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Mimi Wellisch¹ and Jac Brown¹

Abstract

Gifted children who do not achieve often have problems with motivation and socioemotional adjustment and may also have learning disabilities. This article examines factors such as attachment difficulties and maternal depression as these may contribute to underachievement. The article reviews past and current practices of gifted identification and argues that schools have an important role in the early identification of socioemotional problems and learning difficulties, as these can create barriers to learning and achievement. Although Gagné did include underachievers in his Differentiated Model of Giftedness and Talent, he has also argued that only achieving children should be included in academic talent development programs, and he supports a separate pathway for gifted underachievers. This article demonstrates that such a pathway can be achieved through an inclusive model for gifted achievers and underachievers. A model involves the early triaging of children through identification of giftedness, socioemotional problems, and learning difficulties.

Keywords

gifted, model, intervention, underachievers, socioemotional adjustment.

Gagné (2011) argued in his recent lead article that only highly achieving children should be included in academic talent development programs and that limiting eligibility to high achievers would not discriminate against children from minority racial or cultural backgrounds. Gagné's lead article drew 40 commentaries. Balogh (2011), for example, stated that Gagné's program does not solve the problem of equity in talent development and thought that the answer was to be found in an early and broadened

¹Macquarie University, Sydney, Australia

Corresponding Author:

Mimi Wellisch, 11 Marguerite Avenue, Mt Riverview, NSW 2774, Australia
Email: mimiwellisch@bigpond.com

identification strategy. Dracup (2011) commented that the suggested program is useless in identifying those with abilities who have not yet achieved. Some other commentaries identified that Gagné's argument may also discriminate against gifted underachievers where race and culture were not involved, a group of children who could conceivably achieve, provided they received appropriate and timely support. The term *underachievers* refers to children who have ability and yet do not achieve to their potential, or, according to Gagné (1985), who are "gifted intellectually, but not talented academically." Giftedness is broadly defined as a genetically inherited potential or the ability to reach high levels of achievement in a variety of pursuits, preceded by early characteristic signs (Howe, Davidson, & Sloboda, 1998).

Wellisch and Brown (2011) commented that gifted underachievers do not necessarily hail from low socioeconomic or ethnic minorities but are nevertheless disadvantaged by learning or socioemotional problems, which may be a result of childhood stress and trauma. They argued that Gagné had offered no pathway or model that would enable talent development for these children, "despite evidence that emotion and cognition are intertwined in human mental function (Adolphs, Tranel, & Damasio, 2003; LeDoux, 1996; Phelps, 2006; Vygotsky, 1987)" (p. 118). In his response to Wellisch and Brown's commentary, Gagné (2011) confirmed his position that gifted underachievers do not fit into a talent development program and that another avenue to address their special needs is required:

Except for rare cases where underachievement has its source in intense boredom caused by the slow-paced regular curriculum, we cannot expect that gifted underachievers will miraculously become high achievers when placed in an ATD program . . . The solution seems to be, as *Wellisch & Brown* [italics in original] suggest, the availability of 'an alternative pathway for underachievers' (p. 115) . . . gifted underachievers, whether or not they belong to minority or low SES groups, need a special alternative pathway, distinct from the highly challenging course offered in ATD programs. I will leave to experts the task of engineering that pathway. (p. 145)

This article takes up Gagné's invitation not only by outlining a unique pathway for gifted underachievers but also by proposing an inclusive model of identification and progression for all gifted children.

When Gagné (1985) first proposed his Differentiated Model of Giftedness and Talent (DMGT), it was immediately recognized internationally for the inclusion of underachievers, who were placed in the giftedness component of the DMGT. Although Gagné has continued to update his model since that time (e.g., Gagné, 1995; 2004; 2009), there has been no attempt to add components that address the needs of this subgroup of gifted children. Underachievers have remained stationary within the DMGT, without pathways of possible progression, unable to move beyond being identified as naturally gifted. Underachievers are therefore destined to remain underserved in schools that follow Gagné's ideas, because, as Ford, Grantham, and Whiting (2008)

stated “(w)hen one makes giftedness synonymous with achievement, gifted under-achievers will be neither recruited nor retained” (p. 300).

This article will first review the literature on underachievers and then examine gifted children’s socioemotional adjustment and its association with attachment, maternal depression, and motivation. Then we will take a brief look at past and current procedures to identify giftedness. Finally, we will examine important additions to identification procedures and the necessary interventions and planned progressions within the proposed new model that together can make a positive difference to the lives and prospects of underachievers.

Underachievement

Terman and Oden (1959) found two factors that divided high achievers from other gifted participants in their study: drive to achieve (e.g., persistence and motivation) and all-round socioemotional adjustment. However, a closer look at underachievement presents a complex set of causes (Dai, Moon, & Feldhusen, 1998). These include social and economic influences (Freeman, 1992), race (Baker, 2011), culture (Freeman, 2011; Sternberg, 2007), twice exceptionality (e.g., where a child is gifted and has a disability; Silverman, 2009), lack of motivation due to socioemotional problems (Reis & Renzulli, 2004), lack of interest, and absence of educational challenge, engagement and, support (Reis & Renzulli, 2009). Additional factors such as gender have also influenced level of achievement (Gross, 1993). Thus, there is a wide range of causes and factors influencing achievement.

