

# ISSUES RELATED TO THE UNDERACHIEVEMENT OF GIFTED STUDENTS

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The greater danger for most of us lies not in setting our aim too high and falling short; but in setting our aim too low, and achieving our mark.

—Michelangelo

## INTRODUCTION

**W**hen gifted students fail to achieve at levels commensurate with their abilities, educators and parents lament the waste of such potential. The underachievement of gifted students is not only a resource loss for the nation, but also a personal loss of self-fulfillment for the underachieving individual. When the National Research Center on the Gifted and Talented conducted a national needs assessment in 1990 (Renzulli, Reid, & Gubbins, 1991), the number one issue concerning the field of gifted education was the underachievement of gifted students. Almost 20 years later, the underachievement of gifted students continues to plague educators and parents.

Determining the extent of gifted underachievement is difficult for two reasons. First, no universally accepted definition of giftedness exists. Further, disagreement surrounds how to define underachievement. Most definitions of underachievement involve a discrepancy between ability or potential

(expected performance) and achievement (actual performances; Baum, Renzulli, & Hébert, 1995a; Dowdall & Colangelo, 1982; Emerick, 1992; Reis & McCoach, 2000; Rimm, 1997; Supplee, 1990; Whitmore, 1980). However, researchers and scholars differ in terms of how they operationalize the discrepancy between potential and performance. For instance, Emerick (1988) suggested this discrepancy might include any of the following combinations: high IQ score and low achievement test scores; high IQ score and low grades; high achievement test scores and low grades; high indicators of intellectual, creative potential and low creative productivity; or high indicators of potential and limited presence of appropriate opportunity for intellectual and creative development. However, the subpopulations of students identified using these different discrepancy definitions are likely to be radically different. This example helps to illustrate the difficulties surrounding the multiple definitions and operationalizations of giftedness and underachievement.

Reis and McCoach published an extensive review of literature on gifted underachievers in 2000. In that review, they proposed an operational definition of underachievement that has been adopted in several empirical studies (Matthews & McBee, 2007; McCoach & Siegle, 2003; Siegle, Reis, & McCoach, 2006). They posited that:

Underachievers are students who exhibit a severe discrepancy between *expected achievement* (as measured by standardized achievement test scores or cognitive or intellectual ability assessments) and *actual achievement* (as measured by class grades and teacher evaluations). To be classified as an underachiever, the discrepancy between expected and actual achievement must not be the direct result of a diagnosed learning disability and must persist over an extended period of time. Gifted underachievers are underachievers who exhibit superior scores on measures of expected achievement (i.e., standardized achievement test scores or cognitive or intellectual ability assessments). (Reis & McCoach, 2000, p. 157)

The severity of the discrepancy required to label someone as a gifted underachiever also is a crucial component of any operationalization of the construct. Given the phenomenon of regression to the mean, we would not expect the achievement levels of those with the highest measured ability to be equally extreme. In addition, most people probably perform somewhat below their capacity or ability. Thus, the discrepancy between a student's ability and his or her achievement must be severe enough to warrant substantial concern. Operationalizing this degree of discrepancy is critical for research on gifted underachievers.

Although grades are less reliable than standardized measures of academic achievement, they do provide an indication of a student's current level of achievement within a classroom environment. In addition, to some extent, grades also reflect student motivation. Conversely, students with high ability and low standardized achievement test scores may be underachievers, or they may have undiagnosed learning disabilities. Therefore, Moon and Hall (1998) recommended that gifted

students with low standardized achievement test scores should be screened for undiagnosed learning disabilities prior to treating them as underachievers.

Without a commonly accepted definition of giftedness or a common definition of underachievement, it is impossible to determine how prevalent underachievement is among gifted students. Speculation ranges from 10% to more than 50% (Hoffman, Wasson, & Christianson, 1985; Richert, 1991). The issue is further confused when considering underachievement in academics versus underachievement in nonacademic areas, which often are essential for original contributions to a field (Richert, 1991). Therefore, as McCoach and Siegle (2008) noted, any estimation of the number of gifted underachievers is speculation at best.

