disagreements were resolved through discussion (RGJ, DM).

Data extraction

Data were extracted using a form adapted from a previous Cochrane systematic review (Husk et al. 2013) and was piloted by two reviewers (RGJ, DM). Data on the study design, participants and findings were extracted into NVivo v.9.2 by RGJ and checked by DM. Where papers acknowledged qualitative analysis but did not provide sufficient detail, and contact details were available, authors were emailed to request further information.

Quality assessment

Study quality was assessed using a checklist adapted from Wallace et al. (2004) consisting of 15 sensitising 'prompts' (see online Supplementary Table 1). Positive, negative and neutral appraisal scores were collated for each item and each paper. Quality appraisal decisions were made independently by two reviewers (RGJ, DM), and disagreements were resolved through discussion.

Methods of analysis/synthesis

Data analysis and synthesis broadly followed the principles of meta-ethnography (Noblit and Hare 1988) in a process of 'translation' between studies, where the themes from each study were compared. Refutation involved the explanation of contradictory findings. A 'line-of-argument' or overarching theme was created by synthesising translational and refutational findings across studies into a coherent whole. Although described linearly, the process was cyclical and iterative.

We found the application of meta-ethnography across some qualitative studies to be difficult when authors described data using categories without developing themes, offering little in the way of concepts to translate. We responded to this in two ways identified from other qualitative syntheses (1) the selection of an index paper to act as an organising thematic reference against which other studies could be compared (Campbell et al. 2011) and (2) thematic development of descriptive categories (Smithson, Garside, and Pearson 2011). Thematic analysis and translation between study themes were supported by software, where NVivo coding and refinement capacities were applied to extracted data and the developed codes were used to create and refine concept maps in Microsoft Word. Papers were grouped by participant type (pupils, teachers, parents, mixed) before combining these into the final overarching theme in a staged process of synthesis (Popay et al. 2006).

Findings

Study characteristics

A total of 34 studies reported in 37 papers were included (Figure 1). Number of studies by participant type is given in Table 1. Two studies were reported in multiple publications (Exley 2005, 2007, 2008; Malacrida 2001, 2004); when discussing information from these studies, only one journal article each (Exley 2008; Malacrida 2001) will be cited in order to signify the studies' singular nature.

The majority of studies were located in the United States (16 of 34). Pupils attended a range of private, mainstream and special preschools, elementary (or primary) and middle/high (or secondary) schools. Across studies, 258 pupils, 389 teachers and 302 parents participated (see online Supplementary Table 2). Young people (aged 12–18) represent the majority of pupil participants. By contrast, most teacher participants taught children diagnosed with or at risk of ADHD in preschool and primary years (ages 4–11).

