

Misdiagnosis, the Recent Trend in Thinking about Gifted Children with ADHD

Kylee Edwards

University of Waikato

Abstract

The misdiagnosis issue, of the gifted as having ADHD, has been described as an overseas concern (i.e., predominantly American). However, in New Zealand psychologists and paediatricians, perhaps without knowledge of the gifted, utilise the same diagnosis process outlined within the *Diagnostic and statistical manual of mental disorders-text revision* (American Psychiatric Association, 2000) to identify those with ADHD. This article addresses the most significant reasons why misdiagnosis of the gifted as having ADHD could be occurring, such as how the ADHD characteristics within the DSM-IV (APA, 2000) relate very closely to both gifted and creatively gifted characteristics. The purpose of this article is to inform educators, with a brief overview, of such similarities so they can recognise when misdiagnosis has occurred. Teachers can then talk to parents about the possible misdiagnosis and provide education that is appropriate for the gifted rather than that which is fitting for those with ADHD.

Introduction

This article provides a brief overview of the recent literature on the gifted with ADHD. The gifted/ADHD literature appeared to begin around the late 1980s as the oldest publication this literature review found was Deirdre Lovecky's (1989) *Huh...?Attentional Problems in Gifted Children*. Lovecky's (1989) article suggested that the gifted/ADHD literature has developed for nearly twenty years yet there does not appear to be a significant amount of literature on the gifted with ADHD. This scarcity of literature could be because there is considerable debate surrounding the gifted/ADHD topic in relation to misdiagnosis. There are two key conflicting perspectives. The first was:

1. **Some children are both gifted with ADHD** (e.g., Baum & Olenchak, 2002; Flint, 2001; Kaufmann et al., 2000; Leroux & Levitt-Perlman, 2000; Lovecky, 2004; Mika, 2006; Turk & Campbell, 2002). Silverman (1993; 2003) indicated there may even be *under-identification*. Furthermore, writers (e.g., Kaufmann, et al., 2000; Mika, 2006) argued there was no evidence to support the claim that gifted children were misdiagnosed with ADHD and maintained that further exploration of the gifted with ADHD should occur based on the assumption that the combination is real "...as we have found *no empirical data* in the medical, educational or psychological literature to substantiate the extent of this [misdiagnosis of giftedness as ADHD] concern" (p. xiii, emphasis in the original).

In contrast, the second perspective was that:

2. **Gifted children could be misdiagnosed as having ADHD** (e.g., Bruzzano-Ricci, 2003; Cline & Schwartz, 1999; Hartnett, Nelson & Rinn, 2004; Kaufmann et al., 2000; Lawler, 2000)

The New Zealand Ministry of Education (2000) suggested that the misdiagnosis of giftedness as ADHD was an overseas concern. It is true that much of the recent literature is from American publications (e.g., Leroux & Levitt Perlman, 2000; Lovecky, 2004; Zentall, Moon, Hall & Grskovic,

Edwards, K. (2009). Misdiagnosis, the recent trend in thinking about gifted children with ADHD. *APEX*, 15(4), 29-44. Retrieved online from <http://www.giftedchildren.or.nz/apex>.

2001).¹ This includes that from writers who believe that both giftedness and ADHD can co-exist and from others who argue giftedness is often misdiagnosed as ADHD. However, the purpose of this article is to make New Zealand educators aware that misdiagnosed gifted children could be in their classrooms. This is because it is this writers' perspective that giftedness and ADHD do not co-exist but that the similarities lead to misdiagnosis of giftedness as ADHD. This article underlines the identification issues relating to both giftedness and ADHD so educators are aware of these so they can either correctly identify, or question, a misdiagnosis and thus provide appropriate educational provision for gifted children.

Because there is limited literature on the gifted with ADHD other literature will be reviewed. This literature included that on the Gifted with Learning Disabilities (GLD)², ADHD and giftedness (these terms are defined in the section the follows the introduction). Then identification issues that could lead to misdiagnosis are addressed. These identification issues included: the similarity between the characteristics of the gifted, the creatively gifted and those with ADHD and how Intelligent Quotient (IQ) tests, although no longer commonly used in New Zealand schools, could identify gifted children who exhibit negative behaviours. Other identification issues included inappropriate learning environments, teachers who lack knowledge of the gifted, the gifted who like to move and the gifted who are not easy to teach.

Who are the Gifted with Learning Disabilities?

Davis and Rimm (2004) described how the Gifted with Learning Disabilities (GLD) have amazing gifts but also have weaknesses associated with their disabilities. Winebrenner (2003) suggested an alternative term for the GLD was twice exceptional. However, there is debate surrounding who the twice exceptional are. Some stated that it was all people who have both gifts and disabilities (e.g., Bourne, 2004; Bruzzano-Ricci, 2003; King, 2005; Reis & Ruban, 2004; Silverman, 1998; Sturgess, 2004). In contrast, other writers indicated the twice exceptional were only those who were gifted and had social, emotional disturbances or behavioural disabilities (e.g., Emotional Behavioural Disorder, EBD, or ADHD) (Benge & Montgomery, 1996; Kaufmann, Kalbfleisch & Castellanos, 2000; Morrison & Omdal, 2000). Although the gifted with ADHD could be considered GLD the GLD or twice exceptional literature may not be generalisable to the gifted with ADHD because it is questionable how appropriate the general GLD and twice exceptional literature is for those with specific disabilities (e.g., the gifted with ADHD). However, as previously mentioned due to the scarcity of research on the gifted with ADHD, GLD literature is utilised throughout this article.

The Characteristics Associated with Attention Deficit Hyperactivity Disorder

The New Zealand guidelines for the assessment and treatment of Attention-Deficit/Hyperactivity Disorder (Ministry of Health, 2001) suggested the *DSM-IV-TR* (American Psychiatric Association, 2000, cited in MOH, 2001)³ criteria for ADHD must be met in order for a diagnosis of ADHD to occur. Part of the requirement for the *Diagnostic and statistical manual of mental disorders-text revision* (APA, 2000) to diagnose a subcategory (either inattention or hyperactivity/impulsivity) is that six out of nine criteria need to be met. Two examples of inattentive criteria included:

¹ I found two articles published in New Zealand (Brown, 2006; Bruzzano-Ricci, 2003).

