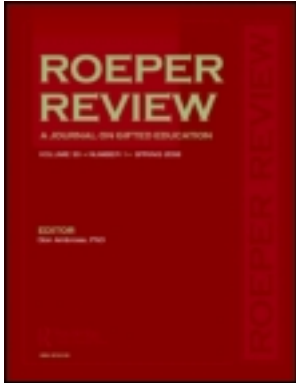


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MISDIAGNOSIS

Overexcitabilities and ADHD in the Gifted: An Examination

Anne N. Rinn and Marilyn J. Reynolds

Gifted children and adolescents can display behavioral characteristics similar to those exhibited by children and adolescents who have been diagnosed with attention-deficit hyperactivity disorder (ADHD), leading to potential issues with misdiagnosis. The overlapping characteristics between giftedness and ADHD are often seen as anecdotal or to only exist in theory, such as that explained by Dabrowski's theory of positive disintegration and his notion of overexcitabilities. There is a paucity of empirical data to support this perceived relationship between ADHD and overexcitabilities. This study provides empirical support for a relationship between ADHD and overexcitabilities within a sample of gifted adolescents. Implications are discussed.

Keywords: ADHD, adolescents, giftedness, misdiagnosis, overexcitabilities

In a recent study by Rinn and Nelson (2009), preservice teachers were asked to examine a vignette of a student who was displaying characteristics similar to those found in a child diagnosed with attention-deficit hyperactivity disorder (ADHD) but that could also be characteristic of a gifted child. Overwhelmingly, the preservice teachers "diagnosed" the child with ADHD, rather than considering the notion that the child could be gifted. Their rationales for doing so included the following statements:

Because he seems to be very active and excited but gets bored with the work. If gifted and talented he would do the work and get bored afterwards. He also would follow rules and regulations.

Talented students do not question authority or act up in class.

I would not think G/T because of the fact he is messy, appears careless or inattentive to details. I think G/T kids care more about their work.

I think he may have ADHD because of his poor attention span and difficulty accepting rules. I have never known

a GT student to act this way. A GT student would most likely mind the teacher. I also think this because he is inattentive to details. (pp. 22–23)

Yet, gifted children and adolescents may have attention difficulties and may appear hyperactive but may or may not be diagnosable with ADHD. The purpose of this study is to examine a group of gifted adolescents to see whether they exhibit symptoms of ADHD that could be easily misdiagnosed.

ATTENTION-DEFICIT HYPERACTIVITY DISORDER

ADHD is the most common childhood behavioral disorder, occurring in 3–7% of school-aged children (American Psychiatric Association [APA], 2000). ADHD is diagnosed more often in boys than in girls and is characterized by behaviors related to inattention, hyperactivity, and/or impulsivity. The etiology of ADHD varies between children and includes such contributors as heredity, biological or neurodevelopmental factors, and factors related to parenting and families (Rinn, 2009). The American

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Psychiatric Association outlines symptoms and other information related to ADHD in the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed., Text Revision; *DSM-IV-TR*).

Four types of ADHD are included in the *DSM-IV-TR*, including the predominately inattentive type, the predominately hyperactive–impulsive type, the combined type, and ADHD not otherwise specified. The predominately inattentive type includes symptoms related largely to inattention, such as the inability to maintain attention, avoiding tasks that require mental effort, losing things and being forgetful, failing to pay close attention to details, and lacking organizational skills. The predominately hyperactive–impulsive type includes symptoms related to hyperactivity and/or impulsivity, including an inability to sit still, restlessness, talking excessively, fidgeting, and interrupting others. To be diagnosed with either of these types of ADHD, six or more symptoms of either inattention or hyperactivity/impulsivity, as outlined in the *DSM-IV-TR*, must be present for at least 6 months in two or more settings (e.g., school, home, extracurricular activities). The onset of most of the symptoms must occur before the age of 7. Further, the symptoms must be maladaptive and inconsistent with the child's developmental level. The combined type includes symptoms of both inattention and hyperactivity/impulsivity, and ADHD not otherwise specified includes behaviors that are symptomatic of either inattention or hyperactivity/impulsivity but do not meet the diagnostic criteria outlined in the *DSM-IV-TR*.