Study methods

Authors in 26 of the 34 studies collected data through semi-structured interviews alone (15 studies) or used semi-structured interviews alongside other methods such as observation (4), questionnaires (4), focus groups (3), a range of child-friendly activities (2) and group narratives (1). Eight studies did not involve semi-structured interviews, but collected data through observation (2), focus groups (2), vignettes (2), Internet forum messages (1) or narratives (1).
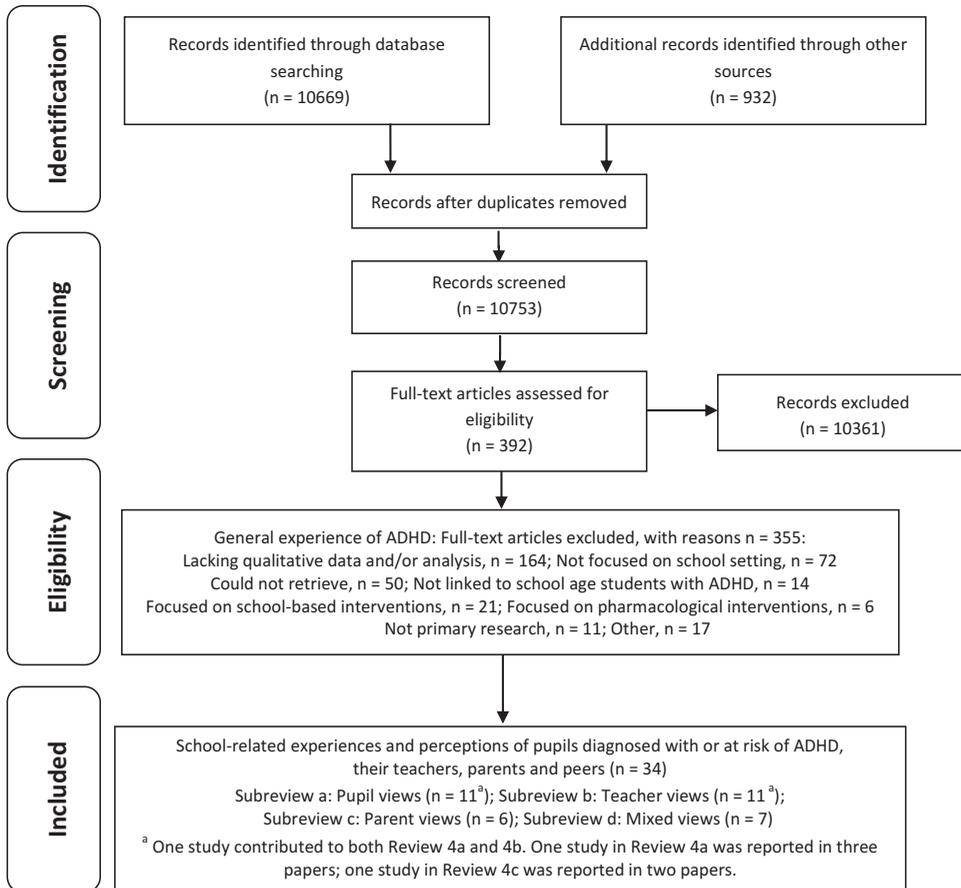
Figure 1.   Diagram reporting the process of study selection.

Many authors described their chosen research methodologies:

- Discourse Analysis (1);
- Ethnography (3);
- Grounded Theory (6);
- Narrative approaches (2);
- Phenomenology (5).

Other authors did not describe methodologies, but did use theoretical frameworks for data collection and/or analysis (13). A minority of authors were not explicit about their chosen research methodologies or underpinning theory (4). For further details of included study characteristics, see online Supplementary Table 3.

Quality appraisal

All but five studies met at least 10/14 appraisal criterion, suggesting a large majority were of good quality (see online Supplementary Table 4). The areas in which studies were most often lacking involved the omission of a discussion about study limitations (17) or aspects of generalisability (16), or study authors were not reflexive (18).

Table 1.   Number of included studies by participant type.

Participant group types	No. of included studies	Papers
a. The school experiences and perceptions of pupils diagnosed with ADHD (Pupil views)	11[a] studies reported in 13 papers	(Brice 1998, Cooper and Shea 1998, Exley 2005, 2007, 2008, Friio 1999, Houghton et al. 2006, Kendall et al. 2003, McDannel 2005, Prosser 2006, Singh 2011, Taylor and Houghton 2008, Wolfberg et al. 1999)
b. The school experiences and perceptions of teachers of pupils diagnosed with or at risk of ADHD (Teacher views)	11[a]	(Arcia et al. 2000, Bailey and Thomson 2009, Einarsdottir 2008, Hillman 2011, Hong 2008, Houghton et al. 2006, Jones 2008, Lee 2008, Ljusberg 2011, McMahon 2012, Nowacek and Mamlin 2007)
c. The school experience and perceptions of parents of pupils diagnosed with or at risk of ADHD (Parent views)	6 studies reported in 7 papers	(Carpenter and Austin 2008, Hibbitts 2010, Malacrida 2001, 2004, Margalit et al. 2010, Reid, Hertzog, and Snyder 1996, Watson 2011)
d. The school experiences and perceptions of pupils diagnosed with or at risk of ADHD, their teachers, parents and peers (Mixed views)	7	(Edwards 2008, Guevara et al. 2005, Hands 2010, Hughes 2007, Koro-Ljungberg et al. 2011, Rafalovich 2005, Shea and Wiener 2003)
Overarching synthesis	34[a]	

[a]One study (Houghton et al. 2006) contributed to two sub-reviews (pupil views and teacher views).