When parents and teachers are asked to identify underachievers, they predominately identify males. Across a number of studies of underachievers, the ratio of male underachievers to female underachievers appears to be at least 2:1 (Baker, Bridger, & Evans, 1998; Matthews & McBee, 2007; McCoach, 2002; Peterson & Colangelo, 1996; Richert, 1991; Siegle, Reis, McCoach, Mann, et al., 2006). However, Richert suggested that although twice as many males as females underachieve academically in school, “over an individual’s lifetime, females as a group are the greater underachievers” (p. 145). This is because women are far more likely to abandon or compromise their careers to take care of family obligations such as children.

## EMPIRICAL LITERATURE

Underachievement tends to appear in middle school and often continues into high school (Peterson & Colangelo, 1996). Peterson and Colangelo examined the school records of 153 gifted students and analyzed trends in their achievement throughout their secondary school careers. In their study, 45% of the students who were underachieving in grade 7 continued to underachieve throughout junior high and high school. Peterson (2000) later conducted a follow-up study of these achievers and underachievers 4 years after high school graduation. High school and college academic achievement were strongly related ( $r = .64$ ). All of the achievers in her study attended college, and 83% of the achievers finished 4 years of college. In contrast, 87% of underachievers attended college; only 52% finished 4 years.

In the largest longitudinal study of underachievers conducted to date, McCall, Evahn, and Kratzer (1992) found that 13 years after high school, the educational and occupational status of high school underachievers paralleled their grades in high school, rather than their abilities. They also found that underachievers were less likely to complete college and remain in their jobs.

Underachievement can occur when gifted students do not receive the support and educational services they require to develop their talent. Gifted students of poverty and students from underserved groups are particularly vulnerable. Students who are not given adequate opportunities to develop their talents often become “involuntary underachievers.” Forty-four percent of lower income students

who enter first grade in the top 10% will not score in the top 10% by the time they reach fifth grade (Wyner, Bridgeland, & DiIulio, 2007). Gifted students from higher income homes progress twice as fast as their gifted peers from lower income homes. "In elementary and high school, lower-income students neither maintain their status as high achievers nor rise into the ranks of high achievers as frequently as higher-income students" (Wyner et al., 2007, p. 5). High-achieving lower income students drop out of high school or do not graduate on time at a rate twice that of their higher income peers. They are less likely to graduate from college than their higher income peers (59% versus 77%) and less likely to attend the most selective colleges (19% versus 29%). Limited resources in their schools, communities, and families factor into the involuntary underachievement of many students from underserved populations.

Research suggests that quality of schooling (Anderson & Keith, 1997; Baker et al., 1998) and completion of academic coursework (Anderson & Keith, 1997) appear to be significant predictors of achievement for at-risk high school students. The completion of each additional academic course results in an increase of one eighth of a standard deviation in predicted academic achievement test scores (Anderson & Keith, 1997).

Underachievers are a fairly heterogeneous group. Although some underachievers may display low levels of characteristics associated with underachievement, other underachievers score high on measures of these same characteristics. Therefore, checklists of characteristics of underachievers have limited value. Moreover, the variability of motivational and attitudinal measures within samples of underachievers tends to be higher than the variability for comparison groups of average or high achievers (McCoach & Siegle, 2003). The large amount of variability suggests that although underachievers may share some common characteristics, they are not a homogeneous population of students. Each student may underachieve for a somewhat unique combination of reasons; therefore, it is possible that gifted underachievers may be low on only one or two of the many characteristics commonly ascribed to underachievers and may be average or even high in all other areas. Given the variability among underachievers, several researchers in the area of underachievement have proposed specific subtypes of underachievers (e.g., Heacox, 1991; Mandel & Marcus, 1995; Rimm, 1995, 1997; Siegle & McCoach, 2005).