² Even though I do not believe giftedness and ADHD co-exist, it was necessary to utilise this literature as it provided insight into the gifted/ADHD issue.

³ From here on the *Diagnostic and statistical manual of mental disorders-text revision* (American Psychiatric Association, 2000) will be referenced as *DSM-IV-TR* (APA, 2000) or APA (2000).

Edwards, K. (2009). Misdagnosis, the recent trend in thinking about gifted children with ADHD. *APEX*, 15(4), 29-44. Retrieved online from <http://www.giftedchildren.or.nz/apex>.

- “Often fails to give close attention to details or makes careless mistakes in schoolwork, work, or other activities” (p. 92).
- “Often forgetful in daily activities” (p. 92).

Two examples of hyperactive/impulsive criteria included:

- “Often fidgets with hands or feet or squirms in seat” (p. 92).
- “Often has difficulty playing or engaging in leisure activities quietly” (p. 92).⁴

In order to be diagnosed as having ADHD other criteria has to be met. These included:

- That the characteristics were present before the age of seven.
- Impairment from the symptoms was present in two or more settings (e.g., home and school).
- “There must be clear evidence of clinically significant impairment in their academic, social or occupational functioning” (p. 93).
- “These symptoms do not occur exclusively during the course of Pervasive Developmental Disorder, Schizophrenia, or other Psychotic Disorder and are not better accounted for by another mental disorder (e.g., Mood Disorder, Anxiety Disorder, Dissociative Disorder, or a Personality Disorder)” (p. 93).⁵

There are distinct differences between the predominant inattentive and hyperactive/impulsive subtypes (as suggested by previously mentioned differing characteristics). However, a significant amount of literature appeared to use the terms ADHD and ADD (often related to those who are predominantly inattentive) loosely and did not define subtypes of ADHD. This is significant as it can confuse the reader about which literature relates to the subtype of ADHD they are investigating. Writing that occurred in or before 1994 could be excused for using the term ADD when referring to children who exhibit what are now recognised as ADHD tendencies as it was only in 1994 that further research led the *DSM-IV* (APA, 1994) to distinguish between the predominant subtypes of ADHD, inattention and hyperactive/impulsive. Regardless of this apparent lack of clarity between the terms ADD and ADHD, many writers⁶ and researchers⁷ appeared to agree with *DSM-IV-TR* (APA, 2000) definition⁸ and have referred to the three main characteristics of ADHD being:

- Inattention
- Hyperactivity/impulsivity
- Or a combination of these characteristics⁹

Characteristics Associated with the Gifted

Like the characteristics associated with ADHD the New Zealand definition of the gifted and talented is also quite general. The Ministry of Education (2000) document stated “gifted and talented learners are those with exceptional abilities relative to most other people. These individuals have certain learning characteristics that give them the potential to achieve

⁴ A requirement for diagnosing the combined ADHD sub-type is if both inattentive and hyperactive criteria (such as that previously mentioned) are met.

⁵ If these criteria are not met (e.g., the behaviour onset occurred after the age of seven) a person can be diagnosed as Attention-Deficit/Hyperactivity Disorder Not Otherwise Specified (see APA, 2000 for further details).

⁶ e.g., Armstrong, 1999; Carbone, 2001; Fielding, 2005; Puri, 2005.

⁷ e.g., Carlson, Booth, Shin & Canu, 2002; DuPaul & Weyandt, 2006; Nowacek & Mamlin, 2007.

⁸ However, some writers are now investigating whether these are the primary characteristics of ADHD (e.g., Adler, Barkley, Wilens, Ginsberg, 2006; Barkley, 1997; Douglas, 2005). Barkley (2003) has argued that the primary characteristics of ADHD are actually ‘poor inhibition and deficient executive functioning (self regulation)’. Barkley (1997) indicated executive function difficulties could relate to social and emotional problems (e.g., difficulty interacting in a group).

⁹ Further details on these characteristics are in the table below.

Edwards, K. (2009). Misdagnosis, the recent trend in thinking about gifted children with ADHD. *APEX*, 15(4), 29-44. Retrieved online from <http://www.giftedchildren.or.nz/apex>.

outstanding performance" (MOE, 2002, p. 2). However, identifying the learning characteristics of the gifted is not straight forward as there are many differing beliefs about what characteristics the gifted exhibit. These differing beliefs occur for many reasons including that the gifted are individuals with differing characteristics.

Although there are differing views relating to the definition of giftedness there is not the scope within this article to critically review these. Therefore, this article has used McAlpine and Reid's (1996) *Teacher observation scales for children with special abilities* as it is a representation of gifted characteristics developed through New Zealand research. McAlpine and Reid (1996) researched the literature, for commonly mentioned gifted characteristics, gained agreement on these characteristics from New Zealand authorities on gifted children and assessed whether these gifted characteristics could be observed in the New Zealand classrooms. The Ministry of Education (2000) has a full list of the characteristics McAlpine and Reid (1996) identified, they included:

Learning Characteristics

- Displays logical and analytical thinking
- Is quick to see patterns and relationships
- Masters information quickly
- Strives for accurate and valid solutions to problems
- Easily grasps underlying principles
- Likes intellectual challenge
- Jumps stages in learning
- Seeks to redefine problems, pose ideas, and formulate hypotheses
- Finds as well as solves problems
- Reasons things out for her- or himself
- Formulates and supports ideas with evidence
- Can recall a wide range of knowledge
- Independently seeks to discover the why and how of things

Creative Thinking Characteristics

- Produces original ideas
- Displays intellectual playfulness, imagination, and fantasy
- Creates original texts or invents things
- Has a keen sense of humour and sees humour in the unusual
- Generates unusual insights
- Enjoys speculation and thinking about the future
- Demonstrates awareness of aesthetic qualities
- Is not afraid to be different
- Generates a large number of ideas
- Is prepared to experiment with novel ideas and risk being wrong
- Seeks unusual rather than conventional relationships

Edwards, K. (2009). Misdiagnosis, the recent trend in thinking about gifted children with ADHD. *APEX*, 15(4), 29-44. Retrieved online from <http://www.giftedchildren.or.nz/apex>.

