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The Socioaffective Impact of Acceleration and Ability Grouping:

Recommendations for Best Practice

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Abstract: Although the academic gains associated with acceleration and peer ability grouping are well documented, resistance to their use for gifted students continues because of concerns that such practices will cause social or emotional harm to students. Results from the broad research indicate that grade skipping, early school entrance, and early admission to college have socioaffective benefits for gifted students who are selected on the basis of demonstrated academic, social, and emotional maturity, but may be harmful to unselected students who are arbitrarily accelerated on the basis of IQ, achievement, or social maturity. There is little research on the socioaffective effects of peer ability grouping. The limited evidence indicates strong benefits for highly gifted students and possibly for some minority or disadvantaged gifted students. Robust evidence does not exist to support the idea that heterogeneous classroom grouping per se significantly increases the risk for adjustment problems among moderately gifted students. Recommendations for best practice based on the available evidence are presented.

Putting the Research to Use: What is the best educational placement for a gifted student? What grouping or acceleration options are most beneficial? Many of us grapple with these decisions every week. We sometimes hesitate to pursue certain programming options out of concern for the gifted child's psychological adjustment. Decisions are often complicated by conflicting claims made about the social or emotional consequences of acceleration and peer ability grouping for gifted students, in particular. Analyzing and synthesizing a body of empirical research is one way to answer these questions and to recommend best practices. My hope is that the analysis and synthesis I offer here will provide some evidence-based guidance for these important decisions, and that in the future, such decisions will be approached systematically on the basis of the best evidence. More importantly, I am optimistic that this synthesis will encourage educational leaders to reevaluate their school district policies and practices regarding acceleration and ability grouping and will strengthen their confidence to institute policies that reflect the best evidence. This synthesis helps to clarify what we do not know, as well as what we do know, about ways in which the consequences of acceleration and peer ability grouping vary in different contexts and raises pointed questions for future research.

Keywords: *peer ability grouping; social; emotional; acceleration*

In spite of the well-documented academic benefits of acceleration and peer ability grouping (Colangelo, Assouline, & Gross, 2004; Cornell, Callahan, Bassin, & Ramsay, 1991; Gagné & Gagnier, 2004; Gross, 1993, 2003; Kulik & Kulik, 1982, 1984, 1987, 1992; Lubinski, 2004; Lubinski, Webb, Morelock, & Benbow, 2001; Moon, Swift, & Shallenberger, 2002; Noble, Arndt, Nicholson, Sletten, & Zamora, 1999; Richardson & Benbow, 1990; Rogers, 2004; Southern & Jones, 1991; Swiatek & Benbow, 1991), there is ongoing resistance to increasing the use of either in many public schools. The reasons given often have to do with concerns about the potential for social or emotional harm to students (Colangelo et al., 2004; Southern, Jones, & Fiscus, 1989). Parents express concern that acceleration will isolate their children or will be too stressful emotionally. Teachers and administrators hesitate over concerns about burnout and adjustment problems years down the road. What can we

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Table 1
Socioaffective Benefits Associated With Academic Acceleration

Benefit	Sample Studies Reporting the Benefit
Accelerants report satisfying social relationships	Brody, Lupkowski, & Stanley, 1988; Brody, Muratori, & Stanley, 2004; Caplan, Henderson, Henderson, & Fleming, 2002; Charlton, Marolf, & Stanley, 1994; Gross, 2003; Gross & van Vliet, 2005; Janos et al., 1988; Lupkowski, Whitmore, & Ramsay, 1992; Noble, Arndt, Nicholson, Sletten, & Zamora, 1999; Pollins, 1983; Robinson & Janos, 1986; Sayler & Brookshire, 1993
Positive self-esteem, self-concept, or self-confidence	Bower, 1990; Lupkowski et al., 1992; Olenchak, 1995; Rogers, 1992; Thomas, 1987
No evidence of significant negative effects on social or emotional development	Bower, 1990; Brody et al., 2004; Gagné & Gagnier, 2004; Gross, 1993, 2003; Janos, Robinson, & Lunneborg, 1989; Lubinski, 2004; Lubinski, Webb, Morelock, & Benbow, 2001; Noble, Robinson, & Gunderson, 1993; Richardson & Benbow, 1990; Robinson & Janos, 1986; Rogers, 1992; Sayler & Brookshire, 1993; Swiatek, 1993
High level of satisfaction about the choice to accelerate	Brody, 1988; Brody et al., 2004; Charlton et al., 1994; Gross, 2003; Lubinski et al., 2001; Noble et al., 1999; Noble & Drummond, 1992; Noble & Smyth, 1995; Sayler & Brookshire, 1993; Stanley, Slotnik, & Cargain, 1996
Advanced social maturity; greater independence; social leadership	Gross, 1993, 2003; Hobson, 1963; Janos et al., 1989; Noble et al., 1993; Robinson & Janos, 1986; Rogers, 1992; Thomas, 1987; Worcester, 1956
No evidence of burnout	Kolitch & Brody, 1992; Swiatek, 1993; Swiatek & Benbow, 1991
Higher educational aspirations	Lubinski, 2004; Lubinski et al., 2001; Olszewski-Kubilius & Grant, 1996