Betts and Neihart (1988) suggested that there are six recognizable character types, or profiles, of gifted children, including that of a potential school dropout, presenting as angry, depressed, withdrawn, or acting out and being defensive. Betts and Neihart also described the characteristics of a twice-exceptional child who may try to avoid failures, who may be stubborn, impatient, disruptive, confused, stressed, frustrated, who may feel discouraged, rejected, helpless, and isolated, and who may have sloppy handwriting.

Lovett and Lewandowski (2006) challenged the “clinical lore” of a large, hidden population of twice-exceptional children whose gifts and disabilities mask each other and who could benefit uniquely from targeted interventions, at the same time stating that they have no doubt of the existence of these children (p. 525). Nevertheless, research findings such as Barnard-Brak, Johnsen, and Pond’s (2009) study can verify the existence of these children where they are least expected. Barnard-Brak et al. found evidence indicating that approximately 9% of a special education population could have IQs in the 90th percentile, evidence that gifted children may well remain unidentified in classrooms among chronologically similarly aged peers. Such waste of potential to society has not been calculated, nor have the later costs, such as the reduced level of happiness in at least some of these individuals (Seligman, 2002). As already outlined, these and other underachievers may present with socioemotional adjustment problems.

Socioemotional Adjustment of Gifted Children

Children who cope effectively with the demands of life are considered to have good adjustment, whereas those with negative adjustment either find coping difficult or develop maladaptive coping strategies in the face of stress (Neihart, 1999). Historically, beliefs about the social and emotional adjustment of the gifted have been quite divergent. During the 1920s, it was assumed that gifted children were borderline neurotic or even psychotic (Clark, 2008), a myth dispelled by Terman's study (1925). Terman found that these children were often more popular than their classmates, at least during their primary school years. Some studies since Terman's have identified certain socioemotional problems associated with giftedness, for example, the association between creative individuals, and bipolar disorder (Fraser, 2010). In summarizing the literature on the highly gifted, Lovecky (1995) concluded that the more highly gifted the child, the less likely that they will be optimally, socially, and emotionally adjusted, although there does not appear to be any research to support this conclusion.

The majority of studies have found that gifted children as a group have high social status, are preferred companions, are better emotionally adjusted, are more independent, often show leadership ability, and tend to be precociously aware of morality and justice issues (Clark, 2008; Silverman, 1993). Neihart, Reis, Robinson, and Moon (2002) concluded in their review of the research that there was "no evidence that gifted children or youth—as a group—are inherently any more vulnerable or flawed in adjustment than any other group" (p. 268). A recent study of 80 families also found that there was no significant difference in clinical or borderline externalizing or total problems as assessed by the parent participants of children with IQs *at or over* 120 and children with IQs *below* 120 (Wellisch, Brown, & Knight, 2011).

Gifted and misunderstood. However, gifted children can feel uncomfortably different from others, and, equally, the unique behaviors and unusual style of communication of some gifted children can seem odd and can be misinterpreted or simply not understood. This is especially the case if they also have learning difficulties and possess a confusing mixture of high and low abilities. Due to these oddities, gifted children risk being misunderstood in their primary social contexts, such as in their own home environments. They may also find themselves socially mismatched with same-aged peers when they should have been grouped with mentally similar children. In addition, children who are gifted often have to endure an unresponsive and unsupportive education system throughout their compulsory schooling life (Amend & Beljan, 2009; Morawska & Sanders, 2009; Peterson & Ray, 2006; Reis & Renzulli, 2004). Such misunderstandings place gifted children's socioemotional development at risk, as summarized in recent research (Wellisch, et al., 2011). It is, therefore, important to spend time and effort on getting to know children who are different, or who do not appear to "fit in," as they may be gifted underachievers, lacking in certain skills or in confidence and motivation to achieve. Motivation, a necessary aspect of achievement, is closely linked with socioemotional adjustment (Reis & Renzulli, 2004).

Adjustment, Attachment, and Maternal Depression

Socioemotional adjustment is anchored in successful attachment, a bioevolutionary instinct for relationship first observed by psychologist John Bowlby (1969). Bowlby observed how babies and young children sought out their mothers when they felt threatened or uncomfortable, and that, depending on the mother's typical response, children would then either become securely or insecurely attached.

Secure attachment has been linked with the mother's state of mind when interpreting her baby's communication and with her sensitive responsiveness (Prior & Glaser, 2006). Prior and Glaser's review of attachment studies cited research by Matas, Arend and Sroufe (1978), who found that securely attached children had lower negative affect and higher positive affect than children who were not securely attached. Insecure attachment in children is the frequent outcome of inconsistent, angry or dismissive caregiving, misinterpretations, and miscommunications (Prior & Glaser, 2006) and has been associated with a number of factors, including maternal depression (Cicchetti, Rogosch, & Toth, 1998). McMahon, Barnett, Kowalenko, and Tennant (2006) found that infants of chronically depressed mothers were 3 times more likely than infants of never depressed mothers to be classified as insecure. As has been shown, healthy socioemotional adjustment depends on sensitive responses to babies' needs, particularly during the first year of life.