Motivational Characteristics

- Strives for high standards of personal achievement
- Is self-directed
- Is highly self-motivated and sets personal goals
- Is persistent in seeing tasks to completion
- Becomes committed to and absorbed in tasks
- Tends to be self-critical and evaluative
- Is reliable
- Prefers to work independently

Social Leadership Characteristics

- Takes the initiative in social situations
- Is popular with peers
- Communicates well with others
- Actively seeks leadership in social situations
- Shows ability to inspire a group to meet goals
- Persuades a group to adopt ideas or methods
- Is self-confident
- Is adaptable and flexible in new situations
- Actively seeks leadership in sporting activities
- Is socially mature
- Is willing to take responsibility
- Synthesises ideas from group members to formulate a plan of action

Self-determination Characteristics

- Is sceptical of authoritarian pronouncements
- Questions arbitrary decisions
- Pushes teachers and adults for explanations
- Displays a precocious interest in 'adult' problems
- Is reluctant to practice skills already mastered
- Is easily bored with routine tasks
- Expresses ideas, preferences, and opinions forthrightly
- Relates well to older children and adults, and often prefers their company
- Asks searching questions

It was important to outline gifted characteristics as a significant issue in the recent gifted/ADHD literature is misdiagnosis due to the similar characteristics associated with both giftedness and ADHD. Some of these characteristics will be outlined in the following table.

Identification Issues Evident in the Literature

Accurate identification of gifted children is important because the consequences of misdiagnosing (i.e., identifying a gifted child as having ADHD) could mean the child will not meet their academic potential. Gifted children may not meet their academic potential because as Guenther (1995) indicated once a child is negatively labelled it is unlikely the child will be seen as

Edwards, K. (2009). Misdiagnosis, the recent trend in thinking about gifted children with ADHD. *APEX*, 15(4), 29-44. Retrieved online from <http://www.giftedchildren.or.nz/apex>.

gifted. This claim was also supported by GLD literature¹⁰ that referred to how negatively labelled children do not get their names put forward for programs due to educators focusing on their negative behaviour (Davis & Rimm, 1993; Reis & McCoach, 2002; Reis, Neu & McGuire, 1997).

The following section will address some of the reasons why misdiagnosis of gifted children as having ADHD could occur, the main issues included: the similarity between gifted, creative and ADHD characteristics; the negative view of Intelligent Quotient tests; the learning environment; teachers' lack of knowledge, the gifted who like to move and the gifted who are not easy to teach.

The Similarity between Gifted and ADHD Characteristics

The *Diagnostic and statistical manual of mental disorders* (commonly referred to as the *DSM-IV-TR*, APA, 2000) diagnostic criteria suggested those with ADHD (predominantly hyperactive/impulsive) could exhibit *characteristics* such as difficulty remaining in their seat when expected (APA, 2000). Characteristics like these seemed to lead writers to suggest there were similarities between the characteristics of the gifted and those with ADHD (e.g., Brown, 2006; Bruzzano-Ricci, 2003; Turk & Campbell, 2002;¹¹ Webb, Amend, Webb, Goerss, Beljan, & Olenchak, 2005).

The Similarity between the Creatively Gifted and ADHD Characteristics

The creatively gifted also share characteristics with those who have ADHD (as addressed in the table below) although there are three differing views evident in the literature on the creatively gifted and ADHD. The differing views were:

- **ADHD and creative characteristics are very similar** (Cramond, 1994; Flint, 2001; McCluskey & McCluskey, 2003). Cramond (1994; 1995) suggested creativity can be misdiagnosed as ADHD.
- **Those with ADHD can naturally have creative ability as creativity could be the 'other-side' of ADHD** (Flint, 2001; Lovecky, 1994; McCluskey & McCluskey, 2003; Montgomery, 2003; Shaw & Brown, 1991; Zentall et al., 2001).
- **Not all children who have ADHD have creative abilities** (Guenther, 1995; Healey & Rucklidge, 2005).

Because the issue surrounding whether children with ADHD are creative seems unresolved the following table will address ADHD and creative characteristics and their similarities to ADHD characteristics. Within the literature there were tables which compared the similarities between gifted and ADHD characteristics (e.g., Brown, 2006; Bruzzano-Ricci, 2003; Webb et al., 2005). Some of the similarities between the gifted and those with ADHD included that they often do not seem to listen when spoken to, are easily distracted by erroneous stimulation and have difficulty organising tasks and activities (Webb et al., 2005). It is possible because the characteristics of the

¹⁰ As previously mentioned Davis and Rimm (2004) described how those who were GLD had amazing gifts and weaknesses that were associated with their disabilities.

¹¹ It should be noted that in future reference to Turk and Campbell (2002) I have referred to Doug (Turk & Campbell, 2002) this is because although not explicitly stated it seems Doug Campbell, the young man who is gifted with ADHD, is a co-author and Mr Turk, the other author was one of Doug's teachers. In addition I have referred to Doug's statements as being made by Doug because some statements relate to his references to experience of which Turk, for the most part, had no part.

Edwards, K. (2009). Misdignosis, the recent trend in thinking about gifted children with ADHD. *APEX*, 15(4), 29-44. Retrieved online from <http://www.giftedchildren.or.nz/apex>.

gifted and those with ADHD are so similar they could lead to masking of a child's giftedness (Leroux & Levitt-Perlman, 2000; Neihart, 2003).