The overarching theme

The contribution of included studies to each review theme is shown in Table 2. It is commonly accepted within interpretive research that themes are developed through interpretations by researchers and that they may be developed in more than one way (Saldaña 2009). We judged the importance of potential themes in relation to our overall research question regarding implementation of interventions for ADHD within schools. To identify the overarching theme 'The influence of school context on symptoms of ADHD' we drew from a theoretical framework used by a number of the included studies, that of stigma. We will first briefly discuss the theories of stigma we applied in our synthesis in order to provide a foundation from which to give the review findings.

Stigma

Stigma is a concept developed within the field of social psychology, particularly well expressed by Goffman (Goffman 1990). Goffman describes stigma as the disgrace incurred upon those categorised with attributes outside what is considered to be ordinary and natural: 'an undesired differentness' that leads us to 'believe the person with a stigma is not quite human' justifying us to 'exercise varieties of discrimination, through which we effectively, if often unthinkingly, reduce his [sic] life chances' (15). Such disgrace can result in the 'spoiled identity' of the person who is stigmatised, as they internalise as accurate others' judgment of themselves as undesirable. Thornicroft (2006) further discusses stigma in relation to mental illness by distinguishing aspects of ignorance, prejudice and discrimination. Importantly, the attributes that provoke stigma are not discrediting in and of themselves, but only according to the value systems of the context from which they are allocated. Thornicroft emphasises the protective

Table 2. Relationships between reviewer findings and included studies.

Reviewer findings from participant group sub-syntheses	Overarching theme: The influence of school context on symptoms of ADHD			
	School context and the aggravation of ADHD symptoms	Constituting deviance and invoking stigma	The relationship between stigma and attributions for ADHD	Contributing studies
a. Pupil views: Expression of symptoms in pupils diagnosed with ADHD as an interaction of biological, sociological and psychological factors				
Experience of ADHD symptoms	X	X		(Brice 1998; Cooper and Shea 1998; Friio 1999; Houghton et al. 2006; Kendall et al. 2003; McDannel 2005; Prosser 2006; Singh 2011)
Relationships, classroom context and stigma	X	X		(Brice 1998; Cooper and Shea 1998; Exley 2008; Friio 1999; Houghton et al. 2006; Kendall et al. 2003; McDannel 2005; Prosser 2006; Singh 2011; Taylor and Houghton 2008; Wolfberg et al. 1999)
Identity, agency and desire for approval	X		X	(Cooper and Shea 1998; Exley 2008; Friio 1999; Houghton et al. 2006; Kendall et al. 2003; McDannel 2005; Prosser 2006; Singh 2011; Taylor and Houghton 2008)
Impact of polarised attributions about ADHD			X	(Cooper and Shea1998; Exley 2008; Kendall et al. 2003; Prosser 2006; Singh 2011)
b. Teacher views: Factors that influence teachers' willingness to adapt their response to ADHD symptoms				
Orientation to the class vs. the individual		X		(Arcia et al. 2000; Einarsdottir 2008; Hillman 2011; Hong 2008; Houghton et al. 2006; Jones 2008; Lee 2008; Ljusberg 2011; McMahon 2012; Nowacek and Mamlin 2007)
Perceptions of ADHD behaviour			X	(Arcia et al. 2000; Bailey and Thomson 2009; Einarsdottir 2008; Hillman 2011; Hong 2008; Houghton et al. 2006; Jones 2008; Lee 2008; Ljusberg 2011; McMahon 2012; Nowacek and Mamlin 2007)

(*Continued*)

Table 2.   (Continued).