The subtypes of ADHD are associated with difficulties in specific contexts. For example, individuals diagnosed with the predominantly inattentive type or the combined type tend to experience academic and school-related difficulties, and individuals diagnosed with the predominantly hyperactive–impulsive type (the majority of whom are males) are prone to accidental injuries and rejection by peers (APA, 2000). Further, inattention may result in failure to comprehend instructions, follow directions, and produce quality products. Work may be sloppy or appear hastily prepared. Inattention may also prevent completion of tasks, such as by repeatedly abandoning unfinished projects for new ones. In exhibiting hyperactivity, an individual might constantly fidget or squirm. He or she may be unable to remain seated and may engage in displays of extreme activity, even in inappropriate settings. In general, one may appear incapable of remaining immobile. Hyperactivity can also manifest itself in rapid or excessive speech. Finally, impulsivity may present as difficulty in observing conversational norms, such as not interrupting and waiting for the opportunity to speak. Other expressions include difficulty in delaying responses, dominating conversations, or initiating conversations at improper moments. Impulsivity can also include actions such as grabbing items from others, touching

prohibited objects, and engaging in potentially dangerous behavior.

Arriving at a proper diagnosis for ADHD can be a complicated process. A child or adolescent suspected of having ADHD must be observed in multiple settings in order to detect which particular symptoms manifest under specific conditions (Brown, 2002). In addition, the impact that environmental or contextual factors may have on behavior needs to be evaluated (Baum, Olenchak, & Owen, 1998; Webb, 1993).

Some researchers suspect that gifted children are disproportionately singled out for ADHD evaluations. Webb and Latimer (1993) asserted that the number of gifted children referred by educators for ADHD assessments has consistently been on the rise. Gifted individuals often have unusually high energy levels, vivid imaginations, and highly sensitive and emotional dispositions (Piechowski, 1997; Torrance, 1965). These behaviors can manifest as displays of enthusiasm, extreme energy, strong responses to sensual stimuli, and deep absorption in chosen tasks (Silverman, 1993). Within the gifted population, these behaviors could be indicative of ADHD or they could be indicative of a concept known as *overexcitabilities* (Hartnett, Nelson, & Rinn, 2004). The characteristics of overexcitabilities and the symptoms of ADHD are strikingly similar and may be indistinguishable to the untrained observer (Nelson, Rinn, & Hartnett, 2006; Rinn, 2009; Rinn & Nelson, 2009).

OVEREXCITABILITIES

Overexcitabilities are ways in which an individual experiences the world (Piechowski, 1997) and allow one “to take in and process larger than usual amounts of stimuli from the environment” (Gallagher, 1986, p. 115). How a person responds to a situation is determined by which overexcitability is most dominant, because overexcitabilities may be expressed in one or more of five dimensions: psychomotor, sensual, intellectual, imaginal, and emotional. Rather than viewing overexcitabilities as emotional extremes, though, some researchers view them as contributing to the potential for further growth (Bouchard, 2004; Dabrowski, 1964; Piechowski & Miller, 1995), because “the richer and more complex their expression, the stronger the potential for development” (Piechowski & Cunningham, 1985, p. 156).

Overexcitabilities stem from Dabrowski's (1964) theory of positive disintegration, which is a theory of personality development. Dabrowski's theory defines five levels of personality development, whereby with each successive period of development, a type of disintegration occurs wherein there is a breakdown of the existing personality structure and a higher level of personality structure is formed. Overexcitabilities, among other characteristics,

result in more pronounced experiences, which lead to disintegration and, consequently, enhanced developmental potential. Dabrowski designated overexcitabilities into categories of either higher or lower forms, with imaginal, intellectual, and emotional representing the higher forms of overexcitabilities that are more likely to enable higher levels of development. For a thorough description of Dabrowski's ideas and the theory of positive disintegration, the reader is referred to Ackerman (2009), Dabrowski (1964, 1972); Dabrowski, Kawczak, and Piechowski (1970); and Mendaglio (2008).

