

Challenging gifted children and the phenomenon of AD/HD: A qualitative study of teachers' and parents' perceptions in a Saudi Arabian primary school

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Abstract

This study overviews the circumstances surrounding gifted children who manifest challenging behaviours at school, and where the explanatory use of the diagnostic descriptor, AD/HD, is invoked. Specifically, this qualitative research study in Saudi Arabia investigated the phenomenological and diagnostic confusion between giftedness and AD/HD. Three mainstream regular classroom teachers, one specialist teacher of gifted children, and the parents of three gifted children were interviewed. All participants' perceptions focused on the behavioural dimensions of teacher-nominated gifted children at school and at home. In general, the results indicate that diagnostic confusions between giftedness and AD/HD were manifest, and teachers' and parents' perspectives differed. Some unanticipated and interesting data also emerged from the research. In discussion of the results, a number of themes relating to the misidentification of gifted children are discussed. Some educational implications for future research directions are offered.

Introduction

In recent years, there has been growing interest on the diagnostic confusion between giftedness and Attention Deficit/Hyperactivity Disorder (AD/HD). Some gifted children may be misdiagnosed as having AD/HD-type behaviours according to the academic literature (e.g. Baum, Olenchak, & Owen, 1998; Cramond, 1994, 1995; Edwards, 2009; Freed & Parsons, 1997; Freeman, 2004; Gates, 2007; Hartnett, Nelson, & Rinn, 2004; Lind, 1993, 1996; Lovecky, 2004; Moon, 2002; Ramirez-Smith, 1997; Silverman, 1998; Webb, 2000; Webb, Amend, Webb, Goerss, Beljan, & Olenchak, 2005). The recent professional experience of working with gifted children in Saudi primary schools by the first author suggested that some gifted children exhibiting challenging behaviours in regular classrooms are misidentified by their teachers as having AD/HD behaviour patterns. Alamiri also found that the previously challenging behaviours

of such students often seemed to diminish following their placement in a gifted student pull-out program. This anecdotal experience suggests that the identification of some gifted children, by classroom teachers in Saudi primary schools, with an AD/HD condition, is problematic and invites further investigation. A review of scholarly literature in Saudi Arabia indicates that this phenomenon has not been systematically investigated.

The purpose of this qualitative study was to explore the phenomenon of children already identified as gifted at one Saudi Arabian primary school. In their regular classrooms, identified children were regarded by their classroom teachers as behaviourally challenging to such an extent that AD/HD was attributed to them. In investigating teacher perspectives on this phenomenon, the inclusion of parent views was also sought. The central question of the research was: "What contributes to the diagnostic confusion between giftedness and AD/HD in Saudi Arabian children who show problematic, outwardly challenging behaviours at school?"

Potential confusion for teachers and parents

This study explores the potential for diagnostic confusion between giftedness and AD/HD. A number of authors believe that the similarities in behaviours between giftedness and AD/HD could contribute to the potential confusion between these conditions (e.g. Edwards, 2009; Eide & Eide, 2006; Flint, 2001; Hartnett et al., 2004; Lind, 1993; Webb & Latimer, 1993; Webb et al., 2005). In this regard, the respective concepts of temperament, over-excitability, and creativity can also be deployed to show the aspects of potential confusion in this area. In different ways, Keogh (2003) and Kristal (2005) provide comprehensive arguments indicating that some children with particular temperament styles may be misidentified as having an AD/HD condition due to the interaction between these qualities. Similarly, using the Myers-Briggs Type Indicator based *Students Styles Questionnaire (SSQ)* temperament model (Faulkner, 2002), Faulkner (2009) provided a case illustration and clearly

indicated how temperament qualities can work to mask giftedness.

Similarly, the concept of over-excitability (OE) may explain the diagnostic confusion between giftedness and AD/HD. In particular, there is a comprehensive agreement among authors (e.g. Flint, 2001; Hartnett et al., 2004; Lind, 2001; Piechowski, 2006; Silverman, 2002; Tucker & Haferstein, 1997; Webb et al., 2005) who claim that gifted children who display some aspects of psychomotor OE or imaginal OE might be mistaken as having ADD or AD/HD.