Reviewer findings from participant group sub-syntheses	School context and the aggravation of ADHD symptoms	Constituting deviance and invoking stigma	The relationship between stigma and attributions for ADHD	Contributing studies
c. Parent views: Mothers are silenced				
Dashed expectations		X		(Carpenter and Austin 2008; Hibbitts 2010; Malacrida 2001)
Parent–teacher conflict		X		(Hibbitts 2010; Malacrida 2001; Margalit et al. 2010; Reid, Hertzog, and Snyder 1996; Watson 2011)
Resistance				(Carpenter and Austin 2008; Hibbitts 2010; Malacrida 2001; Reid, Hertzog, and Snyder 1996; Watson 2011)
d. Mixed views: Relationships between participant groups: Foundations for conflict				
Fit between pupils diagnosed with ADHD and school		X		(Edwards 2008; Hands 2010; Rafalovich 2005; Shea and Wiener 2003)
Orientation to the class vs. the individual		X		(Hands 2010)
Different funds of knowledge	X		X	(Hughes 2007; Koro-Ljungberg et al. 2011; Rafalovich 2005)
Processes of collaboration	X			(Guevara et al. 2005; Koro-Ljungberg et al. 2011)

(Column group header spanning three columns: Overarching theme: The influence of school context on symptoms of ADHD)

functions of stigma in perpetuating established institutional structures, rather than it originating in intentions to inflict personal harm (although this may indeed be its result):

- 'Stigma originates in a universal human tendency to avoid danger. Stigmatisation is not therefore mainly directed against individuals, but against those who are understood to pose a threat. Such understandings are socially created, and individual 'stigmatisers' are essentially only repeating (and recreating) their society's norms about what are appropriate feelings and behaviours to display to members of any threatening group.' (Thornicroft 2006, 189)
- Stigmatisation is carried out in a process of labelling that involves the assignment of a category name that invokes the stigma onto a person, and can be informal or formal. An example of informal labelling of ADHD symptoms is 'naughty boy'; formal labelling of ADHD symptoms would involve clinical diagnosis of ADHD.

Mechanisms of discrimination described by Goffman (1990) include

- Generalising the particular faulty attribute to a wider gestalt of disability (e.g. assuming a child with ADHD is unintelligent or not capable of learning);

- Assuming the pupil exhibits the range of attributes by which the label is understood rather than seeking to understand the pupil and/or the pupil's specific circumstances (e.g. a person who believes ADHD results from poor parenting may assume a child's disruptive behaviour is due to a lack of discipline at home);
- The pupil's and/or families' behaviour may be understood as an expression of the stigmatised attribute, whereas the same behaviour from non-stigmatised peers and/or their families would not be regarded in the same way (e.g. a reward given by a parent to a child for good behaviour might be considered by a teacher to be an example of the parent 'spoiling' the child).

Many included studies explicitly mentioned stigma in relation to ADHD (Bailey and Thomson 2009; Carpenter and Austin 2008; Cooper and Shea 1998; Exley 2008; Kendall et al. 2003; Koro-Ljungberg et al. 2011; Malacrida 2001; McMahon 2012; Prosser 2006; Rafalovich 2005; Shea and Wiener 2003; Singh 2011; Watson 2011). Other studies described institutional mechanisms and/or negative personal experiences that were in line with the concepts of stigma without defining them as such (Friio 1999; Hibbitts 2010; Houghton et al. 2006; Kendall et al. 2003; Shea and Wiener 2003). It is the aim of this article to focus on institutional processes of stigma rather than detailing personal experiences of being stigmatised, as argued by Thornicroft (2006). However, we also emphasise the need to regard each issue in combination with other factors. We seek to redress a balance in understanding and response to complex issues surrounding ADHD that have been dominated by conceptions of within-pupil differences and/or contributions of home life, while neglecting the influence of schools.

We identified the overarching theme, 'The influence of school context on symptoms of ADHD', with three subthemes:

- School context and the aggravation of ADHD symptoms;
- Delineating deviance and invoking stigma;
- The relationship between stigma and attributions for ADHD.

These will be discussed in turn below.

School context and the aggravation of ADHD symptoms. A number of study authors and parent and/or pupil participants commented that school was the context where ADHD difficulties were most apparent (Brice 1998; Carpenter and Austin 2008; Friio 1999; Malacrida 2001; McDannel 2005; Prosser 2006; Watson 2011). Findings from included studies suggest that the school context contributes to the aggravation of ADHD symptoms because of classroom expectations and conflict in relationships.