The five overexcitabilities can be described as follows: A sensual overexcitability is distinguished by heightened pleasures via the senses. An individual with a sensual overexcitability might take great pleasure in particular foods. However, he may also avoid certain foods based on qualities such as texture or color. Other manifestations might include seeking physical comfort, luxury, admiration and attention from others, and, in general, an appreciation for beautiful and desirable objects, such as works of art or fine jewelry. An imaginal overexcitability is expressed through vivid and detailed daydreams or fantasies, inventiveness, use of imagery, and verbal utilization of metaphors. Psychomotor overexcitabilities are expressed by extreme activity or displays of frenetic energy. An individual with a psychomotor overexcitability might have rapid speech, display impulsiveness, and appear to be in constant motion in some manner, such as wiggling his or her feet or hands. Intellectual overexcitabilities reflect a deep need for knowledge and problem solving. Intellectual overexcitabilities may be expressed by persistently asking questions, critical observation, and use of theoretical analysis. The manifestations of the overexcitabilities are different depending on the developmental level of the individual (Ackermann, 2009).

OVEREXCITABILITIES AMONG THE GIFTED

Although the theory of positive disintegration was not designed as a theory related to the development of gifted individuals, Dabrowski, as did other theorists who followed, suggested that overexcitabilities are prominent within the gifted population (Piechowski, 1999; Silverman, 1993). Some researchers have found that gifted students score higher than average ability students on measures of intellectual, emotional, and imaginal overexcitabilities. For example, Piechowski and Colangelo (1984) examined the overexcitabilities of gifted adolescents, intellectually gifted adults, artists, and average-ability graduate students. The results indicated that both gifted adolescents and gifted adults were characterized by intellectual, emotional, and imaginal overexcitabilities. In addition, gifted adolescents were found to have higher intellectual overexcitability scores than graduate students. Similarly,

Gallagher (1986) found that gifted sixth-grade students showed higher intellectual, emotional, and imaginal overexcitability scores than a random sample of average-ability sixth-grade students. These results replicate earlier studies (Lysy & Piechowski, 1983; Piechowski & Colangelo, 1984; Piechowski & Miller, 1995; Silverman & Ellsworth, 1981), wherein intellectual, emotional, and imaginal overexcitabilities were the most prominent overexcitabilities differentiating gifted individuals from other individuals. These findings line up with Dabrowski's (1964) notion that the imaginal, intellectual, and emotional overexcitabilities represent the higher forms of overexcitabilities that are more likely to enable higher levels of development.

Some findings vary with regard to which overexcitabilities are more prevalent in the gifted population, though. For example, a study of tenth and eleventh grade students found gifted students to be characterized by higher intellectual, emotional, and psychomotor overexcitabilities than average-ability students (Ackerman, 1997), and Bouchet and Falk (2001) found that gifted college students scored higher than average-ability college students only on measures of intellectual and emotional overexcitabilities.

The relationship between gender and overexcitabilities has been examined for preschool children (Kitano, 1990), children ages 9–14 (Piechowski & Miller, 1995), adolescents (Gross, Rinn, & Jamieson, 2007), college students (Bouchet & Falk, 2001), and adult samples (Miller, Silverman, & Falk, 1994). In general, no gender differences have been found in samples of young children. For example, Kitano's study of preschoolers found no gender differences in parents' rated scores on a measure used to indicate overexcitabilities. In addition, Piechowski and Miller (1995) found no gender differences in the overexcitability scores of gifted children ages 9–14. Using a sample of 247 gifted adolescents, Gross et al. (2007) found that females scored higher on the Sensual, Imaginal, and Emotional Overexcitability subscales and males scored higher on the Intellectual Overexcitability subscale. There were no significant differences in psychomotor overexcitability scores between males and females. These findings partially contradict the results of Bouchet and Falk's study of gifted college students (2001), whereby they found that gifted males outscored gifted females on intellectual, imaginal, and psychomotor overexcitabilities, and gifted females outscored males in emotional and sensual overexcitability domains. On the other hand, Piechowski and Miller found no significant differences in levels of overexcitabilities between gifted males and gifted females. Miller et al. (1994) examined intellectually gifted adults and average-ability graduate students and found that females scored higher on the Emotional Overexcitability subscale, whereas men scored higher on the Intellectual Overexcitability subscale. No gender differences

were found for imaginal, sensual, or psychomotor overexcitabilities.