Maternal depression has also been linked with underachievement (Leschied, Chiodo, Whitehead, & Hurley, 2005), and a recent study (Wellisch, et al., 2011) found that maternal depression was associated with learning difficulties in gifted children in the area of handwriting. Other studies have found that children's handwriting can be an indicator of giftedness and that the interaction between handwriting and concentration can be a significant indicator of underachievement (Stoeger & Ziegler, 2010; Stoeger, Ziegler, & Martzog, 2008). It is therefore conceivable that there is a connection between maternal depression, handwriting, and underachievement, and more research is needed to explore this connection.

Maternal depression was also a factor in a qualitative study involving interviews with 11 mother-participants of gifted children (Wellisch, Brown, & Knight, 2011). The study found that gifted children had increased risk of internalizing disorder if their mothers had been depressed, and, as already described, that gifted children may be vulnerable to being serially misunderstood in their primary social contexts—at home by their mothers, at preschool and school by their peers, and at school by teachers in relation to their educational needs. Of the five children with scores in the borderline or clinical range for internalizing disorder on the Child Behavior Checklist (CBCL; Achenbach & Rescorla, 2001), four were serially misunderstood in all three primary contexts.

The cumulative nature of being serially misunderstood appears to be the key to the establishment of chronic socioemotional problems. However, the study also showed that it could be successfully prevented once giftedness and causes of problems were identified and addressed.

As has been outlined, maternal depression and attachment problems have been linked with learning disabilities, socioemotional adjustment, and underachievement. These gifted children are at risk of losing motivation, disengaging from the educative process, and becoming early school leavers (Cloud, 2007). The loss of their potential contribution to society has not been calculated. Cloud has called for a new model to address the threat to the Nation's precious, prodigious intellectual resource. This new model should include early intervention for socioemotional problems (Beissner, 2008), as the latter can affect motivation, an important factor in achievement.

Motivation

According to Reis and Renzulli (2009), there is no noncognitive trait more influential on high levels of performance than effort or motivation. In fact, Renzulli (1978) considered high level of task commitment, associated with motivation, to be so significant that he listed it as one of the three identifying factors in his 3-ring definition of giftedness (the other two are high levels of creativity, and above average ability). Another similar observation made by a number of scholars is that gifted children are naturally motivated to influence their environment to ensure that their never-ending need for information and challenges are met (Winner, 2000, Perry & Szalavitz, 2006, Sternberg, 2005).

The experiences of trauma or great injustice have also been shown to be motivating catalysts for some high achievers (Csikszentmihalyi & Csikszentmihalyi, 1993; Piechowski, 1997). However, ongoing family dysfunction and socioemotional problems are better known for their negative effects, interfering with motivation, planning, attention, memory, and high achievement (Adelman & Taylor, 2000), resulting in severely disrupting children's learning and achievement (Reis & Renzulli, 2004).

Deficits in achievement motivation (or achievement-related thoughts, feelings, and actions), according to a review by Dai et al. (1998), are thought to be associated with a variety of issues, including unrealistic self-expectations, harsh self-criticism, low self-confidence, a tendency to harbor self-defeating beliefs, and a lack in integration of goals and personal standards. These self-defeating attributes and attitudes appear to be related to poor socioemotional adjustment.

The three key factors in achievement for gifted children, then, can be summarized as *good socioemotional adjustment* (Terman & Oden, 1959), *positive achievement motivation* (Dai et al., 1998), and *high ability* (Renzulli, 1978), three essential ingredients to becoming an accomplished intellectually gifted person. Therefore, gifted children who are considered to have high ability and fail to achieve (underachievers) can be expected to struggle with adjustment and motivation and an eventual loss of ability. Children who are gifted and underachieve as a result of learning disabilities typically have high abilities as well as disabilities. To help these children progress, we need to know which of the key achievement factors—adjustment, motivation, and/or ability—need addressing, and these answers can be found through assessment.

Assessment and Identification

Identifying children as gifted has always been difficult (VanTassel-Baska, 2005), complicated by factors such as the sheer variety of gifts, several degrees of giftedness, and low socioeconomic and minority cultural backgrounds. In addition, not only are gifted children diverse as a group but also within each child there can be developmental unevenness and emotional intensities as outlined previously, better known as asynchronous development (Morelock, 1992; Silverman, 1997). It is not surprising, therefore, that research findings related to characteristics associated with giftedness are frequently contradictory and confusing (Winner, 2000), adding to the problems of identification.

Intellectual assessment is not currently part of standard school enrollment procedures. This is despite estimates that up to a quarter of the child population are either gifted, have learning disabilities, or fall into both categories. Gagné (2009) sets the gifted population at 10%, and between 10% and 16% of students are perceived by their teachers to have learning difficulties, particularly in literacy (Hay, Elias, & Booker, n.d.). Munro (2002), an expert on reading disabilities in gifted children, has estimated that 10% have such a disability, and Rogers (2011) found in her current study cohort that 14% of gifted children have emotional/behavioral, learning, and/or other disorders. Thus, the early identification of gifted children, along with the important strategy of early intervention to enable them to progress, is still some time away from being implemented.