Some studies conducted with pupils diagnosed with ADHD described the classroom context to be a trigger to ADHD symptoms, and pupils described the classroom as leaving them feeling frustrated, angry, drained and/or imprisoned (Brice 1998; Cooper and Shea 1998; Friio 1999; Hands 2010; Houghton et al. 2006; Kendall et al. 2003; Prosser 2006; Shea and Wiener 2003). Pupils found the need to concentrate and remain still for long periods highly challenging, and preferred more active learning that was meaningful to them (Brice 1998; Kendall et al. 2003). Many of these pupils experienced peer interactions, noise and movement in classrooms as distractions, whereas some described success in learning outside the context of school (Brice 1998; Cooper and Shea 1998; Friio 1999; Houghton et al. 2006; Kendall et al. 2003; McDannel 2005).

McDannel (2005), in response to classroom observations, concluded that ADHD symptoms such as hyperactivity and inattention were often an unconscious self-regulatory

response that pupils resorted to in order to cope with demands of the classroom. Similar experiences were described by pupils in other studies.

> I'll like start going like this (rubbing his hands) and twiddling my thumbs. I move my feet a lot and look at other stuff and move my head a lot . . . if I stop. . . I feel really funny so I keep on going. If I stop, well like I just start again. I don't know why . . . I feel more comfortable when I start fidgeting again. (Friio 1999, 111; Canadian young person aged 14–18, reviewer edits)

Rather than 'bad behaviour', McDannel (2005) suggested symptoms of ADHD could be understood to be clues about pupil needs. The same study identified that the pupil participants were more able to learn in quiet, ordered classrooms than in dynamic, less structured classrooms.

Pupils also described an escalation of negative emotions and difficulties in relationships over the course of their school careers, where these could compound already-present ADHD-related difficulties with emotional self-regulation and control (Hands 2010; Houghton et al. 2006; Kendall et al. 2003; Shea and Wiener 2003). Studies described different aspects of this issue, for example as escalating 'stress' (Houghton et al. 2006) or anger escalating to a sense of rage (Hands 2010; Hibbitts 2010; Shea and Wiener 2003). Some studies link this behaviour to pupil perception of injustice from teachers and peers, for example in response to over-punitive teachers who punish them for behaviour for which peers are not punished, and some pupils admitted to behaving badly on purpose with teachers whom they believed had treated them unfairly (Friio 1999; Hands 2010; Hibbitts 2010; Houghton et al. 2006; Hughes 2007; Prosser 2006; Singh 2011). Participants also described escalating stress and loss of emotional control in response to bullying, where pupils diagnosed with ADHD were baited in order to see if they would lose their temper (Exley 2008; Houghton et al. 2006; Rafalovich 2005; Shea and Wiener 2003; Singh 2011). Such findings suggest that some expression of ADHD-related behaviour may be a pupil response to the marginalisation and/or social exclusion they face in response to stigma.

Delineating deviance and invoking stigma. Four papers explored school-level stigmatisation (Bailey and Thomson 2009; Carpenter and Austin 2008; Rafalovich 2005; Watson 2011). This centred around the power of school staff to decide what acceptable and unacceptable behaviour was, and their response to behaviour considered unacceptable. These findings demonstrate the arbitrary, local nature of the boundary between 'acceptable' and 'unacceptable' behaviour, and the contribution of school staff to this process. Although different sociological theories were used to analyse these studies, the findings parallel each other in illuminating the interactional nature of pupil behaviour and school structures and ethos, and the inadequacy of conceptualising ADHD symptoms through the lens of the individual pupil only. All four study authors referred to their findings as processes of stigmatisation.

Three papers discussed the role of schools in establishing boundaries for 'good' and 'bad' behaviour. Bailey and Thomson's (2009) study focused on the contribution of school classroom routines to the evaluation of behaviour. Through participant observation, Bailey identified classroom routines that established 'correct' behaviour, for example rules for entering and exiting the classroom. Deeply held understanding of the 'good teacher' role in the prevention of disruption within the classroom meant that teachers worked hard to enforce such routines through punishment and communication with headteachers,

special educational needs coordinators, or parents. Through these teacher-determined routines, children were taught how to behave in school, and through the performance of these routines teachers established whether children fell inside or outside norms for acceptable behaviour.