say in response? What do we know about the immediate and long-term socioaffective impact of acceleration on gifted students? Is there any research on the socioaffective impact of peer ability grouping to guide us? What recommendations can we make for best practice?

Given that several comprehensive reviews of the research on acceleration and on peer ability grouping are available (Brody, Muratori, & Stanley, 2004; Cornell et al., 1991; Gross & van Vliet, 2005; Kulik & Kulik, 1982, 1984, 1992; Lubinski, 2004; Moon & Reis, 2004; Proctor, Black, & Feldhusen, 1986; Robinson, 2004; Rogers, 1992; Slavin, 1987; Southern & Jones, 1991), another review will not be offered here. Instead, the aim of this article is to pull from the research those findings that specifically address the socioaffective impact of acceleration and peer ability grouping and to make recommendations for best practice based on the evidence. The goal is to guide the practitioner in evidence-based decision making regarding the utilization of these two educational options for gifted students.

The Socioaffective Impact of Acceleration

Academic acceleration of high-ability youth is one of the most well-researched topics in education. The growing number of universities accepting younger students and the success of the talent search programs in identifying exceptional academic talent nationwide have made it easier to locate and assess accelerated students, resulting in an ever-growing body of research (Bower, 1990; Brody & Benbow, 1987; Gross, 1993, 2003; Heinbokel, 1997; Plucker & Taylor, 1998; Pollins, 1983; Prado & Scheibel, 1995; Richardson & Benbow, 1990; Swiatek & Benbow, 1991; Thomas, 1993). Although acceleration can take many forms, the three most commonly studied are early entrance to school, early entrance to college, and grade skipping. Studies of these forms of acceleration consistently fail to find evidence of any negative social or emotional effects for nearly all accelerants (Brody et al., 2004; Cornell et al., 1991; Gross, 1993, 2003; Gross & van Vliet, 2005; Robinson, 2004; Rogers, 1992), and numerous studies have identified social or emotional benefits. Table 1 lists the most common socioaffective benefits, along with samples of the empirical studies reporting them.

Although the majority of studies find that acceleration does no harm in either the short or long term, few studies find that it results in a socioaffective advantage for gifted students. In the most thorough analysis of the social and emotional effects of acceleration, Rogers (1992) reviewed 81 studies that investigated the social or emotional impact of acceleration and, using Slavin's (1986, 1987) *best-evidence synthesis* technique, found positive effects in both social (mean effect size = 0.46) and emotional (mean effect size = 0.12) aspects. Social effects were typically examined via social maturity

scores, teacher ratings of social skills, participation in extracurricular activities, and leadership positions held. Emotional effects typically referred to measures of self-concept or teacher or parent ratings of risk taking, independence, and creativity. Rogers (1992) noted significant emotional effects (effect size = .58) for subject-based acceleration in particular.

Several excellent longitudinal studies of accelerated gifted students have tracked the long-term effects of acceleration and found long-lasting social and emotional benefits (Gross, 1993, 2003; Lubinski, 2004; Lubinski et al., 2001). Among them, Gross's (1993, 2003; Gross & van Vliet, 2005) study of 60 Australian children with an IQ of 160+ is noteworthy as the only comparison of children who were radically accelerated with those who were not. Of the 17 students in her study who were able to accelerate radically, there was not a single instance of harm or disadvantage as a result. In sharp contrast, however, was her finding that "the majority of children retained with age peers experienced significant and lasting difficulties in forming or maintaining friendships" (Gross & van Vliet, 2005, p. 159). Her study is unique in its demonstration that failure to accelerate was associated with significant adjustment problems.