OVEREXCITABILITIES AND ADHD

When the characteristics of overexcitabilities and symptoms of ADHD are compared, the possibilities of misdiagnosis become clear. For example, the hyperactive behavioral components of ADHD, as outlined in the *DSM-IV-TR* (APA, 2000), are difficult to distinguish from psychomotor overexcitabilities. Some researchers indicate that psychomotor overexcitability is most associated with giftedness (e.g., Ackerman, 1997; Bouchard, 2004; Tolan, 1994), but others find a lowered psychomotor overexcitability score more indicative of giftedness (see Mendaglio & Tillier, 2006; for a review). Because psychomotor overexcitability is often attributed to the misdiagnosis of ADHD and other disorders among the gifted (Ackerman, 2009; Hartnett et al., 2004; Nelson et al., 2006; Webb et al., 2005), a closer examination is warranted. The possibility exists that the child who appears to be hyperactive might actually be displaying a psychomotor overexcitability (Nelson et al., 2006; Webb et al., 2005). Or, the child who is perceived as being inattentive may not have an attention disorder but is simply not challenged by the material being presented in the classroom (Hartnett et al.; Silverman, 1993).

A body of evidence is accumulating that seems to suggest that misdiagnosing gifted children with ADHD is not a rare occurrence (Baum et al., 1998; Rinn & Nelson, 2009; Silverman, 1998). Other researchers have acknowledged the difficulty in recognizing the characteristics of both giftedness and ADHD and in being able to discriminate when one or the other, or both, are present (Leroux & Levitt-Perlman, 2002). In addition, many of the behaviors associated with ADHD are also present in children who do not have ADHD at some point in the development process or may manifest as a result of other conditions (McBurnett, Lahey, & Pfiffner, 1993). Several researchers have recommended that educators and other professionals perform thorough evaluations for both ADHD and giftedness when considering either as a diagnosis (Cramond, 1994).

THE CURRENT STUDY

The purpose of the current study is to provide some exploratory, empirical data to examine the relationship between characteristics of overexcitabilities and symptoms of ADHD among the gifted. This study should not be viewed as exhaustive, as concrete evidence for the possibility of the misdiagnosis of ADHD within a gifted population, or as a comprehensive examination of Dabrowski's (1964) theory of positive disintegration, which is much more involved than just the notion of overexcitabilities (Ackerman,

2009). Rather, this study is meant to provide researchers with some exploratory, initial data in order to begin an exhaustive process of examining the relationship between overexcitabilities and ADHD among the gifted. Although no known empirical data exist to examine the relationship between overexcitabilities and ADHD (Mika, 2006; Nelson et al., 2006), a plethora of speculation exists with regard to this relationship, more research is certainly called for in this area.

This study is limited by the fact that all data gathered were self-reported. However, though parent and teacher rating scales are obviously useful in generating a complete picture with regard to psychological issues, self-report measures become increasingly important during adolescence and early adulthood (Achenbach, 1995). During adolescence, teacher ratings may not always be useful because middle-school and high-school teachers have limited interactions with each student throughout the day. Parent ratings may not be very useful either, because adolescents engage in many behaviors outside the watchful eyes of their parents, particularly behaviors that are antisocial or reckless, and adolescents naturally gravitate toward peers rather than their parents during the middle- and high-school years (Sanrock, 2008). A self-report scale allows an adolescent to report internal feelings and states, such as depression, anxiety, and unstable mood, which are known to become more prominent with an ADHD diagnosis as age increases (Biederman & Steingard, 1989).

METHOD

Participants

Participants were recruited from a summer program for intellectually gifted students held at a comprehensive university in the southern United States. This particular summer program has been in operation for over 20 years and is a 3-week residential program for gifted students entering the eighth, ninth, tenth, or eleventh grades the following school year. To qualify for participation in this summer program, students must have been eligible to attend talent search summer programs (e.g., through the Duke Talent Identification Program) within the past 4 years. This summer program involves 6 hours of class and 1 hour of study hall per day, 5 days a week, for 3 weeks. The students have a variety of courses from which to choose (e.g., humanities, genetics, theater, mathematics), and they enroll in only one course. The students also engage in various social activities after class each day and on weekends.