Furthermore, diagnostic confusion could result from the similar characteristics between creativity and AD/HD. For instance, Cramond (1994; 1995), Flint (2001), and Guenther (1995) discuss the complex relationship between creativity and AD/HD, and agree that the three major characteristics of AD/HD, which are inattention, hyperactivity and impulsivity, could be seen as indicators of highly creative individuals. Flint (2001) claims that “educators need ... to reduce the likelihood of misdiagnosis of children who are gifted and creative and overexcitable as having ADHD” (p. 68). As a result, a mix of qualities of giftedness, creativity, OE, temperament, and AD/HD, may well contribute to the potential confusion for teachers and parents.

Giftedness and/or AD/HD: A critical challenge

Some researchers investigating the overlap between giftedness and AD/HD have raised a fundamental issue. This issue may be expressed as ‘Gifted, AD/HD: Either or Both?’ (Flint, 2001; Kaufman, Kalbfleisch, & Castellanos, 2000; Mika, 2006; Webb et al., 2005). This question has posed a challenge to many researchers in the field. The critical challenge is whether the diagnostic confusion between giftedness and AD/HD exists or not.

It appears that research on the diagnostic confusion between giftedness and AD/HD has been based more on theoretical musing than empirical studies. Research reports and case examples tend to be the major sources of data on the potential misdiagnosis of giftedness and AD/HD. The study of Hartnett et al. (2004) is one of the few to provide empirical evidence on the possible misdiagnosis of giftedness as AD/HD.

In her responses to the study of Hartnett et al. (2004), Mika’s (2006) article presents a sophisticated picture on diagnosis of giftedness and AD/HD. She denies the existence of the problem of diagnostic confusion and defines it as “a myth that should be put to rest” (p. 242). One

of her arguments is that “there is no empirical evidence proving the existence of the problem of misdiagnosis of giftedness for ADHD” (p. 237). Mika’s opinion, however, has been strongly refuted by some experts in the field (Goerss, Amend, Webb, Webb, & Beljan, 2006) who also support the empirical evidence provided by Hartnett et al. (2004). We believe, as do Goerss and his colleagues (2006), that the lack of empirical evidence is not a sufficient argument to deny the possibility of diagnostic confusion between giftedness and AD/HD.

A number of experts in the field of gifted education, psychology, and paediatrics indicate a demonstrable potential for the misdiagnosis of gifted children as having AD/HD (e.g. Baum & Olenchak, 2002; Baum et al., 1998; Freed & Parsons, 1997; Freeman, 2004; Lind, 1993; Lovecky, 2004; Moon, 2002; Silverman, 1998; Webb & Latimer, 1993; Webb et al., 2005). Do these experts’ respective efforts to clarify this phenomenon indicate this misdiagnosis question to be essentially merely the exploration of what Mika refers to as a ‘myth’? In our view, such a proposition is debatable. The professional evidence of experts in various Western nations when combined with the personal experiences of one of the authors (Alamiri) in Saudi primary schools indicates that this phenomenon is well worthy of investigation.

A critical challenge that can be observed in relation to the complex overlap between giftedness and AD/HD is that of *how* teachers and parents may differentiate between both behaviours. In fact, there has been little research attention given to this particular challenge. In other words, a practical guide helping teachers and parents to distinguish between giftedness and AD/HD seems to be overlooked in almost all studies. Therefore, the potential for diagnostic confusion among giftedness and AD/HD seems to increase. Yet, a comparison between the behavioural manifestations of gifted children in different contexts, as well as considering the challenging behavioural patterns of gifted children to such an extent they these patterns are judged as inappropriate by school personnel, could be appropriate strategies to more effectively differentiate giftedness from AD/HD.

The impact of educational environment

It has been acknowledged that an unchallenging educational environment plays an essential role in heightening the potential misdiagnosis of gifted children as having AD/HD. “Inattention in the classroom may also occur when children with high intelligence are placed in academically

unstimulating environments” (American Psychiatric Association, 2000, p. 91). A number of researchers strongly agree that the AD/HD-like behaviours in gifted children could be traced to an unchallenging environment and not to their having AD/HD (e.g. Baum et al., 1998; Cramond, 1995; Freed & Parsons, 1997; Hartnett et al., 2004; Lind, 1993, 1996; Moon, 2002; Silverman, 2002; Tucker & Haferstein, 1997; Webb et al., 2005). We believe, as do many researchers, there is a number of gifted children who are prone to exhibiting problematic behaviours as a consequence of their being profoundly gifted or creative or bored.