## MAJOR THEMES FOR THE FIELD OF GIFTED EDUCATION

The research literature generally suggests six possible causes of underachievement: an initiating situation, excessive power, inconsistency and opposition, inappropriate classroom environment, competition, and value conflicts. Sometimes events in students' lives alter their achievement patterns. This might be a move to a new school or a change in the family structure. Parents and educators who are aware of these potential pitfalls can prevent or lessen their impact (Rimm, 1995).

Young people who experience excessive power at home sometimes have difficulty adjusting to a school environment where they have limited choices. Bestowing adult status on a child at too young an age may contribute to the development of underachievement (Rimm & Lowe, 1988).

Gifted students who receive conflicting messages from parents, conflicting messages from parents and teachers, or conflicting messages from gifted specialists and classroom teachers may find reasons not to achieve. Rimm and Lowe (1988) studied the family environments of 22 underachieving gifted students. In 95% of the families, one parent emerged as the disciplinarian, while the other parent acted as a protector. Often, opposition between parents increased as the challenger became more authoritarian and the rescuer became increasingly protective. Parents of underachievers also tend to be either overly lenient or overly strict (Pendarvis, Howley, & Howley, 1990; Weiner, 1992) or may vacillate between lenient and strict.

Classrooms do not always provide intellectually stimulating environments for gifted and talented students to thrive. Many gifted students underachieve by default; they simply do not receive the academic content or instruction necessary to reach their potential. Regular classroom time often is unproductive for gifted learners. Many gifted elementary school students already know 40–50% of the material to be covered in their current grade prior to the start of the school year (Reis et al., 1993). The majority of gifted students spend 80% of their time in regular education settings instead of in specialized programs designed to meet their unique needs (Westberg, Archambault, Dobyms, & Salvin, 1993), yet 61% of classroom teachers have not received training in meeting the needs of advanced students (Robinson, Shore, & Enerson, 2007).

Students must learn to function within a competitive society; at the same time, overly competitive situations also can be detrimental. Gifted students with a fixed theory of intelligence may not wish to risk their “giftedness” by performing poorly in competitive situations. For them, not performing is less risky than performing and failing.

. . . holding a fixed theory of intelligence appears to turn students toward concerns about performing and looking smart. Holding a malleable theory appears to turn students toward concerns about learning new things and getting smarter. We have also seen that entity theorists’ concerns about looking smart can prevent them from seeking learning opportunities, even ones that could be critical to performing well in the future. (Dweck, 2000, p. 23)

Finally, value conflicts between family, peers, and the school environment can limit student achievement. Negative peer attitudes often relate to underachievement (Clasen & Clasen, 1995; Weiner, 1992). Underachieving students frequently report peer influence as the strongest force impeding their achievement. In one study, 66% of high-ability students named peer pressure or the attitude of the other kids and friends as the primary force against getting good grades (Clasen & Clasen,

1995). In a national longitudinal study of secondary students (NELS:88), students with friends who cared about learning demonstrated better educational outcomes than those in less educationally oriented peer groups (Chen, 1997). Berndt (1999) measured students' grades and behavior in the fall and spring of one academic year. Berndt found that students seemed to more closely resemble their friends at the end of the school year than they did at the beginning of the school year; students' grades decreased between fall and spring if their friends had lower grades in the fall. On the other hand, Reis, Hébert, Diaz, Maxfield, and Ratley (1995) found that high-achieving peers had a positive influence on gifted students who began to underachieve in high school and those peers contributed to some students' reversal of their underachievement. As McCoach and Siegle (2008) noted in their review of literature on gifted underachievers, although peer achievement levels do relate to students' academic achievement, it is unclear whether the choice to associate with other nonachievers is a cause or a result of gifted students' underachievement.

## TRENDS AND DIRECTIONS

Although some gifted students underachieve because they have not had opportunities to develop their potential, others choose not to develop their potential. Siegle and McCoach (2002) suggested that students who underachieve may espouse one of three problematic beliefs: They do not believe they have the skills to do well and are afraid to try and fail; they do not see the work they are being asked to do as meaningful; or they believe the "deck is stacked against them" and that any effort they put forth will be thwarted. When any one of these beliefs exists, students tend not to perform well.