A total of 116 students participated in this study. Of these, 73 were male and 43 were female. The mean age of the participants was 14.4 ($SD = 1.17$), with a range from 12 to 16. They had just completed the seventh through tenth grades, with 15.5% completing the seventh grade ($n = 18$), 30.2% completing the eighth grade ($n = 35$), 26.7% completing the

ninth grade ($n = 31$), and 23.3% completing the tenth grade ($n = 27$). Five students did not report their grade level. Approximately 85% of the participants were Caucasian ($n = 99$). Of the remaining 15%, 6.9% were Asian or Pacific Islander ($n = 8$), 1.7% were African American ($n = 2$), 0.9% were Hispanic ($n = 1$), 0.9% were biracial ($n = 1$), and 5 students did not report their racial background.

Materials

Demographic Information

Participants were given a demographic questionnaire to assess gender and age, among other information. Other data were gathered from participants' applications for summer camp participation, including racial background and grade level.

Overexcitabilities

The Overexcitabilities Questionnaire–Two (OEQ-II) was designed to measure the five forms of overexcitability: psychomotor, sensual, imaginal, intellectual, and emotional (Falk, Lind, Miller, Piechowski, & Silverman, 1999). The OEQ-II includes 50 self-report items using a 5-point Likert scale with responses ranging from 1 (*not at all like me*) to 5 (*very much like me*). High scores indicate higher levels of overexcitability. From the normative sample, internal reliability was high for each form of overexcitability: psychomotor ($\alpha = .86$), sensual ($\alpha = .89$), imaginal ($\alpha = .85$), intellectual ($\alpha = .89$), and emotional ($\alpha = .84$). Each overexcitability subscale was made up of 10 items. An example from the Psychomotor Overexcitability subscale is “When I have a lot of energy, I want to do something really physical.” A sample item for the Sensual Overexcitability subscale is “Viewing art is a totally absorbing experience.” The Intellectual Overexcitability scale includes items such as “Theories get my mind going,” and an example from the Imaginal Overexcitability subscale is “Things that I picture in my mind are so vivid that they seem real to me.” A sample item for the Emotional Overexcitability subscale is “I can be so happy that I want to laugh and cry at the same time.”

Symptoms of ADHD

The Conners' ADHD/DSM-IV Scales–Adolescent (CADS-A, 2001) is a self-report scale designed to measure symptoms of ADHD in adolescents ages 12–17. This scale is one of a series of well-known scales designed by Conners to measure ADHD in children, adolescents, and adults. The CADS-A consists of 30 items using a 4-point Likert scale with responses ranging from 0 (*not true at all, never, seldom*) to 3 (*very much true, very often, very frequent*) and results in four subscale scores. The Conners' ADHD Index identifies children and adolescents who are “at

risk” for ADHD. High scores on the DSM-IV: Inattentive subscale “indicate an above average correspondence with the DSM-IV diagnostic criteria for Inattentive type ADHD.” High scores on the DSM-IV: Hyperactive–Impulsive subscale “indicate an above average correspondence with the DSM-IV diagnostic criteria for Hyperactive–Impulsive type ADHD.” High scores on the DSM-IV: Total subscale “indicate an above average correspondence to DSM-IV criteria for combined Inattentive and Hyperactive–Impulsive type ADHD” (Conners, 2001, p. 41). Sample items include “I have trouble keeping my attention focused when playing or working,” “I am forgetful in my daily activities,” and “I have trouble waiting in line or taking turns with others.” From the normative sample, reliability coefficients range from .75 to .85 (Conners, 2001).

Procedure

Parental consent was obtained prior to the start of the summer program. Adolescents whose parents gave consent were invited to take part in the study, but they were given the option to decline participation. All of the adolescents participated. Data were gathered at a single session during the first week of each summer program.