Students who skip all or some of high school to enroll in college full time are the focus of a great many studies (Brody, Lupkowski, & Stanley, 1988; Brody & Stanley, 1991; Caplan, Henderson, Henderson, & Fleming, 2002; Ingersoll & Cornell, 1995; Janos et al., 1988; Janos, Sanfilippo, & Robinson, 1986; Lupkowski, Whitmore, & Ramsay, 1992; Muratori, Colangelo, & Assouline, 2003; Noble et al., 1999; Noble & Drummond, 1992; Olszweski-Kubilius, 1995; Robinson & Janos, 1986). These studies come to similar conclusions: Students who are carefully selected tend to do very well academically, socially, and emotionally. Early studies did observe negative social or emotional effects for some early entrants, but these were often ameliorated by a change in curriculum, a change in counseling support, or improved selection criteria.

Do any studies observe a negative socioaffective impact from acceleration? What about the common concerns that accelerated students will not fit in, that they will have problems making friends or be unhappy and have behavior problems? Among the hundreds of studies on acceleration, only three have observed negative emotional effects for accelerated children as a group. The negative effects noted are as follows: decline in academic self-concept (Marsh, Chessor, Craven, & Roche, 1995; Marsh & Hau, 2003; Zeidner & Schleyer, 1999), higher anxiety (Zeidner & Schleyer, 1999), and decline in grades (Zeidner & Schleyer, 1999).

Marsh and Hau's (2003) ambitious, large-scale study of self-concept in a sample of more than 100,000 high school students in 26 countries from the Program of Student Assessment database for the Organisation for Economic Co-operation and Development deserves mention for the controversy it has stirred up. The authors used multilevel modeling to analyze the relationship between self-concept, individual achievement, and school average achievement. They found that students in academically challenging programs had significantly lower self-concepts than did those in nonselective schools. Marsh and Hau argued persuasively that the observed decline in academic self-concept was a serious concern given that academic self-concept mediates educational aspirations, effort, motivation, and coursework selection.

Critics, however, warned that it is difficult to interpret these findings (Dai, 2004; Plucker et al., 2004). Is a higher academic self-concept and less anxiety necessarily better? What if it means that students have a distorted view of their competence? Plucker et al. (2004) reasoned

> Is it possible that self-concepts are reduced but remain high (i.e., a modesty effect)? If so, we see the implications of this study quite differently. Indeed, recent research on competence suggests that people who are not skilled at something tend to think of themselves as being highly skilled, often underestimating the abilities of others (Dunning, Johnson, Ehrlinger, & Kruger, 2003). Sternberg (1999) has proposed that this lack of realistic self-assessment prevents success in highly competitive fields: One needs a realistic view of one's abilities in order to capitalize on personal strengths and compensate for weaknesses. For these reasons, being in the company of like-minded peers with whom one can relate, converse, and argue is a critical component of intellectual and social development that this study does not address. (p. 269)

In spite of the consistent evidence of socioaffective benefits for accelerants as a group, it is important to note that negative effects are occasionally observed for individuals. Some accelerated gifted students do exhibit problems with conduct or mood. Two examples will illustrate.

Richardson and Benbow (1990) asked more than 2,000 junior high students who scored high on the Scholastic Achievement Test (SAT)–Math from 1972 to 1974 to complete questionnaires at ages 18 and 23. By age 18, more than one half the sample had accelerated their education. Richardson and Benbow found no differences between accelerants and nonaccelerants with

respect to self-esteem, locus of control, social interactions, identity, self-acceptance, or social and emotional problems. They also found no gender differences. At age 23, however, 3% of the respondents did view the acceleration as having a negative impact on their life.

Gagné and Gagnier (2004) asked 78 Canadian teachers, each with at least one early entrant in his or her classroom, to judge all of their students on four indicators of adjustment: interest in academic achievement, maturity toward school tasks (attention, concentration, and perseverance), social integration, and conduct. To minimize raters' tendency to exaggerate positive ratings, the authors asked the teachers to choose the five most well-adjusted students in their class and rank them from 1 to 5 and then to choose the five least well-adjusted students and rank them from A to E. In their quantitative analysis, Gagné and Gagnier found no differences in adjustment between early entrants and regularly admitted students, but in their qualitative analysis they observed that teachers rated almost 30% of the early entrants as below average on two or more dimensions of adjustment.