However, a program to provide a support document to teachers in identifying gifted children in New South Wales, Australia, is currently being piloted. The pilot has come in the wake of the recently implemented and promising *Best Start Assessments*, testing children within the first 5 weeks of the first school year in literacy and numeracy with an aim to provide a program that ensures adequate achievements by Year 3. The assessments and support document are promising but still lack some of the objective IQ measures and the all-important socioemotional elements suggested in the following.

A fair educational beginning for all children should ideally start with obtaining a breadth of information about their abilities as they first commence their schooling. However, rather than the ideal benchmarking procedure of an early assessment, identification usually takes place when problems arise (Eddles-Hirsch, Vialle, Rogers, & McCormick, 2010) or when a gifted program or class is being offered, necessitating expressions of interest and assessment of potential candidates. The provision of an appropriate education for children at either end of ability levels, therefore, continues to be on an ad hoc basis.

In the recent past, children were identified as gifted if they scored at least 130 (or two standard deviations from the norm) on an IQ test (Lovett & Lewandowski, 2006). This score now appears to be too high on account of changes made to the revised Wechsler Intelligence Scale for Children—Fourth Edition (WISC-IV), and downward adjustments made due to the Flynn effect (a substantial international increase in average scores on intelligence tests). Together, these appear to have reduced WISC-IV's

Full Scale IQ in gifted children from a mean of 128.7 for the WISC–Third Edition (WISC-III) validity study to IQ 123.5 for the WISC-IV gifted sample (Flanagan, & Kaufman, 2004). Therefore, if the WISC-IV IQ test is used to identify gifted children, consideration should be given to include children with a Full Scale IQ > 125 in gifted programs.

It has long been argued that identification through the use of IQ tests alone fails to identify many gifted children, for example, when they have nonacademic abilities (Delisle, 2003; Winner, 2000). It has, therefore, been generally agreed that a diverse range of identification strategies are likely to better capture a more equitable proportion of gifted children (Merrick & Targett, 2004; VanTassel-Baska, 2000). Although this strategy is an improvement on the onetime almost exclusive use of IQ tests for identification, there is still no guarantee that underachieving gifted children are more easily identified through the expanded use of methods such as class grades, or teacher, parent, self-, and peer nominations. There is also general consensus that these children require, along with twice-exceptional children, additional effort and careful selection of assessment tools to ensure that a true measure of their abilities is obtained. The identification process has, therefore, been expanded to include objective alternative achievement measures and subjective information gathered from peers, parents, and teachers (Merrick & Targett, 2004). Such information may now also include portfolios of children's work or creative endeavors, achievement tests, and classroom work samples.

In the meantime, educators/administrators have suffered a loss of faith in IQ tests, and there has been a trend in Australia to replace them with brief and less rigorous screening tools (Merrick & Targett, 2004), such as rating scales and interviews, often assessed by nonpsychologists, resulting in a lack of objective evidence of giftedness. For example, in a recent personal comment to the first author, an employee of the Catholic Education Office in Sydney advised that IQ tests were not in use to identify gifted children within the Catholic Education system. When asked how gifted children were then identified, the first author was told that teachers were very experienced and could recognize a gifted child among other children. In contrast to such conviction, research indicates that teachers continue to be quite poor identifiers of gifted children (Moon & Brighton, 2008; Neumeister, Adams, Pierce, Cassady, & Dixon, 2007).

Lovett and Lewandowski (2006), who reviewed previous and current modes of identification, commented that

[A]t the present time, IQ tests and comparable batteries of cognitive abilities that yield general ability indices appear to be the most acceptable primary measures of giftedness, even though access to a gifted support program may be based on a comprehensive evaluation integrating multiple sources of information. (p. 524)

Lovett and Lewandowski also added that they did not believe such evaluation should include imprecise measures such as creativity tests, isolated high scores on specific subtests, or peer nomination. The reduced use of IQ tests and the failure to

replace them with equally objective and reliable measures have increased the likelihood of underachievers remaining unidentified and increased the risk of gifted children dropping out of school (Ford et al., 2008; Renzulli & Park, 2002).

As has been outlined, identification can be difficult for a variety of reasons. An addition to these is the possible effect of early attachment problems associated with maternal depression on gifted children's motivation and behaviors (Murray et al., 1999; Prior & Glaser, 2006; Wellisch, 2010). Recent findings indicate that gifted children are more likely to be securely attached than other children (Wellisch, Brown, Taylor, et al., 2011); however, problems associated with maternal depression and insecure attachment such as learning difficulties and socioemotional problems can nevertheless be present (Wellisch, Brown, & Knight, 2011) and can, therefore, obscure giftedness and contribute to the difficulty in the identification of giftedness.

As stated earlier, underachievers can be found in any group of children and can include children from a minority or low socioeconomic group, including "invisible gifted children," who may show no signs of giftedness (Merrotsy, 2008). These underachievers may also present with an unusual ability profile, for example, very able in some skills, with deficits in important other abilities. They may exhibit socioemotional adjustment problems, attention problems, and may lack in adequate achievement-related thoughts, feelings, and actions. As gifted underachievers can be difficult to recognize in a group of children, all children should ideally be assessed for adjustment and ability at the point of school entry. Assessment of all children would establish a baseline reference point for teachers who can then measure subsequent early learning gains and enable early identification of giftedness, learning disabilities, and socioemotional problems and disorders. This early intervention strategy would provide solid information and ensure evidence-based and appropriate educational placements, provisions, and interventions.