RESULTS

Correlation analyses were used to examine the relationship between overexcitabilities and symptoms of ADHD. A series of independent sample *t*-tests revealed no differences between males and females with regard to the four ADHD Conners subscales, Conners' ADHD Index, $t(114) = -1.15$, $p = .25$; DSM-IV: Inattentive, $t(114) = -.84$, $p = .41$; DSM-IV: Hyperactive–Impulsive, $t(114) = -.95$, $p = .35$; DSM-IV: Total, $t(114) = -.98$, $p = .33$. Thus, the correlation analysis was run for males and females simultaneously. The means and standard deviations of the ADHD variables can be found in Table 1.

TABLE 1
Means and Standard Deviations of ADHD Variables

Subscale scores	Total mean (SD)
Conners' ADHD Index	
Male	7.32 (4.96)
Female	8.40 (4.76)
DSM-IV: Inattentive	
Male	5.62 (4.78)
Female	6.37 (4.56)
DSM-IV: Hyperactive–Impulsive	
Male	6.59 (4.91)
Female	7.47 (4.65)
DSM-IV: Total	
Male	12.22 (8.85)
Female	13.84 (8.24)

TABLE 2
Correlations of Variables of Interest

	Conners' ADHD index	DSM-IV: Inattentive	DSM-IV: Hyperactive- Impulsive	DSM-IV: Total
Emotional OE	.15	.09	.17	.15
Psychomotor OE	-.02	-.06	.29**	.13
Sensual OE	.20*	.14	.10	.13
Imaginational OE	.30**	.31**	.29**	.33***
Intellectual OE	-.01	-.02	.05	.02
Conners' ADHD Index	—	—	—	—
DSM-IV: Inattentive	.70***	—	—	—
DSM-IV: Hyperactive- Impulsive	.53***	.65***	—	—
DSM-IV: Total	.68***	.90***	.91***	—

Note. OE = Overexcitability.
* $p < .05$. ** $p < .01$. *** $p < .001$.

A correlation matrix of all variables of interest can be found in Table 2. Significant correlations were found between the psychomotor overexcitability scores and the DSM-IV: Hyperactive–Impulsive subscale scores, $r = .29$, $p < .01$; between the sensual overexcitability scores and the Conners' ADHD Index subscale scores, $r = .20$, $p < .05$; and between the imaginational overexcitability scores and the Conners' ADHD Index subscale scores, $r = .30$, $p < .01$; the DSM-IV: Inattentive subscale scores, $r = .31$, $p < .01$; the DSM-IV: Hyperactive–Impulsive subscale scores, $r = .29$, $p < .01$; and the DSM-IV: Total subscale scores, $r = .33$, $p < .001$.

DISCUSSION

The purpose of the current study was to provide some exploratory, empirical data to examine the relationship between characteristics of overexcitabilities and symptoms of ADHD among the gifted. The results indicated a significant relationship between the psychomotor overexcitability scores and the DSM-IV: Hyperactive–Impulsive subscale scores; between the sensual overexcitability scores and the Conners' ADHD Index subscale scores; and between the imaginational overexcitability scores and the Conners' ADHD Index subscale scores, Inattentive subscale scores, the DSM-IV: Hyperactive–Impulsive subscale scores, and the DSM-IV: Total subscale scores. These relationships should not be mistaken for actual misdiagnosis. Rather, the authors hope to illuminate the potential relationship between characteristics of overexcitabilities and symptoms of ADHD.

The relationship between the psychomotor overexcitability scores and the DSM-IV: Hyperactive–Impulsive subscale scores is not surprising. High scores on the DSM-IV: Hyperactive–Impulsive subscale “indicate an above average correspondence with the DSM-IV diagnostic

criteria for Hyperactive–Impulsive type ADHD” (Conners, 2001, p. 41). The psychomotor overexcitability subscale of the OEQ-II (Falk et al., 1999) essentially measures the same thing as the questions related to DSM-IV: Hyperactive–Impulsive subscale, which provides direct evidence for a possibility of misdiagnosis. If the two questionnaires are framed in such a way that the “symptoms” are indistinguishable, researchers, educators, physicians, and parents need to be aware of the overlap in characteristics and the factors that distinguish a psychomotor overexcitability from ADHD. For example, hyperactivity may be manifested in different ways, whereby the gifted child may show focused energy and the child with ADHD shows largely unfocused energy (Leroux & Levitt-Perlman, 2000). Research also indicates that a high psychomotor overexcitability score is associated with higher self-concepts, or greater feelings of confidence, in a variety of facets (Gross et al., 2007) and a low psychomotor overexcitability score is associated with lower self-concepts in a variety of facets (Rinn, Mendaglio, Rudasill, & McQueen, 2010). Level of self-concept, then, could be another way to distinguish between children with a psychomotor overexcitability and children with ADHD, because children with ADHD typically have lower self-concepts than children without ADHD (Tabassam & Grainger, 2002).