No tables were found that compared gifted characteristics, creatively gifted characteristics and ADHD characteristics. In the following table I have done this as I outlined some of the characteristics of inattention, hyperactivity and impulsivity. These characteristics are presented here as they are written in the *Diagnostic and statistical manual of mental disorders: DSM-IV Text Revision* (APA, 2000). I have then linked these ADHD characteristics to some gifted and creatively gifted characteristics.

Edwards, K. (2009). Misdiagnosis, the recent trend in thinking about gifted children with ADHD. *APEX*, 15(4), 29-44. Retrieved online from <http://www.giftedchildren.or.nz/apex>.

The diagnostic criteria for Attention Deficit Hyperactivity Disorder compared to characteristics associated with giftedness

Diagnostic criteria for ADHD (APA, 2000, p. 92)¹²	Some characteristics associated with giftedness	Some characteristics associated with the creatively gifted
<p>1a) “Often fails to give attention to details or makes careless mistakes in schoolwork, work or other activities” 1b) “Often has difficulty sustaining attention in tasks or play activities” 1c) “Often does not seem to listen when spoken to directly” 1i) “Is often forgetful in daily activities” 1g) “Often loses things necessary for tasks or activities (e.g., toys, school assignments, pencils, books or tools)”</p>	<ul style="list-style-type: none"> • In specific situations there can be boredom, lack of attention and daydreaming (Webb, 1993) • A gifted child could be able to master tasks quickly as they can quickly see patterns and relationships (McAlpine and Reid, 1996). This could mean the child has difficulty sustaining attention on some tasks they have quickly mastered. • A child who is intellectually playful, imaginative or enjoys fantasy may be inattentive (McAlpine and Reid, 1996) • Dabrowski’s (1972) imaginal overexcitability includes dramatization to escape from boredom 	<ul style="list-style-type: none"> • Lack concentration (Cramond, 1994) • Less conformist and socially accepted (Fraser, 2004) (this could also relate to the ADHD characteristic 2i). • Forgetful (Davis & Rimm, 1998) • Sloppy (Davis & Rimm, 1998) • Advanced imagination (Cramond, 1994) • Organisation issues (Cramond, 1994)
<p>Lack of concentration (exhibited as forgetfulness, sloppiness or imaginative daydreaming).¹³</p>		
<p>1d) “Often does not follow through on instructions and fails to finish schoolwork, chores or duties in the workplace (not due to oppositional behaviour or failure to understand instructions” 1e) “Often has difficulty organising tasks and activities” 1f) “Often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort (such as schoolwork or homework)” 1h) “Is often distracted by extraneous stimuli”</p>	<ul style="list-style-type: none"> • Lack of tolerance to persist on tasks that appear irrelevant (Webb, 1993) • A gifted child who strives for high achievement may avoid tasks to prevent failure (MOE, 2000) • Failing to complete work, organise tasks or a reluctance to apply effort could relate to how a gifted child does not want to practice skills they have already mastered and can become easily bored with repetitive tasks (McAlpine & Reid, 1996). 	<ul style="list-style-type: none"> • Impulsivity (Cramond, 1994) • Enjoys risk taking, perhaps implying a dislike of repetitive tasks (Cramond, 1994)
<p>Dislike of completing tasks (perhaps relating to high expectations, being easily distracted, impulsiveness, risk taking and dislike of repetition or too much challenge)</p>		

¹² The letters beside the ADHD characteristics relate to either inattention (1a-1i), hyperactivity (2a-2f) or impulsivity (2g-2i).

¹³ Characteristics a teacher may see in a classroom that could relate to all three (ADHD, giftedness and the creatively gifted).

Edwards, K. (2009). Misdignosis, the recent trend in thinking about gifted children with ADHD. *APEX*, 15(4), 29-44. Retrieved online from <http://www.giftedchildren.or.nz/apex>.

<p>2d) “Often has difficulty playing or engaging in leisure activities quietly” 2g) “Often blurts out answers before questions have been completed” 2i) “Often interrupts or intrudes on others (e.g., butts into conversations or games)”</p>	<ul style="list-style-type: none"> • High in intelligence but lacks judgment (Webb, 1993) • A gifted child may constantly interrupt and correct other children and the teacher in their strive for accuracy (MOE, 2000) • McAlpine and Reid (1996) suggested gifted children can be wary of ‘authoritarian pronouncements,’ contest ‘arbitrary decisions’ and press educators and other adults for explanations. • Gifted children with imaginal overexcitability often carry out their own activities (e.g., drawing or writing stories) rather than participating in class discussions (Lind, 2001). 	<ul style="list-style-type: none"> • View courtesies as unimportant (Davis & Rimm, 1998) • Question rules and dislikes domination (Davis & Rimm, 1998)
<p>Lack of understanding of common courtesies (e.g., may interrupt) or deliberate defiance of authority.</p>		
<p>2a) “Often fidgets with hands or feet or squirms in seat” 2b) “Often leaves seat in classroom or other situations in which remaining seated is expected” 2c) “Often runs about or climbs excessively in situations in which it is inappropriate (in adolescents or adults, may be limited to subjective feelings of restlessness)” 2e) “Is often ‘on the go’ or acts as if ‘driven by a motor’” 2f) “Often talks excessively” 2h) “Often has difficulty awaiting turn”</p>	<ul style="list-style-type: none"> • A high activity level (Webb, 1993) • It is possible that movement could occur when gifted children are bored with mundane tasks. 	<ul style="list-style-type: none"> • Unpredictable and easily upset (Robinson, Shore & Enerson, 2007). • Anxious (Healey & Rucklidge, 2005) • Self talk (Cramond, 1994) • Energy (Cramond, 1994)
<p>High energy, a need to move.</p>		

Edwards, K. (2009). Misdiagnosis, the recent trend in thinking about gifted children with ADHD. *APEX*, 15(4), 29-44. Retrieved online from <http://www.giftedchildren.or.nz/apex>.