We should conclude that the oft-cited concern that academic acceleration will cause social or emotional harm to gifted children is not supported in the empirical literature. There is no evidence that accelerated gifted students as a group will have problems making friends or getting along with others or that they will become overly stressed, depressed, or suicidal. However, there are documented cases of individual accelerated students having significant adjustment problems. We therefore cannot conclude that all gifted students should grade skip or enter kindergarten or enroll in college early.

Although research shows no substantial positive or negative socialization or psychological differences for grade skipping, early admission to college, or early entrance to kindergarten, we cannot make similar claims for other accelerative options, because they are not as well researched. It is impossible to draw solid conclusions about the social or emotional impact of Advanced Placement (AP) or honors classes, magnet schools, independent study, and curriculum compacting, for instance, because studies do not distinguish one form of acceleration from another and there is too much uncontrolled variability in how students are selected for these options (Cornell et al., 1991). We can predict that gifted students who are carefully selected for accelerative options should not only experience academic benefits, but may also experience some social or emotional benefits as well, and that there may be circumstances in which it is not the best option for certain individuals. Risks can possibly be minimized by using a tool like the Iowa Acceleration Scale (Assouline, Colangelo, Lupkowski-Shoplik, & Lipscomb, 2003) to select candidates carefully.

Given that there is little evidence to support the idea that gifted children who are accelerated manifest better social and emotional adjustment than those who are not accelerated, primarily because few studies compared gifted accelerated children with those who did not accelerate (e.g., see Gross, 2003), we do not have sufficient evidence to make the claim that gifted children who are accelerated do better socially or emotionally than do gifted children who are not accelerated.

The Socioaffective Impact of Peer Ability Grouping

There is ample evidence in the literature that grouping students of high ability together benefits their achievement (Brody & Benbow, 1987; Brody & Stanley, 1991; Gamoran & Berends, 1987; Isaacs & Duffus, 1995; Janos & Robinson, 1985; Kolloff, 1989; Kulik & Kulik, 1982, 1984, 1987, 1990; Lou et al., 1996; Rogers, 1992, 1993, 2004; Slavin, 1990; Southern & Jones, 1991; Starko, 1988; Vaughn, Feldhusen, & Asher, 1991), but few have examined its socioaffective impact (Adams-Byers, Whitsell, & Moon, 2004; Gross, 1993, 2003; Gross & van Vliet, 2005; Kulik & Kulik, 1982, 1987; Marsh et al., 1995; Marsh & Hau, 2003; Moon, Swift, & Shallenberger, 2002; Shields, 1995; Zentall, Moon, Hall, & Grskovic, 2001). How clear is it that such grouping provides social or emotional benefits? Is there empirical evidence that failure to group students by ability harms some gifted students? What socioaffective impact, if any, does ability grouping have?

The literature on the socioaffective effects of peer ability grouping is not nearly as extensive as it is on acceleration, and the debate about ability grouping is often confounded by mixing of terms. Peer grouping is defined in the literature as any arrangement that attempts to place students with similar levels of ability in instructional groups. The most common form is between-class ability grouping in secondary schools, but forms of within-class ability grouping are also seen, especially at the primary level, where students are often grouped by ability within class for reading and, less often, math. Tracking (or *streaming*, as it is called in Europe) is a hotly debated but pervasive form of ability grouping in secondary schools in which students are assigned on the basis of ability to a series of classes.

Table 2
Socioaffective Benefits Associated With Peer Ability Grouping

Benefit	Sample Studies Reporting the Benefit
More favorable attitude toward subject matter	Adams-Byers, Whitsell, & Moon, 2004; Gross, 2003; Kulik & Kulik, 1982, 1984, 1987; Rogers, 1993; Starko, 1988
Greater development of students' career interests	Isaacs & Duffus, 1995; Shields, 1995; Starko, 1988
Healthy social relationships	Gross, 2003; Isaacs & Duffus, 1995; Janos et al., 1988; Janos, Robinson, & Lunneborg, 1989; Noble & Drummond, 1992; Olszewski-Kubilius, 1995; Sayler & Brookshire, 1993
High motivation	Adams-Byers et al., 2004; Isaacs & Duffus, 1995; Kuriloff & Reichert, 2003

Most commonly these include a college-prep track, a vocational track, and a special education track. Tracking is a full-scale, permanent grouping of students by ability, as measured by test scores or grades. Ability grouping includes tracking, but not all ability grouping is tracking.