Method

Procedures

This qualitative study was conducted in the city of Jeddah located in the western area of Saudi Arabia. Purposive sampling was used to select the site and subjects of this study. According to Creswell (2008), “researchers intentionally select individuals and sites to learn or understand the central phenomenon” (p. 214). One school from the northern region of Jeddah city was selected. Three mainstream teachers, who taught gifted students with their average peers in the regular classroom, were invited to participate. These teachers were asked to identify gifted students who also usually exhibit problematic behaviours in the regular classroom. Three gifted male students, aged between 9 and 12 were identified. The purpose of identifying such students was to find out adult participants' perceptions about the behavioural manifestations of those students. Then, the parents of these students were invited to participate in an interview. The specialist teacher of gifted students, who supervises the pull-out gifted program and has a qualification in gifted education, was also interviewed. Thus, a total of seven participants were interviewed.

Qualitative data were gathered from these participants through the use of one-to-one semi-structured interviews through open-ended questions. With the prior permission of each participant, six interviews were video-recorded, and one was audio-recorded. Interview questions were divided into three categories based on the profession of each group of participants: three mainstream teachers, three parents, and one specialist teacher of gifted children, particularly their relationship to the nominated children in the study. The video-taped and audio-taped were transcribed. A copy of each transcript was given to the participants who were invited to appraise and amend if necessary the accuracy of their own contribution, and they had the opportunity to withdraw or clarify any of their

responses. All participants signed a data accuracy form.

Data analysis

The collected data were organised, coded and reduced into themes with respect to the recommended strategies for qualitative data presented in Creswell (2008). The techniques of qualitative analysis in this study were based upon data reduction and interpretation. The verbal data were translated by the researcher for data analysis and synthesised for the three groups of participants. The emergent themes from each group were described and then summarised. Extraneous themes were also considered during the thematic process. The interview data were assiduously re-worked, re-organised, reviewed, and coded through the analysis process. The major themes were listed according to the significant similarities that emerged from each question within each group of participants. The similarities and differences among the themes and research questions were arranged. The final number of themes was listed and summarised in narrative manner, comprising direct quotes from participants' perceptions.

Results

The major themes of this study have provided some insights into the problem of misidentification of gifted children as having AD/HD, providing unanticipated additional data. In general, the findings indicate that respondents differed in their views regarding the behaviours of the three case study children. Table 1 highlights the key indicators of the respondents' descriptions of the behavioural manifestations of these case studies. The views range from positive to negative interpretations of their behaviours.

The following section highlights individual sub-questions of the research and briefly presents the general results for each.

1. How do teachers consider the diagnostic concept of AD/HD as used in Saudi Arabian context?

All teachers reported that the concept of AD/HD in Saudi Arabia, particularly as used in primary schools, is unclear. All three regular classroom teachers admitted that they had no professionally-generated knowledge about AD/HD, and were unable to identify accurately AD/HD in a child. For example, one teacher noted, “I have no background and knowledge about attention deficit and hyperactivity. I am unable to identify it because I have not obtained a specific definition for this aspect.” Nevertheless, this same teacher describes Omar's behaviour (case study 2) as

hyperactivity. The findings also show that these teachers used the clinical term of ADHD to describe the general hyperactivity of gifted children, although they admitted being unable to identify ADHD in a child. This finding indicated

some confusion of gifted children who exhibit AD/HD-like behaviour, which could be easily misidentified as having AD/HD.

Table 1

The key points of respondents' descriptions about the behavioural manifestations of case studies

Case studies	Teachers' descriptions (regular classrooms)	Parents' descriptions (Growing up / Home)	The specialist teacher of gifted students (gifted program)
Case 1: Ali	Movement, distraction, inattention.	Naturally grew up, personal traits (i.e. leadership, hard-headed, competitive, desire, intention, challenge).	Different behaviours (positive); interests, creativity, task commitment, leadership.
Case 2: Omar	Hyperactive, talkative, a mischief maker, movement.	Gifted, likes movement, is curious, likes asking questions.	
Case 3: Fahad	Hyperactive, abnormal, high movement, intelligent, a mischief maker, distracts his peers.	Early ear infections, eardrum had burst, hyperactive behaviours, inability to understand the instructions, problem solver, taken Ritalin, then improvement in learning and behaviours.	