Intelligence Tests (IQ tests)

There are many issues associated with the use of IQ tests including cultural bias or scatter.¹⁴ Also, in New Zealand IQ tests are not commonly used in schools and the Ministry of Education (2000) recommends identifying gifted children by utilising a multi-modal method of identification (e.g., peer nomination, assessment of portfolios). Gifted children would also benefit if a teacher would develop a challenging learning environment that allowed their abilities to surface (MOE, 2000).

However, a participant in Gates (2005) study required an IQ test in order to be recognised as gifted. This is because he presented negative behaviour in the classroom which as previously suggested can mean children are not identified as gifted as inappropriate behaviour is not usually associated with giftedness. This suggested that the IQ test itself is perhaps not as important as an educator overlooking negative behaviour in order to recognise the child's abilities.

Inappropriate Learning Environments

Literature maintained inappropriate learning environments could lead bored gifted children to exhibit behaviour associated with ADHD.¹⁵ Thus bored gifted children could be misdiagnosed with ADHD. Maxwell suggested this misdiagnosis could be catastrophic due to inappropriate medication and ADHD educational strategies¹⁶ being applied to gifted children thus, emphasising the importance of appropriate identification (1989, cited in Cramond, 1994, p. 205). The *DSM-IV-TR* also indicated the environment could be a possible cause of inattention (APA, 2000). "Inattention in the classroom may also occur when children with high intelligence are placed in academically unstimulating environments" (APA, 2000, p. 91).¹⁷

Doug (Turk & Campbell, 2002) referred to how he was often bored at school. He often distracted other children because *he* was easily distracted, or rather than distracting others he would daydream. However, Doug stated "I found it ironic that teachers reprimand daydreamers, which forces a student who was content distracting himself or herself to begin distracting others" (Turk & Campbell, 2002, p. 50). Doug's daydreaming seemed to link to Webb's (1993) suggestion that bored gifted children may daydream and not pay attention (see table). It is possible that Doug's teacher, who prevented him from daydreaming, may have lacked knowledge of those who are gifted. In contrast, another teacher (Mr Turk) used the Socratic Method "...so as long as I could perform on cue with some kind of coherence, I was allowed to let my mind wander" (Turk & Campbell, 2002, p. 52).

If gifted children do become bored they could be seen as underachieving, lazy and perhaps eventually be labelled as having ADHD (Flint, 2001). This implied a gifted child could stop trying to learn if they are not stimulated. If they stop completing work it is also unlikely they will be recognised as gifted (Hartnett et al., 2004; Lovecky, 2004; Webb, 2000). As previously suggested an appropriate learning environment could assist gifted children's abilities to surface.

¹⁴ When IQ results appear average as students can do exceptionally well in some of the subtests and poorly in other subtests with results from the subtests then added and averaged.

¹⁵ Baum & Owen, 2004; Nelson, Rinn, & Hartnett, 2006; Lind, 1996; Lovecky, 2004; Reis & McCoach, 2002; Turk & Campbell, 2002; Webb & Latimer, 1993; Webb, 2001; Willard-Holt, 1999).

¹⁶ An example of an inappropriate ADHD educational strategy that could be applied to a gifted child would be to give them tasks in small parts with the aim being to keep them focused. However, as Webb (1993) suggested gifted children do not complete tasks they view as purposeless. It could be argued that if a gifted child does not have the whole task they could view the small tasks as purposeless.

¹⁷ This was also referred to by Lovecky (2004).

Edwards, K. (2009). Misdiagnosis, the recent trend in thinking about gifted children with ADHD. *APEX*, 15(4), 29-44. Retrieved online from <http://www.giftedchildren.or.nz/apex>.

Teachers' Lack of Knowledge

Not recognising giftedness implies some teachers' lack knowledge on the gifted could lead them to misdiagnose gifted children as having ADHD. As Doug (Turk & Campbell, 2002) stated "I recall as I moved through the grades, things either got better or worse entirely because of a particular teacher" (p. 50). Many GLD writers¹⁸ referred to teachers' lack of knowledge of giftedness being problematic due to the difficulty that can be involved in identification of the two exceptionalities (e.g., gift and the disability) (e.g., Baum & Olenchak, 2002; Higgins & Nielsen, 2005; Reis et al., 1997; Sturges, 2004).

Rather than purely a teacher issue, lack of knowledge by other professionals may contribute to identification issues. For example, Brown (2006) and Webb and Latimer (1997) suggested that it is the people who diagnose and treat ADHD (e.g., paediatricians and psychologists) that could be causing the issues as most do not appear to have knowledge on the gifted.

The Gifted who Like to Move

Many writers have also referred to how there are similarities between Dabrowski's overexcitabilities¹⁹ and ADHD particularly in relation to psychomotor overexcitability (Baum & Olenchak, 2002; Bruzzano-Ricci, 2003; Flint, 2001; Hartnett, et al., 2004; Lind, 2000; MOE, 2000). Flint (2001) argued, while gifted children with psychomotor overexcitability love moving, those with ADHD can not stop. Nevertheless, White (2004) suggested there was not clear research to support the link between ADHD and psychomotor overexcitability.

However, Tucker and Hafenstein's (1997) description of a gifted girl, Katrina, clearly showed the similarity between psychomotor overexcitability and the movement described in the *DSM-IV-TR* (APA, 2000). The ADHD hyperactivity criteria included, often on the go and often run around and leave their seat when they are expected to stay seated (APA, 2000). Tucker and Hafenstein's (1997) stated:

Next, she went back to the table to paint. For another few minutes, then she changed tables to draw. She would choose one marker from the marker box, run over to the table to draw with it, and then run back to the marker box to put it away and get another marker. (p. 72)

McCluskey and McCluskey (2003) indicated their daughter shared similar characteristics to Katrina as she too wanted or needed to move. McCluskey and McCluskey's (2003) daughter (who was diagnosed with ADHD and they believed also had gifted tendencies) had a teacher who allowed her to move and dance her understanding of biology.