Students must believe they have the skills to perform a task before they will attempt it. For example, students must believe they are capable in mathematics before they will attempt a difficult math problem. If they believe that mathematics is too difficult, they are unlikely to put forth appropriate effort. Motivated students believe that they have the skills to do well in school. It also is imperative that students recognize their own role in developing these skills (Siegle, 2008). Students who believe that their abilities are not innate but have been developed are more likely to attempt challenging tasks. Gifted students are at risk for believing that their abilities are simply innate, particularly if others in their lives have not discussed their giftedness with them. Parents and teachers often are reluctant to talk with children about their giftedness. It is important for gifted children to recognize that the talents they possess are acquired, that they have something to do with acquiring them, and that they are capable of further developing these talents and even acquiring new ones. Wu (2005) noted that Chinese culture deemphasizes giftedness as an innate ability and emphasizes the concept of talent performance. Therefore, gifted children need to take responsibility for developing their gifts.

For many students, school is not meaningful. Eccles' general expectancy-value model of motivation posits a value of self-regulated learning. This includes goals and

beliefs about the importance and interest of the task (Pintrich & DeGroot, 1990). With this model, achievement values include the perceived enjoyment, importance, and potential usefulness of a task (Wigfield & Karpathian, 1991). When students value the goals of school, they are more likely to engage in academics, expend more effort on their schoolwork, and do better academically (Pintrich & DeGroot, 1990; Wigfield, 1994). In a study of university freshman honors students, Siegle, Condon, and Romey (2007) found that in 15 different talent areas (from leadership and musical to mathematics and writing) there was always a significant, positive relationship between students' interest in a talent area and their assessment of their skill in that area. Students who reported being interested in an area tended to do well; those with lower interest also had lower self-reported achievement.

Brophy (2008) suggested that some content is not important and educators must do a better job of sharing why other content is pertinent. "[M]uch of the school curriculum . . . does have potential value, but we have lost sight of the reasons for including it. We need to rediscover and articulate the life-application bases for retaining this content and teach it accordingly" (p. 137).

Kaplan (2006) proposed that educators can make learning meaningful by helping students develop an appreciation of learning. Accordingly, students can develop a personal value for learning by reflecting on how their lives will be different by learning, or not learning, given school content.

Students' perceptions of their environment play an important role in their achievement motivation. Students must expect to succeed and know that those around them will support their efforts. They must trust that their efforts will not be thwarted by external factors and that putting forth effort is not a waste of time and energy. Students who view their environment as friendly and reinforcing may be more likely to demonstrate motivated behavior. Phrases such as, "My teachers does not like me" or "I cannot learn the way he teaches" may be signs that students do not view their environment as friendly or that they have developed a belief that their efforts do not affect outcomes (Rathvon, 1996).

Some environmental factors are within an individual's control, others are not. Ogbu (1978) noted that people put their effort into areas where they believe they can be successful and in environments where they believe they are supported. Worrell (2007) noted that the relationship between ethnic identity exploration/affirmation and academic achievement was moderated by the environment for African American students. Thus, perceptions of the environment factor significantly in achievement motivation.

Although each of the three attitudes discussed above is important, it is their interaction that results in engagement and performance. Motivated students feel good about their abilities, find the tasks in which they are engaged meaningful, and feel supported and appreciated in their environment. When these three areas are measured, the lowest scoring one of them often is the single best predictor of achievement and satisfaction levels (McCoach, in press; Siegle & McCoach, 2009). In other words, those who are motivated and achieve tend to believe they have the skills to do well (self-efficacy), tend to find the work meaningful (goal valuation),

and tend to view their environment as supportive (environmental perceptions). The intensity of the attitudes in the three areas need not be the equally strong; however, attitudes must be positive in each area. Ultimately, the three attitudes direct a resultant behavior (self-regulation) that results in achievement. According to this model, if any one of the three components is low, regardless of the strength of the others, motivation is hindered.