2. *How do teachers consider the overlap between giftedness, creativity, over-excitability, temperament, and AD/HD?*

The findings indicated that regular classroom teachers lack the knowledge and experience in dealing with such behaviours of gifted children. The findings also illustrated that classroom teachers seemed to be unable to understand or distinguish between giftedness, creativity, over-excitability, temperament, and AD/HD, because they report having had no training in understanding these concepts. The findings implied that gifted children whose challenging behaviours might be a result of being gifted or creative or over-excitability, or temperamental are more likely to be misunderstood as having AD/HD-type or problematic behaviours.

3. *How do teachers and parents consider the evaluation and assessment approaches of assessing the challenging behaviours in gifted children?*

Regular classroom teachers acknowledged that they are unable to assess the challenging behaviours of gifted children and AD/HD, due to the absence of measures on one hand, and they

have not collaborated with parents or diagnosticians on the other. Moreover, all three parents criticised the teachers' ignorance of parental views about their children's behaviours. For instance, one parent of a gifted child (case study 3) stated: "I have never been asked by teachers about the case of my son. Why is he hyperactive? Does he have a problem at home or does he have psychological problems? I do not find a person who cooperates with me about this matter." The finding suggests there is a total absence of approaches that might facilitate the assessment and evaluation of gifted children's behaviours in the Saudi primary school which hosted this research.

4. *How do teachers and parents consider the educational provisions for gifted children in the regular classroom?*

Teachers and parents were very consistent in viewing the influence of classroom conditions on gifted children behaviours. The findings clearly showed that the current classroom practices, as reported by respondents in this one school, including curricula and teaching techniques are likely to have a strong impact on increasing the challenging behaviours of some gifted children,

which in turn might be perceived, and sometimes misinterpreted, as indicators for AD/HD-type behaviour. In particular, one regular classroom teacher noted: "Of course, normal curriculum and normal instruction contribute to increasing the challenging behaviour of gifted children." He also expected that "the challenging behaviour of gifted children can be diminished by using practical curricular and tangible materials, rather than theoretical curricula." The present findings supported the conclusion that current curricula in the Saudi primary school are designed to serve average students not gifted students. The findings presented some suggestions for the education of gifted children with challenging behaviours such as the need for the modification of curriculum and instruction, special classes, special lessons, and special academies.

5. *What are the most significant typical manifestations of challenging behaviours exhibited by gifted children?*

Teachers were more likely to identify five major patterns of challenging behaviours exhibited by the gifted children in this study – distraction, interruption, high movement, talkativeness, and mischief making – all behaviours that could often be taken as indicators of inattention or hyperactivity.

6. *How do teachers and parents consider the challenging behaviour of gifted children in different contexts (i.e. regular classroom, gifted program placement, and home)?*

The findings illustrated that the challenging behaviours of three gifted children were viewed differently in different contexts. Table 2 summarises the comparisons among regular classroom, gifted program placement, and home as reported by respondents regarding the

challenging behaviours of three case studies.

Misidentification

The problem investigated in this research was addressed in the question:

"What influences the misidentification of gifted children with challenging behaviours in Saudi primary schools, children who are identified as having AD/HD behaviour patterns by their teachers?"

The overall findings presented five influences pertaining to the misidentification of gifted children with challenging behaviours in the Saudi primary school:

- 1) the lack of clarity about the diagnostic concept of AD/HD in the Saudi Arabia, and classroom teachers' lack of knowledge of AD/HD;
- 2) classroom teachers' self-reported lack of knowledge on how giftedness and AD/HD interweave, as well as their misunderstanding of how 'challenging behaviours' they notice in some gifted children may be a result of being gifted, creative, overexcitable, temperamental, or bored.
- 3) the lack of appropriate evaluation and assessment approaches (i.e. measures, diagnosticians, parental assessment);
- 4) some inappropriate classroom teaching practices; and
- 5) the traditional classroom discipline associated with large numbers of students.

Table 2
Comparisons of the challenging behaviour of three case studies in different contexts

Regular Classroom	Gifted Program Placement	Home
Challenging behaviours increase as a result of inappropriate learning environment (i.e. curricula and teaching strategies).	Challenging behaviours decrease as a result of appropriate academic environment, and programs designed to specially engage these students.	The incidence and extent of challenging behaviours are less evident as reported by parents as a result of appropriate environment and parental support.
Challenging behaviours are often misunderstood.	Gifted behaviours (i.e. creativity, task focus and commitment, leadership, interests) increase and are understood, and appreciated by the specialist teacher.	Challenging behaviours perceived to be less of a problem by parents. Whatever problem behaviours were reported they seem better understanding and accepted in their child.