The overall conclusion is that various forms of ability grouping have differential effects for gifted students. Peer ability grouping seems to have positive socioaffective effects for some gifted students, neutral effects for others, and detrimental effects on a few. Table 2 lists the socioaffective benefits associated with peer ability grouping along with the studies reporting the benefits.

Among the studies that examined the impact of ability grouping on self-concept, some reported a decline in self-concept (Gross, 2003; Kulik & Kulik, 1984; Shields, 1995), others reported a gain (McQuilkin, 1981), and some reported no change (Maddux, Scheicher, & Bass 1982; Vaughn et al., 1991). Even within studies, differential effects on self-concept are observed. For instance, Rogers' (1992) best-evidence synthesis found differential effects on self-esteem for different grouping arrangements: small gains for nongraded classrooms and early entrance to college, small losses for subject acceleration, and no differences for AP.

Although some authors view a decline in self-concept as a serious concern (see, e.g., Marsh & Hau, 2003), others perceive the decline as simply an adjustment to a more realistic perception of one's abilities (see, e.g., Plucker et al., 2004; Rogers, 2004) or a reflection of a new realization of the discrepancy between their ability and their achievement (Gross, 2003).

Studies that use student self-report measures to explore the socioaffective impact of ability grouping also report mixed findings. For instance, in their survey of gifted students' perceptions of homogeneously and heterogeneously grouped classrooms, Adams-Byers et al. (2004) reported that their 44 subjects "perceived mixed-ability grouping to offer the greatest number of social/emotional advantages and high-ability grouping to offer the greatest number of academic advantages" (p. 10). However, 54% of the self-reported disadvantages of ability grouping were related to a decrease in achievement status due to the greater competition in such classrooms.

In another example, Shields (1995) used a questionnaire to assess the attitudes and perceptions of fifth- and eighth-grade gifted students in homogenous and heterogeneous classrooms and came up with some unexpected results. First, both fifth- and eighth-grade students in homogeneous classrooms reported more development of their career interests. Eighth-grade students in heterogeneous classrooms demonstrated greater academic self-concept than those in homogeneous classrooms. No significant differences were noted in perceptions of autonomy, independent development, peer relations, enjoyment of school, or involvement in school activities.

A study noteworthy for its finding that heterogeneous grouping may have deleterious social and emotional effects on high-ability students is Farmer and Farmer's (1996) comparison of social affiliations. They studied patterns of social affiliations in third- and fourth-grade gifted students, students with learning disabilities, and students with emotional or behavioral disorders in mixed-ability classrooms. They observed that students tended to form affiliations within only one cluster and that these affiliations were based on shared social or personal characteristics.

"[B]oys receiving AG [academically gifted] services seemed to thrive when there were enough of them in a classroom to allow them to form a core

prosocial group. In the absence of this critical mass, though, the social positioning of boys with AG services was not nearly as positive" (p. 447).

The authors observed that gifted boys in particular tended to rely on antisocial behaviors and affiliations to gain a central social position in the classroom when the classroom lacked a "critical mass" of gifted boys.

The socioaffective impact of ability grouping is further illuminated by a few studies that investigated the academic and personal adjustment of talented minority students (Diaz, 1998; Fordham & Ogbu, 1986; Hebert, 1996, 2001; Isaacs & Duffus, 1995; Jones, 2003; Kuriloff & Reichert, 2003). These studies stressed the contribution of peer support networks to persistence with challenging curriculum and successful transitioning to challenging postsecondary options. They provide limited empirical support that ability grouping facilitates satisfactory peer relationships that may be crucial to keeping students who face barriers to high achievement like language, social isolation, and discrimination engaged in challenging coursework and in keeping motivation and aspirations high.