One flexible high school biology teacher allowed her to take some of her tests orally-to talk, act out, move and dance-and it helped (you haven't seen any thing until you've seen the Photosynthesis Shuffle and The Dance of the Reproductive System!). (p. 38). Both gifted children who have psychomotor overexcitability and those with ADHD may benefit from being able to move when learning.

The Gifted who are Not Easy to Teach

A child wanting to move when learning does not seem highly unreasonable. However, allowing movement could conflict with some teachers established classroom practices (e.g., when learning on the mat most teachers expect children to sit still). What these teachers may benefit from

¹⁸ Writers on the Gifted with Learning Disabilities which as previously suggested the ADHD could be a small sub-group within.

¹⁹ Dabrowski (1972, cited in White, 2004) suggested that most people that reach high potential (which could be considered giftedness) possess some overexcitabilities. The overexcitabilities included psychomotor, sensual, intellectual, imaginal, and emotional (Dabrowski, 1972).

Edwards, K. (2009). Misdiagnosis, the recent trend in thinking about gifted children with ADHD. *APEX*, 15(4), 29-44. Retrieved online from <http://www.giftedchildren.or.nz/apex>.

acknowledging is that some gifted children do not 'fit' within the 'normal' classroom expectations as gifted children may be difficult to live with or teach (e.g., Chorlton, 1997; MOE, 2000; Webb, 2000). Gowan (cited in Turk & Campbell, 2002) referred to how it is often the able child that is the 'biggest nuisance.' However, as Hunter (2006) suggested, it seems it is often only those gifted who exhibit positive characteristics (e.g., co-operation) that are valued (e.g., that are recognised for gifted programmes).

Baum and Olenchak (2002)²⁰ suggested that medication is often used to prevent inappropriate ADHD behaviours in schools (inappropriate behaviour was not defined). This medication could also make children exhibit compliant behaviour in the classroom but it could also prevent bright children from producing creative work (Baum & Olenchak, 2002).

Conclusions

Because there are numerous difficulties relating to the identification of gifted children and those with ADHD it is imperative that teachers become educated about these children. Teachers could learn about the gifted through professional development. Alternatively both teachers and those who diagnose ADHD (e.g., paediatricians) could read about the gifted (e.g., about the characteristics that are not as positive as it is these characteristics which seem to overlap with ADHD).

Gaining further understanding, about the similarities of the gifted and those with ADHD, through research is imperative as teachers could benefit from reading the findings. Without this knowledge it is highly probable that it will be these children's learning difficulties that are recognised rather than their gifts. It is important that their gifts are recognised otherwise they could be the misbehaving children in the classroom who never meet their true potential.

Implications for Practice and Further Research

Teachers should become more knowledgeable about those who are gifted and those who have ADHD. This could occur through participation in pre-service gifted tertiary programmes or through professional development within a school. Alternatively knowledge could be gained by talking to others for example the GATE co-ordinator within a school. However, other professionals (e.g., paediatricians) who diagnose ADHD should also acquire information about the gifted to try and prevent misdiagnosis.

Empirical research should be conducted in New Zealand to find evidence of misdiagnosis of gifted children as having ADHD. This research should also further investigate the reasons, suggested in the literature, why misdiagnosis could be occurring (e.g., due to reasons such as the similarity between the characteristics of the gifted, the creatively gifted and those with ADHD). Once this has occurred parent/teacher resources that outline the misdiagnosis issues could be developed so that appropriate identification and educational provision provided.

References

- Adler, L. A., Barkley, R. A., Wilens, T. E., & Ginsberg, D. L. (2006). Differential diagnosis of Attention-Deficit/Hyperactivity Disorder and comorbid conditions. *Primary Psychiatry*, 13(5), 1-14.
- American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.
- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.

²⁰ Baum and Olenchak (2002) conducted a single case study with a participant Blaine. This articles' research is also referred to in a later publication (a chapter within a book) by Baum and Owen (2004).

- Edwards, K. (2009). Misdiagnosis, the recent trend in thinking about gifted children with ADHD. *APEX*, 15(4), 29-44. Retrieved online from <http://www.giftedchildren.or.nz/apex>.
- Armstrong, T. (1999). *ADD/ADHD alternatives in the classroom*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Barkley, R. (1997). *ADHD and the nature of self-control*. New York: Guilford.
- Barkley, R. A. (2003). Issues in the diagnosis of Attention-Deficit/Hyperactivity Disorder in children. *Brain & Development*, 25(2), 77-83.
- Baum, S. M., & Olenchak, F. R. (2002). The alphabet children: GT, ADHD, and more. *Exceptionality*, 10(2), 77-91.
- Baum, S. M., & Owen, S. V. (2004). *To be gifted and learning disabled: Strategies for helping bright students with LD, ADHD, and more*. Mansfield Center, CT: Creative Learning.
- Benge, B., & Montgomery, D. (1996). *Understanding the emotional development of twice exceptional rural students*. In *Rural goals 2000: Building programs that work: Conference proceedings of the American Council on Rural Special Education (ACRES), Baltimore, Maryland, March 20-23, 1996* (pp. 392-397). (ERIC Document Reproduction Service No. ED394784). Retrieved from ERIC database.
- Bourne, J. (2004). Twice exceptional: Teaching gifted students with learning disabilities in the regular classroom. *Apex: The New Zealand Journal of Gifted Education*, 14(1), 16-27.
- Brown, J. (2006). Brilliant minds, bad behaviours: Gifted children who are difficult to manage in the regular classroom. *Tall Poppies*, 31(1), 21-25.
- Bruzzano-Ricci, C. (2003). Gifted/ADD? Or gifted/learning disabled. *Tall Poppies*, 28(3), 20-25.
- Carbone, E. (2001). Arranging the classroom with an eye (and ear) to students with ADHD. *Council for Exceptional Children*, 34(2), 72-81.
- Carlson, C. L., Booth, J. E., Shin, M., & Canu, W. H. (2002). Parent-, teacher-, and self-rated motivational styles in ADHD subtypes. *Journal of Learning Disabilities*, 35(2), 104-114.
- Chorlton, M. (1997). Giftedness and Attention Deficit Disorder: How trait similarity can lead to misdiagnosis. *AGATE*, 11(2), 21-27.
- Cline, S., & Schwartz, D. (1999). *Diverse populations of gifted children*. Upper Saddle River, NJ: Prentice-Hall.
- Cramond, B. (1994). Attention-Deficit Hyperactivity Disorder and creativity-what is the connection? *The Journal of Creative Behavior*, 28(3), 193-210.
- Dabrowski, K. (1972). *Psychoneurosis is not an illness*. London: Gryf.
- Davis, G., & Rimm, S. (1993). *Education of the gifted and talented* (3rd ed.). Needham Heights, MA: Allyn and Bacon.
- Davis, G., & Rimm, S. (1998). *Education of the gifted and talented* (4th ed.). Needham Heights, MA: Allyn and Bacon.
- Davis, G.A., and Rimm, S. B. (2004). *Education of the gifted and talented* (5th ed.). Englewood Cliffs, NJ: Prentice Hall.
- Douglas, V. (2005). Cognitive deficits in children with Attention Deficit Hyperactivity Disorder: A long term follow-up. *Canadian Psychology*, 46(1), 23-31.
- DuPaul, G. J., & Weyandt, L. L. (2006). School-based interventions for children and adolescents with Attention-Deficit/Hyperactivity Disorder: Enhancing academic and behavioral outcomes. *Education & Treatment of Children*, 29(2), 341-358.
- Fielding, A. (2005). A focus on ADHD as a barrier to learning. *The New Zealand Principal: Te Tumuaki O Aotearoa*, 20(1), 21-24.
- Flint, L. J. (2001). Challenges of identifying and serving gifted children with ADHD. *Teaching Exceptional Children*, 33(4), 62-69.
- Fraser, D. (2004). Creativity: Shaking hands with tomorrow. In D. McAlpine & R. Moltzen (Eds.), *Gifted and talented: New Zealand perspectives* (2nd ed., pp. 145-171). Palmerston North, New Zealand: Kanuka Grove.