On his arrival as a teaching assistant (TA), Bailey was given a list of six children who were 'ones to watch'. These children were often topics of conversation, where teachers and TAs kept each other abreast of breaches in the children's behaviour. The children were not the only topic of interest; the children's parents were also discussed.

> [The classroom teacher] described [Christopher's mother] as 'carrying a lot of emotional baggage', saying that she had 'broken down' during [a] meeting. [The classroom teacher] clearly didn't think much of her as a parent and thought Christopher was probably spoilt. (Bailey and Thomson 2009, 216, pupil aged 5–6, reviewer edits)

The authors note that discussion about poor behaviour by a child was frequently linked to discussion of family circumstances; this repeats the frequent link teachers made in other studies between ADHD symptoms and 'poor parenting' (see the subtheme on attributions). The authors also comment that the magnitude of the scrutiny these children were under was likely to increase the amount of problematic behaviour identified regardless of the quality of their behaviour in comparison to peers who were not watched so closely. This provides an example of the process of stigmatisation.

Bailey and Thomson (2009) do not argue that school classroom routines are solely negative; instead they acknowledge their productive, essential nature. However, the authors do expose the 'dangerous and damaging' effect such routines may have for a minority of children who do not or cannot meet expectations. This study suggests that the behaviour of teachers follows socially constructed norms where they are held accountable for keeping order and producing particular levels of achievement. Processes of stigma, where pupils are singled out through surveillance, segregation and other structural means, are methods teachers draw on to adequately perform their role.

Carpenter and Austin (2008), drawing from feminist theory and theories of mother blame, similarly explore the way that schools constitute the notion of 'disorderly behaviour'. The child whose behaviour lies outside whatever local boundaries for accepted behaviour might be, and his/her mother, tend to be stigmatised and devalued in the process of addressing problem behaviours. The authors find that mothers advocate on behalf of their children, either to reframe their child's behaviour as normal by school standards or to seek diagnosis and medication for ADHD in order to change the child to fit school expectations.

Watson's (2011) narrative analysis illustrated the arbitrary nature of school boundaries for acceptable and unacceptable behaviour:

> ... the appointments became routine to discuss and review his intolerable behaviour. Surprisingly we never discussed: violence, fighting, abuse, deceit, dishonesty or any other behaviour I consider unacceptable. We spoke about; not sitting still, walking around class, talking to other children, not finishing set work or homework and [coming to school without a tie]. (Watson 2011, 22, British mother of a son aged 9–11, reviewer edits)

This account drew from theories of satire to highlight the potentially farcical nature of ADHD, where she and her son were stigmatised for, and her son was punished by school staff and ultimately medicated for, ordinary behaviours.

Finally, Rafalovich ([2005](#)) explored the process by which interactions between parents, teachers and clinicians transform children's normalised troubles into formalised deviance. He identified a turning point in the transformation from informal to formal labelling to be the School Based Team (SBT) meeting, where current and previous teachers of the pupil, a school psychologist and/or the school principal might meet, in addition to parents, to discuss academic and behavioural difficulties of a pupil with inference about the cause of these difficulties. Rafalovich noted that such meetings often signalled a shift from the normalisation of a child's difficulties (e.g. understanding them to be a phase) to understanding them as deviant (e.g. a symptom of a disorder). One mother described an SBT meeting

> I thought we would be able to have a conversation about what was going on, but there was none of that. The school had already made up their minds . . . So, there I am trying to defend my daughter and they didn't even want to listen . . . they never gave her any other options for her school lessons. They try to cookie-cutter the kids all the same. She has lots of things that she is very capable of, but they never took the time to try and help her with some of those. (Rafalovich [2005](#), 37, North American mother of a daughter aged 6–17, reviewer edits)

The mother suspected that the school had come to conclusions about her daughter before the meeting, and she found her perceptions about her daughter, which included positive, normalising interpretations, to be dismissed. Similar experiences were described by parents in other studies (Hands [2010](#); Hibbitts [2010](#); Malacrida [2001](#); Reid, Hertzog, and Snyder [1996](#); Watson [2011](#)). Rather than understanding her child as having ADHD, she thought the school had not met her child's educational needs adequately. Nonetheless, the child was referred to a clinician and diagnosed with ADHD, and prescribed Ritalin. Rafalovich's ([2005](#)) study therefore demonstrates from another angle that ADHD is an interaction between the child and expectations of educational staff in a specific context.