However, differential results are observed among them as well. For instance, Kuriloff and Reichert's (2003) qualitative study of 27 high school boys in an elite prep school observed that talented Black students who formed a cohesive peer group were able to better negotiate the social geography of the school. Kuriloff and Reichert postulated that being surrounded by peers who were also thinking of going to college, who were also struggling with crossing economic, cultural, or racial borders, and with whom students could share strategies for negotiating the unique social terrain of the school may have reduced the attrition of talented minority students from challenging coursework. In contrast, Jones (2003) concluded in her study of 10 talented women from working-class backgrounds that participation in advanced classes sometimes intensified the experience of marginality and visibility experienced by working class, minority gifted students because in such classes they developed greater awareness of advantage and disadvantage, privilege and injustice, at an earlier age. The apparent contradiction between Jones's findings and those of Kuriloff and Reichert may be due to the opportunities students had in their peer groups to discuss the affiliation conflicts they felt. It is not clear form Jones's study whether her subjects had opportunity to discuss or externalize the conflicts they experienced. It may be that for gifted minority students, peer grouping itself is not as important as having regular opportunities to explore the conflicts they feel regarding affiliation and achievement.

In contrast to those studies that report social or psychological benefits, several studies observed negative socioaffective effects of ability grouping (Adams-Byers et al., 2004; Marsh et al., 1995; Marsh & Hau, 2003; Zeidner & Schleyer, 1999; Zentall et al., 2001). The most common finding is a significant drop in self-concept among high-ability students who are homogeneously grouped, but Zeidner and Schleyer (1999) also observed higher levels of anxiety in homogeneously grouped children.

Highlighting the complexity of the variables involved is a study by Zentall et al. (2001). They conducted the only empirical study examining the socioaffective adjustment of accelerated gifted students with Attention Deficit/Hyperactivity Disorder (AD/HD) in a self-contained classroom. They compared gifted AD/HD students in a self-contained accelerated classroom with gifted peers without AD/HD in the same classroom and average AD/HD students in a regular classroom and found that though the gifted AD/HD students did well academically, they had trouble with social relations. Zentall et al. concluded that "gifted students with AD/HD may be at risk for problems with social/emotional development if they are accelerated with their GT peers without further accommodations for their AD/HD disability" (as cited in Moon & Reis, 2004, p. 114).

Adding to our understanding of the socioaffective impact of ability grouping on gifted students are the results of two studies that observed a negative impact in mixed-ability classrooms. Gross (1989) observed social rejection and alienation, and Baker, Bridger, and Evans (1999) reported decreased motivation and disinterest in school.

Rogers (1993) aptly concludes:

> What seems evident about the spotty research on socialization and psychological effects when grouping by ability is that no pattern of improvement or decline can be established. It is likely that there are many personal, environmental, family, and other extraneous variables that affect self-esteem and socialization more directly than the practice of grouping itself. (p. 10)

Best Practice Recommendations

Given the findings from the research and the limitations of the studies, what best practice recommendations can we make for acceleration and ability grouping in

terms of the social and emotional benefits? Regarding acceleration, we can say the following:

- Acceleration should be routine for highly gifted children. All highly gifted children should be evaluated for grade skipping, in particular.
- Acceleration options should be available for capable students. No school district or school administrator should have a policy that prohibits accelerative options for students, including grade skipping.
- All school districts should have written policies or procedures in place to ensure that acceleration options (e.g., grade skipping, early entrance to kindergarten, and early admission to college) are available in all schools and to guide parents and teachers in the steps to follow for referral and evaluation of students.
- Students who are being considered for acceleration should be screened for social readiness, emotional maturity, and motivation for acceleration. A tool, such as The Iowa Acceleration Scale (Assouline et al., 2003), may help to select candidates for acceleration.
- When possible, students who are grade skipping or making an early entrance to college should do so as part of a cohort. There appear to be benefits to cohort acceleration that are more difficult to replicate when students go it alone.
- Young students considering early college entrance should begin taking one or more college-level classes to gain experience with the social, cognitive, and academic expectations of such classes before attending college full time.
- Similarly, candidates for early entrance to kindergarten should ideally have some experience with preschool before enrolling in kindergarten.
- In selecting candidates for acceleration, educators should consider the possibility that a student who demonstrates low motivation, social withdrawal or isolation, and negative attitudes toward school or academic work might, in fact, be a good candidate for acceleration options.
- All gifted students are not good candidates for grade skipping, early entrance to kindergarten, or early admission to college.