Adding to Identification Tools

Currently recommended identification strategies include subjective measures such as teacher, peer, self-, and parent nominations, and objective measures such as IQ and achievement tests (Merrick & Targett, 2004). In practice, as mentioned, however, IQ testing is now less popular, and additional tools are required to improve identification of twice-exceptional or "invisible gifted" children.

Assessment for adjustment. Although it has not previously been included in regular gifted identification procedures, the identification of giftedness should include checklists for adjustment problems, such as the CBCL (Achenbach & Rescorla, 2001) or the Behavior and Emotional Rating Scales (BASC-2; Reynolds & Kamphaus, 2004), to ensure that these are identified as early as possible. Such initial assessment should be seen as a work in progress, and teachers should be ready to ask for further assessment in case of unexpected or unusual discrepancies between test results and behaviors due to gifted children's vulnerabilities.

Identification of the gifted and learning disabled (GLD). Identification of children who are gifted and have learning disabilities, according to Lovett and Lewandowski (2006), should be based on absolute low achievement in an academic skill-area subject, for example, in the bottom 10% of the distribution of the particular skill, “(w)hen a student has an IQ score in the gifted range (i.e., a standard score above 130) and significantly below average achievement (i.e., a standard score below 85)” (p. 524). The importance of this strategy is to demonstrate that the child has substantial abilities and disabilities above and below the average when compared with peers of the same age.

The Neale Analysis of Reading Ability (Neale, 1999) and the Wide Range Achievement Test 4 (Wilkinson & Robertson, 2006) can be used to identify academic abilities and learning disabilities. The addition of these assessments would help identify and place children who need to be accelerated, especially those who can already read well at school entry, and identify children who have a potential to achieve but lack the enabling skills. Rogers (2011) has also used the Woodcock–Johnson Tests of Cognitive Abilities to identify specific learning disabilities (Woodcock, Mather, & McGrew, 2001) to identify these children.

Assessing other disabilities. Some gifted children meet the criteria for Aspergers disorder. Rogers (2011) has successfully used the Autism Diagnostic Interview (ADIR-R; Le Couteur, Lord, & Rutter, 2003) and BASC-2 (Reynolds & Kamphaus, 2004) to identify children with autism spectrum disorders. Finally, either the CBCL (Achenbach & Rescorla, 2001) or the Conners Rating Scales (Conners, 1997) can be used to assess attention deficit hyperactivity disorder (ADHD).

IQ testing for intellectual giftedness. IQ tests such as the Wechsler tests or the Stanford–Binet 5 (Roid, 2003) should be used to identify giftedness. In addition to assessing a child’s IQ, the WISC-IV (Wechsler, 2003) has also been useful in correctly identifying twice-exceptional children who were all found to have a large discrepancy between index scores (Rogers, 2011). For the culturally diverse, Ford et al. (2008) suggested the use of nonverbal tests of intelligence that are less culturally loaded than traditional tests, such as the Naglieri Nonverbal Ability Test (NNAT; Naglieri, 1997), Universal Nonverbal Intelligence Test (Bracken & McCallum, 1998), and Raven’s Progressive Matrices (Raven, Raven, & Court, 2003). The successful use of a specially designed process of dynamic assessment has also been demonstrated, for example, with the *Coolabah* Dynamic Assessment Method (CDAM), which creates a nonthreatening and culturally unbiased identification process that seeks to optimize cognitive performance (Chaffey, Bailey, & Vine, 2003). In summary, a range of objective IQ and other ability measures should be used, selected on the basis of the needs of children.

Identification as Prevention

The researchers who interviewed mothers of gifted children mentioned earlier (Wellisch, Brown, & Knight, 2011) found that peer misunderstandings involved the gifted child being perceived as different from other children and could, in some cases,

escalate to bullying. For 9 of the 11 participants in the study, being misunderstood at school resulted in inadequate educational provisions and a complete lack of identification procedures. The latter oversight may have been caused by gifted children's disabilities or motivation problems (Reis & Renzulli, 2004). Some mothers found it necessary to maintain a constant pressure on the schools and advocate strongly for recognition of the different educational and social requirements of their gifted children. The study concluded that advocating for children, moving children from unhelpful schools to schools open to gifted education, and early intervention, such as acceleration at school and cognitive behavior therapy (CBT), were useful strategies in preventing chronic problems in gifted children.

The researchers also suggested that peer problems may be improved by teacher recognition of giftedness. Teachers could enhance children's status, either within the classroom or by offering supportive opportunities to associate with mentally similar peers through subject or year acceleration, and thus play an important role in minimizing peer rejection. Teacher recognition would then also remove misunderstandings in the educational setting, involve appropriate educational provision, and thereby reduce the risk of chronic internalizing disorder.