## UNRESOLVED ISSUES, QUESTIONS, AND SUGGESTIONS

Although much of the research on underachievement has focused on characteristics of underachievers, the most important unresolved issue is how to reverse the underachievement of gifted students. Most interventions designed to reverse underachievement fall into two general categories: counseling and instructional interventions (Butler-Por, 1993; Dowdall & Colangelo, 1982). Unfortunately, there is no magic solution to the problem of underachievement and a combination of counseling and instructional interventions appears to currently be the most promising option. The best-known interventions involve part-time or full-time special classrooms (e.g., Supplee, 1990; Whitmore, 1980). These interventions usually involve smaller student/teacher ratios, student choice, and less conventional teaching and learning activities. Baum, Renzulli, and Hébert (1995b) and Emerick (1992) demonstrated that using students' strengths and interests can reverse the underachieving cycle.

No one type of intervention appears to be effective for the full range of underachieving gifted students. Because the factors influencing the development and manifestation of underachievement vary, a continuum of strategies and services may be necessary if we are to systematically address this problem. Different types of underachievers may require different combinations of counseling and instructional or curricular modifications. Successful interventions should incorporate both proactive and preventative counseling and innovative instructional interventions. Future researchers in this field should posit coherent, complete models of gifted underachievement and design interventions in accordance with their proposed models.

First, researchers should begin to explore the relationship between classroom practices and academic underachievement. Research exploring the impact of differentiation, acceleration, enrichment, and other curricular modifications on patterns of achievement and underachievement could provide important information for educators. Reis (1998) observed a relationship between unchallenging or inappropriate curriculum in elementary school and underachievement in middle or high school. If unchallenging scholastic environments produce underachieving gifted students, then providing intellectual challenge and stimulation at all grade levels should decrease underachievement. VanTassel-Baska's curriculum development work at The College of William and Mary is a good example of creating intellectually challenging curriculum in a variety of content areas (VanTassel-Baska & Stambaugh, 2007b). Whether using the William and Mary curriculum with

underachievers can help to reverse their underachievement behaviors would be an interesting line of future inquiry.

Second, the long-term effects of interventions aimed at reversing underachievement behaviors remain underexplored. Do underachievement interventions have enduring effects on student motivation and achievement? What happens when the student is once again faced with nonstimulating schoolwork? Are there critical periods in which the interventions appear to sustain more positive long-term effects? These and many other questions remain unanswered.

Third, research should examine the effectiveness of family oriented interventions, such as family counseling and home and school partnerships. The Focusing on the Future event designed by VanTassel-Baska at The College of William and Mary exposes high-ability learners to career opportunities related to the arts, humanities, mathematics, and sciences; and informs parents of considerations and guidelines for effective career and academic planning. Events such as this can encourage and promote long-term goal setting and subsequent academic achievement.

Finally, special attention needs to be paid to the underachievement of under-represented groups. In 2006, VanTassel-Baska, with assistance of the Jack Kent Cooke Foundation and the National Association for Gifted Children, organized a conference on low-income promising learners. The proceedings of that conference resulted in the publication of *Overlooked Gems: A National Perspective on Low-Income Promising Learners*, which contained priorities for action in this area (VanTassel-Baska & Stambaugh, 2007a). This conference and the subsequent publication provide an agenda for promoting talent development among underserved groups.

As stated earlier, no single intervention will work with all gifted underachievers. Just as gifted achievers differ from gifted underachievers, gifted underachievers differ from each other. Researchers and practitioners need to discover how the factors discussed in this chapter interact with each other and the extent to which they impact the achievement of gifted students. Motivation research has only begun to explore the role giftedness plays on achievement motivation. We look forward to the work future researchers will conduct in this arena.

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## AUTHORS' NOTE

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