Given that few studies examined peer ability grouping for socialization or psychological effects, what recommendations can we make regarding peer ability grouping? We can suggest the following:

- The menu of grouping arrangements available to gifted students should be expanded so that we meet the diverse needs of this population. Ask "What grouping options do we currently not offer?" and strive to make it available.
- Although peer ability grouping is associated with strong achievement benefits, it appears to pose social or emotional challenges for some gifted children. Do not promote it as the panacea for all.
- It should be recognized that twice-exceptional children may face significant difficulties with social adjustment when ability grouped, if accommodations are not made for their disabilities.
- One should keep in mind that students' preference for mixed-ability grouping arrangements may be reflective of their desire to maintain their perceived achievement status, rather than an indication of any real difficulties with peer relations.
- Staff development should be made the highest priority so that every mixed-ability classroom has a teacher who can deliver accelerated instruction to high-ability students. It is well established that both academic and socioaffective gains are associated with advanced instruction for gifted students.

We should also stress that any discussion about ability grouping must address the valid concern that grouping in the past has been associated with inequality of opportunity (Oakes, 1985; Pool & Page, 1995; Rosenbaum, 1980). Ability grouping has historically discriminated on the basis of class (Hochschild & Scovronick, 2003). Affluent children are three times as likely as disadvantaged children to be placed in high-ability groups, and even though scores of ability or achievement are the primary determinants of such placements, class-based factors come in second (Dauber, 1996; Hochschild & Scovronick, 2003). Peer ability grouping is also often viewed as a race issue, because accelerated or high-ability classes have traditionally been dominated by affluent White children, whereas lower ability classes and special educational programs have been dominated by children of color from economically disadvantaged backgrounds. These are important issues that are not easily resolved. Indeed, they are the basis for some authorities' insistence that the only satisfactory option for all children is placement in heterogeneous classrooms with differentiated instruction, even though research demonstrates that this option does not meet the needs of some children (Gamoran & Mare, 1989; Oakes, 1985).

Proponents of peer ability grouping for gifted children typically emphasize that they are not advocating for tracking, per se, but for flexible ability grouping. However, reality is often not congruent with rhetoric, and in practice, peer ability grouping effectively becomes tracking in many schools in the United States, especially

at the high school level. Our common neglect of this valid concern perpetuates the sometimes adversarial and vitriolic debates about the benefits of homogenous grouping for high ability students. Given that peer grouping is about separation and divisions, any kind of ability grouping is anathema to those who believe that inclusion is the only way to guarantee equity. Within-class groups must be very flexible and provide opportunities for all students to change groups according to their abilities on specific skills. We must be prepared not only to address these concerns, but also to work to ensure fair allocation of resources and quality instruction for all children.

Limitations of the Research

The body of literature on the social and emotional effects of acceleration and ability grouping has four serious limitations. The first is that most of it is descriptive or correlational by design. Well-controlled, randomized design studies are simply not undertaken for obvious reasons, so findings are always based on samples or methodologies that are flawed in some way.

A serious second limitation is that most studies rely on subjective perceptions of adjustment by students, parents, or teachers, rather than on objective measures of psychological indices that are known to be related to positive and negative adjustment. Future research that compares gifted students who are ability grouped or accelerated with those who are not on standardized, objective measures of adjustment would strengthen the empirical base for specific recommendations.

A third limitation is that the common methodology in research on grade-skipping and early entrance to college is ex post facto design, a methodology limited in that it does not control for preexisting group differences on outcome measures. Therefore, we must make caveats before making broad generalizations about the social or emotional impact of acceleration and ability grouping.

The fourth limitation is the voluntary nature of participation in most accelerated or ability-grouped programs. There may be significant differences between those students (and their families) who choose to accelerate learning, select homogenous grouping options, and even load up on advanced classes and their gifted classmates who do not pursue these options. It may be that students who make such choices are better adjusted and demonstrate greater social and emotional maturity than those who do not.

It is often impossible in the research to separate the effects of the accelerated content from the effects of peer ability grouping. When benefits are observed, was it the advanced curriculum that made the difference or the new access to true peers? Gross's (Gross, 2003, 2004; Gross & van Vliet, 2005) analyses suggest that it was some of both.