Identification of giftedness and appropriate educational provisions can engender enthusiastic engagement with the educational process, and enhance children's adjustment. Neihart et al. (2002), for example, found improvements in gifted children's socioemotional adjustment when they participated in accelerative learning opportunities, when they received support, mentoring, and coaching in how to cope with stress, when they worked with similar others, and when they engaged in early considerations of career options.

The aim of the proposed new inclusive model of giftedness is to enable potential under-achievers to move forward through the application of early intervention strategies. The strategies include identifying motivation and other problems and ensuring planning and implementation of tailored and supportive socioemotional and educational strategies. The model and the supporting strategies will help ensure "educational justice" (Beissner, 2008, p. 11) to those gifted children who are currently lost in the system.

The Proposed Model of Inclusive Gifted Identification and Progression

Suggested Identification Process

Although it is interesting to speculate on how giftedness arises, the new model presented here does not attempt such an explanation, as the topic has been well visited by numerous scholars (Freeman, 2005). Nor will we attempt to explain the step-by-step process of developing children's talent, how it can be nurtured and what methods can be used to promote outstanding achievement, as this has also been well researched (e.g., Bailey, 2004; Ericsson, Prietula, & Cokely, 2007; Gagné 2011; Rogers, 2002, 2011). We may never fully know the most salient or influential factors that make the

difference in whether a child will continue to develop his or her giftedness as these may vary according to individual differences, contexts, and environments. However, the opportunity must be made available. Currently, as acknowledged by Gagné (2011), there is no pathway between the potentially gifted underachiever and entry into talent development. The proposed inclusive model aims to bridge the gap between initial giftedness and its development. It proposes the strengthening of gifted identification, the establishment of gifted early intervention, monitoring, and further progression. These measures relate directly to children's socioemotional status, motivation, skills, and abilities so that gifted children can be guided onto a supportive pathway toward their optimum development.

Initial Screening

Characteristics of giftedness. The characteristics of gifted children may be the first sign of giftedness. These characteristics can differ from child to child. However, Frasier and Passow (1994) identified the following 10 core gifted characteristics in children from diverse backgrounds, although a gifted child may not exhibit all of these (all italics in this section have been added for emphasis): *motivation, intense unusual interest, highly expressive communication skill, effective problem solving ability, excellent memory, inquiry (curiosity), quick grasp or insight, uses logic and reasoning, imagination or creativity, and ability to convey and pick up humor.* These characteristics are similar to characteristics listed for highly and profoundly gifted children (Rogers & Silverman, 1997; Appendix). *High sensitivity* has also been listed as an early sign of giftedness (Rogers & Silverman, 1997; Silverman, 1993, 1998). Finally, Clark (1992) also alerts us to a particular sign of precocity: "We have long known that *gifted children read early*" (italics added; p. 99).

Gifted underachiever characteristics. A Senate inquiry into the education of gifted children received submissions and gathered information on a variety of issues, including the characteristics of underachievers (Commonwealth of Australia, 2000). The characteristics included psychosomatic and psychological symptoms, such as stomachaches, headaches, depression, mental confusion, self-harm, poor self-esteem, sleep disorders, nightmares, eczema caused by stress, and behaviors associated with insecure attachment and ADHD.

Wellisch and Brown's (2012) analysis of mothers' narratives from an earlier study identified that gifted children with borderline or clinical internalizing scores on the CBCL were more likely to be *easily frustrated*, to be *introverted*, to have *perfectionistic* tendencies, and the boys were *less likely to be interested in sport* than their peers. These children were also more likely to have a learning disability.

Together, the mix of gifted and underachiever characteristics can provide the first signs of giftedness in children. Gifted children are a heterogeneous group. For example, one child may have most of the characteristics associated with giftedness, whereas another may not share her characteristics of excellent memory and motivation, and instead exhibit underachiever characteristics associated with ADHD, such

as disorganization, hyperactivity, or inability to stay on task. Nevertheless, these characteristics can provide a guide and be used as the initial part of the identification process.

IQ test, assessments, and checklists. The IQ test, skills assessments, competition results, class grades, and parent, teacher, child, and peer input can confirm whether a child is gifted. It is generally believed that the optimal time to have an IQ assessment is between the ages of 5 and 13 years, as children younger than 5 years may score a lower IQ due to tiredness caused by the assessment (Merrick & Targett, 2004). In summary, information obtained using a wide range of objective and subjective measures and sources may help to ensure that both the obvious and the not so easily identifiable gifted children will be identified and considered for a differentiated program and early intervention strategies.

Testing for Early Entry

In some countries such as Australia and Canada and in some states in the United States, gifted children can attend school *before* the minimum legislated age if their parents can provide evidence that their children are gifted and have the social and emotional maturity considered necessary for school attendance. Early entry requires evidence of an IQ test to support the claim for giftedness, necessitating the IQ test to be carried out earlier than the optimal age mentioned earlier. The acceleration strategy of an early entry normally benefits those gifted children whose IQ scores are 130 or more and who are able to read prior to school entry. Early entry in a number of states in Australia commences at 4 years of age (NSW Department of Education and Training, 2007). It is therefore possible for gifted children to avoid boredom, repetition of known material, and disengagement with the educative process through early entry in some countries. There is, however, more to be done once initial and formal identification has been completed.