Unexpected findings

There were two major dimensions of further data that were unexpected by the researcher:

- i. a pre-existing, accurate diagnosis of a gifted child who had an AD/HD condition; and
- ii. the influence of classroom discipline and a large number of students.

The findings showed a case of a gifted child who was diagnosed early at age 3 with an AD/HD condition (see Table 1, case study 3). This child, in his pre-school years, had frequently occurring ear infections that may have contributed to his ADD, and also he had taken medical practitioner-prescribed Ritalin to limit his hyperactivity. This child seems to have been, and certainly that is the mother's perspective, mishandled by his first school's administrators who decided to expel him because they perceived him as abnormal and unable to learn. The mother, however, strongly refuted this decision and had maintained confidence in the ability of her son to learn. As a result, the child moved to another school (the research study school) and was soon after identified within the top ten gifted students, participating in the school's gifted program. According to the perception of the specialist teacher of gifted children at his second school, "Fahad is an exceptional child."

Another additional finding was that the traditional classroom discipline associated with large classes in Saudi Arabian primary schools may unintentionally contribute to misunderstanding of the behaviours of gifted children.

Discussion

The present findings of this study must be viewed with caution due to the small number of participants. At first glance, the overall findings from this study clearly showed that the potential misidentification of gifted children as having AD/HD-type behaviour did exist in the Saudi Arabian primary school. This finding is consistent with international research studies dealing with the phenomenon of misidentification (Baum et al., 1998; Baum & Olenchak, 2002; Edwards, 2009; Eide & Eide, 2006; Hartnett et al., 2004; Lind, 1993, 1996; Lovecky, 2004; Moon, 2002; Silverman, 1998; Tucker & Haferstein, 1997; Webb & Latimer, 1993; Webb et al., 2005). At the same time, this finding contradicts Mika's (2006) perspective that dismissed the existence of this phenomenon.

As appeared in Tables 1 and 2, the unique feature of this study was the opportunity to gain

widely differing explanations from different respondents regarding the challenging behaviours of gifted children. There was also the opportunity to compare children's behaviours in different situations: the regular classroom, gifted program placement, and home. The results indicated that regular classroom teachers and parents see the challenging behaviours of gifted children in quite different ways. Both the specialist teacher of gifted children and the parents generated better understanding on the challenging behaviours of gifted children than did regular classroom teachers.

The question that has emerged is: "What creates the differing views of teachers and parents?" A concern stemming from the results is the unfavourable situation that there is a gulf between regular classroom teachers and parents regarding children's behaviour, and parental assessment was overlooked. The results indicated that parents were clearly dissatisfied with the paucity of teachers' communication about their children. This might be a major reason for differences between teachers and parents in their views of the behaviour of these three study children.

In addition to the absence of parental assessment in the school setting, this study indicated weaknesses in other practices of evaluation and assessment in this one Saudi primary school, including educational diagnostics, evaluation tools, and the role of a school counsellor. The current research would suggest that it is desirable for teachers in the Saudi primary school to be more inclusive of parental perspectives about their children, seeking some evaluation practices that help them to understand the behaviours of challenging gifted children.

The need for increasing teachers' awareness about the complex overlap between giftedness and AD/HD was a matter brought to light by the data of this study. In particular, the clinical diagnosis criteria of AD/HD are unknown among regular classroom teachers in this study. The evidence from this study is convincing enough to suggest, as do numerous researchers (e.g. Baum et al., 1998; Hartnett et al., 2004; Lovecky, 2004; Silverman, 1998; Webb et al., 2005), that the lack of knowledge of diagnostic criteria for AD/HD is one of the major contributors to the misidentification of gifted children as having AD/HD.

With regard to the fifth sub-question of this study, the findings showed that some behaviours commonly seen in gifted children – such as becoming distracted, interruption, high movement and talkativeness – were often

mistakenly referred for indicators of AD/HD. One of the significant contributors to this particular confusion is that regular classroom teachers have difficulties in differentiating the clinical term of AD/HD from the general term of hyperactivity. So, based on the findings, gifted children who exhibit high energy and movement in the regular classroom were frequently seen as having AD/HD. What worsens this problem of misidentification (though this was not specifically assessed in this study) is that regular classroom teachers also misunderstood or had no knowledge about the concepts of creativity, over-excitability, and temperament and how the intersection of these qualities in children can be part of the 'challenging behaviours' they notice in some gifted children. Therefore, it seems likely that regular classroom teachers in Saudi primary schools do find it most difficult to differentiate between AD/HD-type behaviour and AD/HD-like behaviour.