These studies describe the way schools determined boundaries for acceptable behaviour, with differences at the local level. Processes that marked particular pupils as different from their peers held the potential for stigma; however, stigma only resulted when the pupil was marginalised through acts of discrimination – there were also findings for constructive, inclusive responses from teachers to symptoms of ADHD, and these were noted to be powerful in their ability to reduce the expression of symptoms in school (Guevara et al. [2005](#); Hands [2010](#); Hibbitts [2010](#); Hong [2008](#); Lee [2008](#); Margalit et al. [2010](#); Reid, Hertzog, and Snyder [1996](#); for further discussion, see Gwernan-Jones et al. [[2015](#)]). However, stigma was reported more frequently. The predominance of this finding suggests that the marginalisation associated with stigma was common in schools in relation to pupils diagnosed with or at risk of ADHD. Beyond the personal damage to the pupil and the pupil's family, stigma could further aggravate ADHD-related behaviour in pupils, as was discussed in the section above.

The relationship between stigma and attributions for ADHD. Attributions are beliefs people hold about the causes for the behaviour of themselves and others (Heider [1958](#)). Attributional beliefs can act as a logical foundation for the decisions people make about how to manage situations (Weiner [1985](#)), and so are implicated in personal action. Attributions were found to be important by a number of study authors in relation to the management of ADHD in schools.

Attributions form the basis for one of the puzzling findings of this review: the mismatch between the experiences of ADHD pupils and teachers described, which linked individual behaviours to specific contexts and relationships, versus the attributional beliefs that they expressed about ADHD. Participants tended to attribute symptoms to a single cause rather than explain them as a response to an interaction of factors.

Hughes (2007) summarised common differences in attributions for symptoms of ADHD between teachers, pupils and parents, and the potential impacts of this on intervention, which were supported by the findings in many other studies:

- They may disagree on the extent of control the child has, and whether the behaviour results from biological or sociological influences (Arcia et al. 2000; Cooper and Shea 1998; Einarsdottir 2008; Exley 2008; Hillman 2011; Houghton et al. 2006; Hughes 2007; Kendall et al. 2003; McMahon 2012; Prosser 2006; Rafalovich 2005; Singh 2011);
- If adults and pupils believe that there is nothing that can be done (e.g. cognitive deficit or poor parenting), this can result in abdication of responsibility (Arcia et al. 2000; Hands 2010; Houghton et al. 2006; Hughes 2007; Reid, Hertzog, and Snyder 1996; Singh 2011);
- The failure of staff and parents to agree on an approach to intervention is a 'fundamental barrier to positive change', exacerbating problems and symptoms of ADHD through patterns of blame or by ignoring wider factors (Arcia et al. 2000; Brice 1998; Cooper and Shea 1998; Houghton et al. 2006; Hughes 2007; Prosser 2006; Singh 2011);
- The failure for adults to agree on an intervention can leave pupils feeling helpless and frustrated, and adults' belief that medication is a powerful and effective intervention for ADHD without consideration of other strategies can impact pupil self-perceptions negatively, encouraging pupils to understand that they have no control over their behaviour (Cooper and Shea 1998; Exley 2008; Friio 1999; Hughes 2007; Kendall et al. 2003; Lee 2008; Ljusberg 2011; Prosser 2006; Singh 2011).

Some included studies explained polarised biological attributions through social trends towards medicalisation (Malacrida 2001; Rafalovich 2005) and polarised social attributions of poor parenting to cultural tendencies for mother blame (Carpenter and Austin 2008; Malacrida 2001). In addition, we suggest a lack of attribution to school contexts is at least partly a result of the school's role as the social group who determines that the symptoms of ADHD are an 'undesired differentness' worthy of stigmatisation. This would explain the invisibility of school factors in teacher and pupil attributions for ADHD, because criteria for discrimination on the basis of stigma are implicit and appear normal and right to members of the group.