After Identification

The model suggested here includes pathways for gifted children who have socio-emotional problems, children who have learning or other disorders, and children with a combination of these (Figure 1). Once giftedness is established, the adjustment and disorder assessments and checklists can act in a triaging capacity to further identify gifted children who have adjustment issues and are in need of therapeutic support or social-skills training, and those children who are in need of educational remediation.

Achiever and Underachiever Characteristics

The identification process in the proposed model, as shown in Figure 1, begins with the observation of characteristics associated with giftedness (see Appendix), and

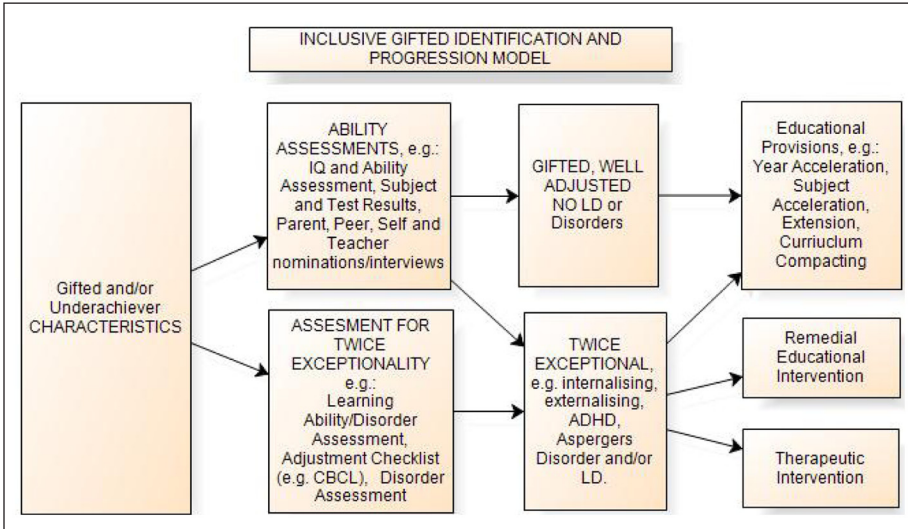


Figure 1. Inclusive gifted identification and progression model

possibly also with characteristics associated with underachievement, for example, the socioemotional and other problems mentioned earlier. Following this initial observation, children should then undergo ability assessments and assessment for twice exceptionality.

Gifted and Well Adjusted With No Learning Disability or Disorders

Gifted children who are well adjusted without any learning or other disorders can be expected to be high achievers and should receive gifted education provisions once they are identified. Gifted education provisions should include extension programs with the appropriate level of academic challenge according to the child's needs, abilities, and level of giftedness (Reis, Burns, & Renzulli, 1992), subject or whole-year acceleration (Colangelo et al., 2010), mentoring, and other offerings of talent development programs (Eddles-Hirsch et al., 2010; Gagné, 2011; Figure 1).

Twice-Exceptional Children

Planned interventions should be documented for children who have been identified as gifted with either disorders or learning difficulties. Individual education and therapeutic plans should be tailored to each child, taking into account frequency and level of severity

of problems and disorders. The plans should be regularly reassessed, adjusted as necessary, and strategies reconsidered if outcomes fail to meet expectations within the planned time frame.

Parents should be invited to take part in the process and be informed regularly on the progress of interventions. They should also have access to information and, where available, access to parenting programs for gifted children with socioemotional problems. Although there are currently no evidence-based parenting programs for behavioral issues in gifted children, a promising program for parents of gifted children has been piloted in conjunction with the evidence-based Triple-P Parenting Program (Morawska & Sanders, 2009). Rogers (2011) has also reported the inclusion of parenting programs in her current longitudinal study. The Triple-P Parenting intervention has demonstrated over 40% improvement in child behavior over the short term and 30% over the long term (Sanders et al., 2004).

The “invisible gifted children,” and other underachievers who may have gaps in their knowledge, low self-esteem, and poor planning skills, should be grouped together at least initially, or until they are able to cope in a more competitive context (Bailey, 2004). There should be an initial emphasis on the child’s strengths, and eventually a move toward addressing weaknesses, and educational strategies should include access to gifted program provisions through alternative learning styles (Rogers, 2011).

Educational provisions. Children who have only socioemotional problems and no learning disabilities should be considered for extension, subject or whole-year acceleration, and mentoring. This strategy may not only address their educational needs but also their socioemotional problems when these are related to frustration with the educational process, or when social problems have arisen due to the gap between their advanced mental abilities and the average mental abilities of same-aged peers. As most children with socioemotional problems have some difficulties relating to others, social-skills training should be part of any intervention strategy.

Children who have learning disabilities and socioemotional problems, however, should not be considered for whole-year acceleration until their problems have been adequately addressed. Their strengths should nevertheless be supported, for example, through extension programs and subject acceleration. Such educational strategies can help to ensure that children’s self-esteem is maintained and that they remain educationally challenged and engaged while their problems are being addressed.

Remedial educational intervention. Children who are gifted, well adjusted, and have a learning disorder can participate in gifted education programs as long as their disability is in an unrelated area, the disability can be simultaneously addressed, and the program does not place undue pressure to perform beyond their capability. If, for example, the learning disability is in mathematical concepts, there is no reason that subject acceleration should not be considered in the child’s strong English ability, along with coaching to help fill gaps in learning as a result of the acceleration, with simultaneous remedial support provided for the learning disability.