As expected, the findings reflected an under-utilisation of effective classroom practices including curricula and teaching strategies for gifted children in the Saudi primary school. It is interesting to note that teachers and parents had similar perceptions regarding the inappropriateness of some classroom practices and the likelihood that these practices may worsen challenging behaviours in gifted children leading to such behaviours being subsequently misidentified as AD/HD. This result is consistent not only with the view of American Psychiatric Association (2000), but also with the views of a great deal of the research (e.g., Baum et al. 1998; Edwards, 2009; Flint, 2001; Freed & Parsons, 1997; Hartnett et al., 2004; Lind, 1996; Lovecky, 2004; Silverman, 2002; Webb & Latimer, 1993; Webb et al., 2005). Eventually, this finding supports the perception of the principal investigator of the DISCOVER projects: "I believe many children's behaviour problems will be solved by changing the general classroom environment, which, of course, means changing teachers' attitudes about teaching and about their students" (Maker, personal communication, January 1, 2009). It would appear that this is what teachers in the Saudi primary school need.

An important question emerging from the literature was: "Do AD/HD behaviours dissipate when educational programs are carefully designed to meet the needs of individual students?" (Baum et al., 1998, p. 103). Some actually do. The evidence for this is that, as this study has shown, inappropriate behaviours of gifted children increased in the regular classroom, whereas such behaviours decreased in targeted programs for the gifted. The specialist teacher of gifted children and regular classroom teachers were completely different in their

views of gifted children behaviours.

Significant to this study was the exploring of additional factors. The findings suggest that traditional classroom discipline patterns may actually worsen challenging behaviours in gifted children, behaviours negatively misconstrued by regular classroom teachers. Although this result was not expected by the researcher, it is consistent with DISCOVER staff members¹(n.d.), who observed that:

The traditional classroom has neat rows of chairs facing the chalk/white board, providing a convenient arrangement for lectures, test taking, and classroom management. But do all children respond well to this type of structure? Absolutely not. (p. 1)

This observation reflects exactly the discipline characteristic of the regular classroom in most Saudi primary schools. There was an emphasis on the need for seeking alternatives to change the current discipline of the regular classroom in Saudi primary schools. Similarly, teachers and parents were concerned about the large numbers of students in normal classes. How can teachers manage and successfully distinguish between the diverse behaviours exhibited by 35 or 39 students in one traditional class? This is definitely a formidable task facing these teachers, and the question that must be put is "How can they be better supported?"

In comparison, the discipline of gifted program placement was different from regular classroom discipline. Gifted program placement entailed a distinguished academic learning model which included circular nests of tables that enhanced cooperative learning through various activities. The numbers of gifted students in gifted program placement were also small. These conditions exerted an influence in moderating inappropriate behaviours amongst gifted children. As a result, the nature and the incidence of inappropriate behaviours, shown by gifted children in their regular classroom, changed to be more positive in the gifted program placement.

Another unanticipated finding was the story of a pre-existing accurate diagnosis of a gifted child who had an AD/HD condition. A concern resulting from this story was the disturbing picture of how the previous school mishandled the child's case, barred him, and ignored his mother's claim and

¹ DISCOVER staff members conducted DISCOVER Projects (Discovering Intellectual Strengths and Capabilities while Observing Varied Ethnic Responses), which were created by Dr. C. June Maker in 1987 at Arizona University (<http://discover.arizona.edu>).

confidence in the child's ability to learn. After a dramatic experience with his previous school, the child was identified amongst the top ten gifted students in his later school, after participating in a gifted education program. In this particular case, the first school shows an example of how schools can, through an absence of suitable educational knowledge, lose great minds, and undermine the potential of the next generation of citizens.

A key issue arising from this example is that the child's complaints and mother's comments portrayed the disturbing mismatch between some regular classroom practices and this child's gifts. It would seem that regular classroom teachers had no idea about the case of the child and his history, leading to teacher misjudgements of the child's behaviour and a misunderstanding of the child's needs in the regular classroom.

In previous studies, Silverman (2002) noted that "If you have a child who had many ear infections in early childhood, be on the lookout for auditory processing weaknesses and visual-spatial strengths" (p. 39). Particularly, Silverman indicates that "Otitis kids are usually visual learners (VSLs)" (2002, p. 37). Silverman's observations suggest that this child could be a visual-spatial learner, an idea that should be further examined. Given his hearing health issues in early childhood, the child's complaints about some regular classroom practices were more likely to be a result of curricula and instruction that depended often on auditory-sequential strategies.