Unanswered Questions

With the exception of Gross's longitudinal study (1993, 2003; Gross & van Vliet, 2005) no studies examined the socioaffective impact of capable children who were eligible for accelerative options and remained in the regular classroom. Is there harm in not pursuing such options? Gross (1993, 2003) found significant negative effects for the highly gifted children in her sample. Similarly, what happens to students who are dissatisfied in the regular classroom and seek accelerative options to no avail? We do not have research to address that question either.

Few of the studies on early college admission compared early entrants with nonaccelerants to help determine the extent to which acceleration contributes to the observed positive effects (Janos, Robinson, & Lunneborg, 1989; Noble, Robinson, & Gunderson, 1993; Robinson, 2004; Robinson & Janos, 1986). It is possible that students who choose early entrance to college are different from those who do not on some other variable that contributes to their success. Given that few studies compare matched samples of early entrants with students who choose to stay in high school, we do not know how much better or worse their adjustment is than that of students who enter college at age 18. Is the initial period of adjustment for freshman tougher if they are 16 or 14? What differences, if any, are there between gifted college students who enter college at 18 and those who enter at younger ages? What kinds of support, family history, or personal characteristics if any, make a difference for early entrants (Robinson, 2004)?

Although there is a large volume of research on the impact of ability grouping on academic outcomes, there is little research on its effects on social or emotional indicators, making it harder to draw unequivocal recommendations. Most of the earlier research on ability grouping focused on issues of equity or the differences in achievement outcomes of students assigned to different ability groups (Hoffer, 1992; Natriello, Pallas, & Alexander, 1989; Oakes, 1985, 1989; Slavin, 1990).

Little of the research has explored the ways in which ability grouping affects objective indices of social or emotional functioning.

Future research should explore the antecedents of various effects, and we need more studies conducted with comparison groups that rely on recognized standard measures of adjustment. We do not know how ability grouping affects motivation, efficacy, or perceptions of ability in oneself and others. We also know surprisingly little about the friendship patterns of gifted adolescents who are accelerated and those who are not.

Summary

Given that feelings, perceptions, attitudes, and social relations can facilitate or hinder learning, it is essential that the socioaffective impact of various educational practices be assessed. Regarding acceleration, we have sufficient research to conclude confidently that accelerated gifted children, as a group, are no more at risk for social or emotional difficulties than are other children. At the same time, there is little evidence to support the claim that accelerated gifted children have a socioaffective advantage over gifted children who are not accelerated.

Although the research consistently finds no ill group effects, some accelerated gifted children do have adjustment difficulties (e.g., Gagné & Gagnier, 2004). Important individual differences in perceived social and emotional adjustment have been noted among accelerated gifted children in some studies. Proponents of acceleration must be careful to acknowledge this and to guard against giving the impression that there are never any problems when children are accelerated.

Peer ability grouping has differential socioaffective effects and seems to be more advantageous for some students than for others. In particular, the limited research evidence suggests homogeneous grouping arrangements are more strongly associated with positive adjustment outcomes among highly gifted children, although this connection is less clear with moderately gifted students. Gross and van Vliet's (2005) research does suggest that failure to accelerate some highly gifted children can cause relationship problems that last well into adulthood.

There is some evidence to suggest that peer ability grouping may also be more strongly related to positive social and emotional outcomes for gifted minority students, but more research is needed to verify whether this relationship exists for larger numbers of such students.

When negative effects of ability grouping are observed we must use caution in our interpretation of them. In some cases authors have interpreted the data to support a favored viewpoint, rather than putting forth multiple interpretations for consideration. For instance, the finding in some studies that accelerated students spend less time in social activities may indicate a negative change in socialization patterns, or it may indicate that the child is now happily spending more time in talent development and has less time and interest for social activities. A decline in self-esteem may indicate a negative attitude, or it may reflect a more realistic appraisal of one's abilities.

Although the research finds academic and achievement benefits for ability grouping for gifted students, the research does not support the claim of social or emotional benefits for such grouping arrangements. Although advantages in peer relations, motivation, career development, and attitudes toward school have been documented for some gifted students, there is evidence that heterogeneous grouping is an advantage for others as long as challenging curriculum is provided.

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