The relationship between the sensual overexcitability scores and the Conners' ADHD Index subscale scores indicates that those individuals who have a sensual overexcitability might be at risk for an ADHD diagnosis. Dabrowski (1972) considered sensual overexcitability, as well as psychomotor overexcitability, to be a lower form of overexcitability, which, by itself, does not lead to advanced development. For example, when only psychomotor and/or sensual forms of overexcitabilities were found in certain individuals, these lower forms of overexcitability were associated with various types of psychopathology, such as sociopathic behaviors (Dabrowski, 1972). The presence of the higher forms of overexcitability can serve to transform the psychomotor and sensual overexcitabilities into positive forms. Thus, the presence of a sensual overexcitability alone may be indicative of the potential for such psychopathology as an ADHD diagnosis.

What is most interesting is the relationship between the imaginational overexcitability scores and all four indices of the Conners' ADHD/DSM-IV scales. Those individuals who have an imaginational overexcitability might have “an above average correspondence with the DSM-IV diagnostic criteria for Hyperactive–Impulsive type ADHD,” “an above average correspondence with the DSM-IV diagnostic criteria for Inattentive type ADHD,” and “an above average correspondence to DSM-IV criteria for combined Inattentive and Hyperactive–Impulsive type ADHD” and would obviously be at risk for an ADHD diagnosis (Conners, 2001, p. 41). According to this finding, individuals with an imaginational overexcitability are most likely

to display symptoms characteristic of ADHD, which would increase the likelihood of an ADHD misdiagnosis, or are more likely to actually have an ADHD diagnosis. The imaginal overexcitability is included as a higher form of overexcitability, though, which is supposed to allow for higher levels of development, as previously mentioned. Because imaginal overexcitability might be related to the ADHD criteria for diagnosis, one must wonder about the potential for higher levels of development versus a medical diagnosis.

LIMITATIONS AND DIRECTIONS FOR FUTURE RESEARCH

Because the current sample consisted of only gifted students from a summer program, replication of the current study in settings other than a summer program, such as in the regular classroom, is certainly warranted. Using a more diverse sample is also suggested. Future research should include a comparison of students with differing ability levels and achievement levels with regard to the overexcitability subscale scores and the ADHD subscale scores in order to identify whether or not the patterns found in the current study are unique to gifted adolescents. Further, adolescents from varying ethnic groups and socioeconomic status backgrounds should be included. Most important, though, gifted adolescents with actual ADHD diagnoses should be examined for evidence of overexcitabilities. The adolescents in the current study were simply self-reporting their symptoms of ADHD-related behaviors. Data related to which adolescents had actual diagnoses were not available. Further, gifted adolescents with ADHD could be compared to average-ability adolescents with ADHD in regard to their overexcitability profiles. Children should also be included, because ADHD should be diagnosed during childhood. Finally, because it was beyond the scope of this study, replication should include much more sophisticated analyses than correlational data, such as discriminant function analysis or multiple regression. Ideally, the findings in the current study will prompt researchers to explore this issue in greater detail.

CONCLUSION

A review of the literature seems to indicate that the potential exists for gifted individuals to be incorrectly labeled with a diagnosis of ADHD. This dilemma appears to be supported by two sources: lack of awareness of the characteristics of giftedness, specifically expressions of overexcitabilities, and a predisposition to view these behaviors as indicative of the presence of ADHD. As a result, the manifestations of overexcitabilities are viewed with a preconceived expectation of an ADHD diagnosis. Given the relationships found in this study, much more research needs to be conducted

in order to flesh out the specific relationships between overexcitabilities and ADHD as well as the ramifications for diagnostic procedures.

AUTHOR NOTE

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