Children with internalizing or externalizing problems and disorders. Children with conduct problems, anxiety, or depression should be referred for therapeutic intervention. CBT has been shown to reduce anxiety and depression and can address a negative thinking style that leads to low self-esteem, behavior problems, and poor motivation. Conduct problems require cooperation between school and parents, and parenting programs that address behavior management should be accessible to parents of these gifted children. Family counseling may also be needed, especially when siblings become affected, and social-skills training should be offered to the children while they simultaneously access gifted programs considered appropriate for their interests and level of motivation, and abilities.

Children With Other or Multiple Disorders

Space does not permit a lengthy description of all childhood disorders, their symptoms, or treatment options. However, these disorders do need to be addressed to prevent further problems. For example, Adelman and Taylor (2000) noted that barriers to learning can arise from complications: “disabilities that lead to learning, behavior, and emotional dysfunction” (p. 13). Therapeutic counseling should therefore be offered as early as possible.

Conclusion

This article has outlined how gifted children who have learning and other disabilities and/or socioemotional problems can participate in gifted programs. The proposed *Inclusive Identification and Progression Model* sets out a pathway that can support children’s giftedness as well as address their problems. Availability of remedial educational and therapeutic strategies in schools can ensure the protection of gifted children’s self-esteem and help maintain educational challenge and engagement while their problems are being addressed.

Appendix. Ten Common Characteristics of Giftedness

Trait, aptitude or behavior ^a		How it may look	Roger's researched list ^b
Motivation	Evidence of desire to learn	Demonstrates persistence in pursuing or completing self-selected tasks (may be culturally influenced); evident in school or nonschool activities. Enthusiastic learner; has aspirations to be somebody, do something.	93.4% have a long attention span 99.4% learn rapidly
Interests	Intense, sometimes unusual interest.	Unusual or advanced interests in a topic or activity; self-starter; pursues an activity unceasingly beyond the group. Has a thirst for knowledge and fascinated by complexity.	85.9% are perseverant in their areas of interest
Communication skills	Highly expressive with words, numbers, or symbols	Unusual ability to communicate (verbally, nonverbally, physically, artistically, symbolically); uses particularly apt examples, illustrations, or elaborations.	99.4% have extensive vocabulary
Problem-solving ability	Effective, often inventive, strategies for recognizing and solving problems.	Unusual ability to devise or adopt a systematic strategy to solve problems and to change the strategy if it is not working; creates new design; inventor.	89.4% have facility with puzzles and construction toys
Memory	Large storehouse of information on school or nonschool topics	Already knows; 1-2 repetitions for mastery; has a wealth of information about school and nonschool topics; pays attention to details; manipulates information.	99.3% have excellent memory
Inquiry	Questions, experiments, explores	Asks unusual questions for age; plays around with ideas; extensive exploratory behaviors directed toward eliciting information about materials, devices, or situations.	97.9% are curious

^aAdapted from: Frasier and Passow (1994). *Toward a new paradigm for identifying talent potential*. Research Monograph 941 I2. The National Research Center on the Gifted and Talented. The list comprises "traits, aptitudes, or behaviors . . . that many writers suggest can be considered *general/common attributes of giftedness*—general or common in the sense that they are usually included in any list of attributes ascribed to the gifted" (p. 58).

^bDr. Karen Rogers analyzed data at the Gifted Development Center in 1994-1995 during a postdoctoral fellowship. The analysis consisted of data on 241 children between 2½ and 12½ years of age, with IQs ranging from 160 to 237+ on the *Stanford-Binet Intelligence Scale (Form L-M)*. From: *Exceptionally and profoundly gifted children*, Presented by Karen Rogers and Linda Silverman at the National Association for Gifted Children 44th Annual Convention in Little Rock, Arkansas, November 7, 1997.

Appendix.

Trait, aptitude or behavior	How it may look	Roger's researched list
Reasoning Logical approaches to figuring out solutions.	Ability to make generalizations and use metaphors and analogies; can think things through in a logical manner; critical thinker; ability to think things through and come up with a plausible answer.	99.3% reason well
Imagination/creativity Produces many ideas; highly original.	Shows exceptional ingenuity in using everyday materials; is keenly observant; has wild, seemingly silly ideas; fluent, flexible producer of ideas; highly curious.	93.4% have a vivid imagination
Humor Conveys and picks up on humor well.	Keen sense of humor that may be gentle or hostile; large accumulation of information about emotions; capacity for seeing the (the, ed.) unusual; uncommon emotional depth; openness to experiences; sensory awareness.	95.9% have an excellent sense of humor

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About the Authors

Mimi Wellisch has a master in early childhood majoring in gifted children and is a registered psychologist. She is the author of a number of books and numerous articles, has held a number of executive committee positions on the NSW Association for Gifted and Talented Children and is director of a gifted consultancy. She is currently concluding PhD studies on the topic of attachment and giftedness.

Jac Brown is a senior lecturer teaching in the area of clinical psychology at Macquarie University, Australia.