Limitations

There are some limitations that preclude the generalisability and interpretability of these results. First, the research investigator's views about the research problem were involved in this study. According to Kervin, Vialle, Herrington, & Okely (2006), all qualitative research includes an investigator's bias. This was based on the personal experience of one of the authors (Alamiri) as a specialist teacher in special education and gifted education in a Saudi primary school and at university levels. Another limitation is that the sample size used in this study is small and hinders the generalisation of the findings, even in one school.

In addition, teachers' nominations of gifted children with challenging behaviours in this study were based merely on teachers' observations without discerning whether such educators were sufficiently experienced to accurately identify gifted children. Accurate tools such as

behavioural checklists could be used in follow-up studies to enhance the accuracy of selecting gifted children with challenging behaviours.

One important limitation of this study was the potential impact of gender. The study looked at boys only. The decision to exclude girls was influenced by several factors reflecting Saudi social and cultural values. Accordingly, the plan was that only male parents be interviewed. However, one mother came to be included, as the father was unable to attend for business reasons. This mother, an 'unintended' respondent, provided rich and significant data about her son. In the case of her son, her knowledge of him and the challenges she had experienced as a parent served to underscore the diagnostic and phenomenological confusion between ADHD and some behavioural qualities associated with giftedness, and, the suitability of the learning context for her son. This leads to the question about mothers providing different or significant data and insights about their children than would fathers. In hindsight, it would have been valuable to include mothers as respondents, and this aspect needs to be taken into account in future research projects in this area.

Conclusion

To summarise, this exploratory study in Saudi Arabia has investigated influences on the misidentification of gifted children who were seen as having an AD/HD condition. This study indicated the dearth of research studies about this issue in the Saudi context. Thus, this study breaks new ground in relation to Saudi Arabian schooling. The findings of this study indicated that the diagnostic confusions between giftedness and AD/HD were manifest, showing evidence on how gifted children with challenging behaviours may be educationally misidentified as having an AD/HD condition. The five factors influencing this phenomenon as presented by the findings can be recognised as serious issues in the Saudi primary school that need immediate intervention.

The study has several implications for practice and future research in Saudi Arabia. First, due to the difficulty in differentiating giftedness from AD/HD in the one Saudi Arabian primary school, greater attention needs to be directed to this phenomenon and given high priority. There is also a need for continued research in Saudi Arabia to examine the extent of generalisability of the five factors influencing this phenomenon, or attempt to explore other additional potential factors. Further research may replicate this study in a wider range of schools. It would be

valuable to select a large sample including professionals such as school counsellors, psychologist, and principals. Empirical research should be undertaken in the Saudi context to provide evidence of potential confusion between giftedness and AD/HD.

The findings showed a clear mismatch between teachers' and parents' perspectives around these three male students. Hence, greater parent involvement in school issues needs to be sought and activated by school principals and counsellors. Another important implication of this study is a need for greater emphasis on developing practical guides to assist teachers and parents in distinguishing between giftedness and AD/HD. It is also essential to develop professional development programs for teachers to improve their qualifications and experiences about this matter.

Lastly, what requires much more attention in the Saudi primary school is the improvement and refinement of the normal class environment. Three significant needs emerge from the findings of the present study:

1. modification in curricula and instruction for gifted children;
2. innovative discipline regimens in classrooms to support cooperative learning; and
3. reduction of the number of students in normal classes.

As the researchers who completed this study, we would offer one additional and more wide-ranging comment for educators in Saudi Arabia to consider. Educators and professionals in Saudi Arabia are encouraged to alleviate the pain resulting from misunderstanding students' gifts, which in turn, can function to provoke a disservice to some gifted students. Caution must be exercised in identifying and acknowledging individual gifts and a high standard provided in developing such gifts. It is important not only to serve gifted students, but basically to advocate for all the rights of all children. Generating an appropriate education for gifted learners and the development of Saudi teacher attitudes and practices toward such learners is desirable. This will require much effort and time, to prevent bright students from suffering, and the nation not benefiting as it should from their intellect and skills, a problem which has been noted for other nations (Colangelo, Assouline & Gross, 2004; Commonwealth of Australia, 2001).

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