- Edwards, K. (2009). Misdagnosis, the recent trend in thinking about gifted children with ADHD. *APEX*, 15(4), 29-44. Retrieved online from <http://www.giftedchildren.or.nz/apex>.
- Gates, J. (2005). *Social, emotional, behavioural and cognitive phenotyping of a student with ADHD and academic giftedness*. Unpublished master's thesis, University of Alaska, Anchorage.
- Guenther, A. (1995). *What educators and parents need to know about...ADHD, creativity, and gifted students* [Brochure]. Storrs, CT: University of Connecticut National Research Center on the Gifted and Talented.
- Hartnett, D. N., Nelson, J., M., & Rinn, A., N. (2004). Gifted or ADHD? The possibilities of misdiagnosis. *Roeper Review*, 26(2), 73-76
- Healey, D., & Rucklidge, J. (2005). An exploration into the creative abilities of children with ADHD. *Journal of Attention disorders*, 8(3), 88-95.
- Higgins, L., & Nielsen, M. (2005). The eye of the storm: Services and programs for twice-exceptional learners. *Teaching Exceptional Children*, 38(1), 8-15.
- Hunter, K. (2006). Meeting the needs of the Gifted: Looking below the surface. *AGATE*, 17(2), 23-32.
- Kaufmann, F., & Castellanos, P. X. (2000). Attention-Deficit/Hyperactivity Disorder in gifted students. In K. A. Heller, F. J. Monks, R. J. Sternberg & R. F. Subotnik (Eds.), *International handbook of giftedness* (2nd ed., pp. 621-633). Oxford: Elsevier Science.
- Kaufmann, F., Kalbfleisch, M. L., & Castellanos, P. X. (2000). *Attention Deficit Disorders and gifted students: What do we really know?* Storrs, CT: University of Connecticut National Research Center on the Gifted and Talented.
- King, E. (2005). Addressing the social and emotional needs of twice exceptional students. *Teaching Exceptional Children*, 38(1), 16-20.
- Lawler, B. (2000). Gifted or ADHD: Misdiagnosis? How can we be certain a correct diagnosis has been made? *Understanding Our Gifted*, 13(1), 16-18.
- Leroux, J., & Levitt-Perlman, M. (2000). The gifted child with Attention Deficit Disorder: An identification and intervention challenge. *Roeper Review*, 22(3), 171-177.
- Lind, S. (1996). *Before referring a gifted child for ADD/ADHD evaluation*. Retrieved June 6, 2007, from <http://www.sengifted.org/articles>
- Lind, S. (2000). Overexcitability in the highly gifted. *CAG Communicator*, 31(4), 45-48.
- Lind, S. (2001). Overexcitability and the gifted. *The SENG Newsletter*, 1(1) 3-6
- Lovecky, D. V. (1989, November). Huh...? Attentional problems in gifted children. *CAG Communicator*, 19-21.
- Lovecky, D. V. (1994, July/August). Hidden gifted learner: Creativity and Attention Deficit Disorder. *Understanding Our Gifted*, 6(6), 3, 18.
- Lovecky, D. V. (2004). *Different minds: Gifted children with AD/HD, Asperger Syndrome, and other learning deficits*. London: Jessica Kingsley Publishers
- McAlpine, D.M., & Reid, N.A. (1996). *Teacher observation scales for identifying children with special abilities*. Wellington: New Zealand Council for Educational Research, and Palmerston North: ERDC Press.
- McCluskey, K. W., & McCluskey, L. A. (2003). ADHD: Disorder or gift? *AGATE*, 16(1), 32-42.
- Mika, E. (2006). Research commentary point-counterpoint: Diagnosis of giftedness and ADHD: Giftedness, ADHD, and overexcitabilities: The possibilities of misinformation. *Roeper Review*, 28(4), 237-242.
- Ministry of Education. (2000). *Gifted and talented students: Meeting their needs in New Zealand schools*. Wellington, New Zealand: Learning Media.
- Ministry of Health. (2001b). *New Zealand guidelines for the assessment and treatment of Attention-Deficit/Hyperactivity Disorder*: Wellington, New Zealand: Author.
- Montgomery, D. (2003). Non-verbal learning difficulties. In D. Montgomery (Ed.), *Gifted and talented children with special educational needs* (pp. 65-93). London: David Fulton.