Discussion

This systematic review of qualitative research synthesises findings from primary research exploring individual experiences of ADHD within schools, drawing from sociological theories of stigma to further theorise the influence of school context on ADHD. Our synthesis of 34 studies suggests that, despite existing knowledge about the potential for school contexts to contribute to symptoms of ADHD, teachers and pupils themselves may be blinded to the role of the school because criteria for discrimination on the basis of stigma are

implicit and appear normal and right to members of the group. This lack of understanding may exacerbate the expression of symptoms of ADHD and contribute to emotional distress for those stigmatised. Furthermore, recognition of such potential influences of the school context may enhance attempts to implement school-based interventions.

These findings suggest that lack of knowledge is an important difficulty faced by both school practitioners and pupils in response to ADHD symptoms. If stigma is invisible to those evoking it, teacher education is an obvious element needed for change. Many included studies identified a lack of teacher knowledge about ADHD (Arcia et al. 2000; Hands 2010; Hillman 2011; Hong 2008; Houghton et al. 2006; Lee 2008; Ljusberg 2011; Malacrida 2001; Nowacek and Mamlin 2007; Reid, Hertzog, and Snyder 1996), and one study suggested that teachers felt less threatened by ADHD-related behaviour once they had been taught strategies to alleviate it in the classroom (Houghton et al. 2006). Teacher education and continuing professional development could establish the conceptual basis for teachers to make interactional attributions to explain symptoms of ADHD, where they consider individual pupil characteristics in interaction with classroom expectations and relationships, instead of focusing on pupil or family characteristics. Particularly salient seemed to be the need to explore individual pupil needs and motivations in relation to the classroom in order to understand the reasons behind a pupil's behaviour and how to manage it.

At the same time, an increase in knowledge about stigma for ADHD is not necessarily adequate to reduce it, with a review of stigma levels for mental illness over the past 40 years finding stigma had increased in some ways despite greater societal understanding, and with interventions intended to reduce stigma producing unanticipated effects (Pescosolido et al. 2008). The authors explained such complexities through a model of stigma involving multiple normalising influences, the Framework Integrating Normative Influences in Stigma (FINIS) (Pescosolido et al. 2008). This model posits that stigma results from interactions between the stigmatised, the stigmatiser, disease characteristics, social characteristics, media context, social network characteristics, the treatment system and the national context. Such complexity of factors are suggested by this review to be relevant to stigma for ADHD in schools, and interventions addressing symptoms of ADHD would benefit from inclusion of consideration of multiple factors in their design and delivery. For example, educational policy and legislation establish criteria by which schools and teachers are judged, and can support exclusionary practices (e.g. see Slee [2013]).

Strengths and limitations

This synthesis was limited by the differences between studies, where underpinning theory and/or approaches to data collection were widely divergent. In such cases, assumptions were made about links between unrelated studies. However, we were able to translate study findings across countries about the experience of ADHD in schools for multiple participant types, and we found theories of stigma to be particularly useful in doing so.

As is true for qualitative studies, this review does not claim to generally represent people's school-based experiences and perceptions of ADHD. Rather we claim credibility of the studies on the basis of designs incorporating approaches such as member checks; we also claim the potential for transferability based on consultation with the review Steering Group and our experiences of stakeholder engagement during the project. As there are a range of differences in perceptions and experience expressed in different contexts, transferability is likely to be important, where the reader judges the relevance of findings according to their knowledge of a particular context.

Conclusion

This systematic review of qualitative research about the experience of ADHD in schools suggests that adaptations to the school classroom environment, routines and expectations, including support for relationships between pupils and their teachers and peers, are potentially valuable areas for exploration in future research about non-pharmacological interventions for ADHD in schools. The operation of stigma in this context is an important factor to be taken into account, with teacher education as well as support at institutional and national levels implicated in order for teachers to be able to change their routines and perceptions sufficiently to be inclusive to pupils displaying symptoms of ADHD.

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Supplemental data

Supplemental data for this article can be accessed here.

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