- Edwards, K. (2009). Misdiagnosis, the recent trend in thinking about gifted children with ADHD. *APEX*, 15(4), 29-44. Retrieved online from <http://www.giftedchildren.or.nz/apex>.
- Morrison, W.F., & Omdal, S.N. (2000). The twice exceptional student. *Reclaiming Children and Youth*, 9(2), 103-106.
- Neihart, M. (2003). *Gifted children with Attention Deficit Hyperactivity Disorder (ADHD)*. (ERIC Document Reproduction Service No. ED482344). Retrieved from ERIC database.
- Nelson, J., M., Rinn, A., N., & Hartnett, D. N. (2006). The possibility of misdiagnosis of giftedness and ADHD still exists: A response to Mika. *Roeper Review*, 28(4), 243-248.
- Nowacek, E. J., & Mamlin, N. (2007). General education teachers and students with ADHD: What modifications are made? *Preventing School Failure*, 51(3), 28-35.
- Puri, B. (2005). *Attention-Deficit Hyperactivity Disorder: A natural way to treat ADHD*. London: Hammersmith.
- Reis, S., & McCoach, D. (2000). The underachievement of gifted students: What do we know and where do we go? *Gifted Child Quarterly*, 44(3), 152-170.
- Reis, S., & McCoach, D. (2002). Underachievement in gifted and talented students. *Exceptionality*, 10(2), 113-125.
- Reis, S., Neu, T., & McGuire, J. (1997). Case studies of high ability students with learning disabilities who have achieved. *Exceptional Children*, 63(4), 463-480.
- Reis, S., & Ruban, L. (2004). Compensation strategies used by high-ability students with learning disabilities. In T. Newman & R. Sternberg (Eds.), *Students with both gifts and learning disabilities* (pp. 155-198). New York: Kluwer Academic/Plenum.
- Robinson, A., Shore, B.M & Enersen, D.L. (2007). *Best practices in gifted education: An evidence-based guide*. Waco: TX. Prufrock.
- Shaw, G., & Brown, G. (1991). Laterality, implicate memory and Attention Disorder. *Educational Studies*, 17(1), 15-23.
- Silverman, L.K. (1993). The gifted individual. In L. Silverman (Ed.), *Counseling the gifted and talented* (pp. 3-28). Denver, CO: Love Publishing.
- Silverman, L.K. (1998). Through the lens of giftedness. *Roeper Review*, 20(3), 204-210.
- Silverman, L.K. (2003). Gifted children with learning disabilities. In N. A. Colangelo & G. A. Davis (Eds.), *Handbook of gifted education* (3rd ed., pp. 533-543). Boston: Allyn & Bacon.
- Sturgess, A. (2004). Celebrating the square peg: Gifted with specific learning difficulties. In D. McAlpine & R. Moltzen (Eds.), *Gifted and talented: New Zealand perspectives* (2nd ed., pp. 401-425). Palmerston North, New Zealand: Kanuka Grove.
- Tucker, B., & Hafenstein, N. (1997). Psychological intensities in young children. *Gifted Child Quarterly*, 41(3), 66-75.
- Turk, T., N., & Campbell, D., A. (2002). What's wrong with Doug: The academic struggles of a gifted student with ADHD from preschool to college. *Gifted Child Today*, 25(4), 48-65.
- Webb, J.T. (1993). Nurturing social-emotional development of gifted children. In K.A. Heller, F.J. Monks and A.H Passow (Eds., pp. 525-538). *International handbook for research on giftedness and talent* Oxford: Pergamon.
- Webb, J. T. (2000). *Mis-diagnosis and dual diagnosis of gifted children: Gifted and LD, ADHD, OCD, Oppositional Defiant Disorder*. Paper presented at the 108th Annual Conference of the American Psychological Association, August 4-8 2000. Washington, DC. (ERIC Document Reproduction Service No. ED448382). Retrieved from ERIC database.
- Webb, J. T. (2001). Misunderstanding due to misdiagnosis and dual diagnosis of gifted children: Gifted and LD, ADD/ADHD, OCD, Oppositional Defiant Disorder. *Gifted Education Press Quarterly*, 15(1), 9-13.
- Webb, J. T., Amend, E., Webb, N., Goerss, J., Beljan, P., & Olenchak, F. R. (2005). *Misdiagnosis and dual diagnoses of gifted children and adults: ADHD, Bipolar, OCS, Asperger's, depression, and other disorders*. Scottsdale, AZ: Great Potential.

- Edwards, K. (2009). Misdagnosis, the recent trend in thinking about gifted children with ADHD. *APEX*, 15(4), 29-44. Retrieved online from <http://www.giftedchildren.or.nz/apex>.
- Webb, J. T., & Latimer, D. (1993). ADHD and children who are gifted. *Exceptional Children*, 60(2), 183-184.
- Webb, J. T., & Latimer, D. (1997). ADHD and children who are gifted. *Gifted*, 98, 21-22.
- White, S. (2004). *Perfectionism and high sensitivity in gifted & talented students*. Unpublished master's thesis, Flinders University, Adelaide, Australia.
- Willard-Holt, C. (1999). *Dual exceptionalities*. (ERIC Document Reproduction Service No. E574). Retrieved from ERIC database.
- Winebrenner, S. (2003). Teaching strategies for twice-exceptional students. *Intervention in school and clinic*, 38(3), 131-137.
- Zentall, S.S., Moon, S., M., Hall, A., M., & Grskovic, J., A. (2001). Learning and motivational characteristics of boys with AD/HD and/or giftedness. *Exceptional Children*, 67(4), 499-519.