

# Gifted Students Dropping Out: Recent Findings from a Southeastern State.

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Students who drop out of school have posed a concern for educators since the origins of compulsory public education. Although the relative influence of different reasons is debated, the reasons themselves why students fail to complete high school seem relatively well understood according to a growing body of literature (Battin-Pearson, Newcomb, & Abbott, 2000; Gamier, Stein, & Jacobs, 1997). At the individual level, causes may include a history of poor academic achievement, especially if resulting in grade retention (Jimerson, Anderson, & Whipple, 2002), the influence of antisocial peers, and general deviance (Battin-Pearson et al.). Family-level risk factors appear to include stress, low socioeconomic status, and a non-conventional lifestyle (e.g., acceptance of the use of illicit drugs).

The proportion of students who drop out of school varies quite widely across different groups of students. The National Center for Education Statistics (1999) collects data on dropout rates, and their national data show that dropouts on average are (a) more likely to be of low socioeconomic status--students from the bottom fifth in family income were 6 times more likely to drop out than students in the top fifth--and (b) more likely to be male than female (58% vs. 42%). Dropout rates are higher among Black and Hispanic youth and lower among Asians, in comparison to the rate among White students, although numerically more than half of dropouts are White due to the larger overall number of students who are White. The NCES figures also break down dropout rates by state, showing for example that the statewide event dropout rate for North Carolina in 2000 to 2001 was 6.3%.

Complicating matters, there are several different ways that dropout rates may be calculated (Woods, 1995). The event rate counts students who leave high school each year, in comparison with previous years. Event rate dropout statistics may count the same student multiple times over different years. The status rate is a cumulative rate that is higher than the event rate, as it gives the proportion of all individuals in the population who had not completed or were not enrolled in high school at a given point in time. Status rates might include as dropouts some adults who never attended high school, or who immigrated as adults, as well as students who dropped out of private schools. Neither of these categories would be included in other types of commonly reported dropout rates.

Cohort rates describe the number of dropouts from a single age or grade (cohort) of students over a set period of time. Cohort rates may be thought of as a combination of event rates collected across 2 or more years. Finally, the high-school completion rate indicates the percentage of all individuals of a particular age range (e.g., ages 21 and 22) who have received a high-school diploma or equivalency certificate. Although clearly related, each of these counting methods is likely to produce a unique estimate of the number or proportion of students who have dropped out.

Within the general population, academic performance appears to be one of the stronger predictors associated with dropout decisions, even when there are many years between the achievement measure and the dropout decision. For example, Gamier and colleagues found that low academic performance in sixth grade was associated with a higher risk of dropping out of high school (Gamier et al., 1997), and Jimerson and colleagues (Jimerson, Egeland, Sroufe, & Carlson, 2000) found that academic achievement measured as early as the third grade was a significant predictor of high-school dropout status. Although these findings imply that high-achieving students would have a low dropout rate, researchers generally have focused on students at the middle and lower positions on the achievement distribution. Therefore, it remains unclear how this relationship might apply within an academically gifted population.

Educators have long expressed concern about high-ability students who fail to perform in school (e.g., Cardon & French, 1966; Satir & Cardon, 1969), but relatively few studies have examined the actual rates at which dropping out occurs among gifted students. Part of the difficulty of conducting research in this area stems from the fact that not only have a wide variety of operational definitions been used to characterize who should be counted as having dropped out, but also who should be counted as gifted (Lajoie & Shore, 1981; Woods, 1995). A consequence of this variation is that published estimates of the number of gifted dropouts vary widely, and the actual magnitude of this problem remains subject to debate.

The widespread impact of Terman's (1925) findings, which suggested that gifted students as a population tend to be relatively well adjusted and successful in life, may offer an additional explanation for why dropout

decisions among gifted students rarely have been studied. To broaden the scope of discussion it is useful to characterize dropping out of school as an extreme manifestation of academic underachievement, which has attracted much greater attention in recent years in the gifted education literature (e.g., Diaz, 1998; Emerick, 1992; Flint, 2002; Ford, 1996; Hrbert & Olenchak, 2000; Kanevsky & Keighley, 2003; Matthews & McBee, in press; McCoach & Siegle, 2003; Reis & McCoach, 2000; Whitmore, 1986). Lending support to this characterization, the factors identified as contributing to underachievement among both gifted (Lajoie & Shore, 1981; Renzulli & Park, 2000, 2002) and regular students (McCall, Evahn, & Kratzer, 1992) are quite similar to the factors implicated as causes of dropping out. Here, too, academic ability (specifically in mathematics) has been noted as an important factor differentiating achieving and underachieving gifted students (Colangelo, Kerr, Christensen, & Maxey, 1993).

Perhaps the most frequently cited source for the dropout rate among gifted students is the Marland Report (1972), which specifies that 17.6% of dropouts are gifted (in this case, defined as an IQ of 120 or higher). However, Irvine (1987) has described how this number is due to a misinterpretation, and the actual figure cited by Marland is 3.4%. The oft-misquoted 17.6% figure actually refers to the percentage of gifted students who dropped out in one statewide study, not to the percentage of all dropouts who were gifted. For comparison purposes, the study in question originally identified 165 of 1652 students as 'talented.' The term "gifted" was added later within the Marland Report. These are the top 10% of students, which is exactly the figure that would be expected to result from setting an IQ threshold of 120 and above.

Irvine also has detailed the origins of the Marland data, which originally were compiled in Iowa prior to 1958, and he suggested (as of 1987) that their advanced age may reduce the figures' relevance to the current educational context. Irvine's point is even more relevant today, nearly half a century after the data in question first were compiled. In 1950's Iowa, the school population would have been a homogeneous group of White students in an economy that was based predominantly on agriculture. In such a context, it should present no surprise that many students (gifted or not) would have dropped out of school for reasons related to work. Today, half a century later, many more students complete high school and college because it is much more difficult to earn a living without this additional education.

Authorities in the years since Marland have stated that 10 to 20% or more of high-school dropouts test in the gifted range. Rimm (1995) cited three sources in support of this estimate of 10 to 20%, although she did not specify how the "gifted range" was defined in the studies she cited. It seems plausible that her sources ultimately may be traced to the misinterpretation of Marland, as described by Irvine, because the earliest of these three citations is a conference paper dating to just 1 year after the Marland Report's publication.

In a second example, Robertson (1991) stated that "between 18 and 25% of gifted and talented students drop out" (p. 62), and that no more than 10% of the student population should be considered gifted. Unfortunately Robertson neglected to cite sources in support of these figures, and she went on to characterize the latter portion of her article as "armchair speculation--grounded in theory and based on the writer's experience with gifted students" (p. 62). Another expert, Silverman (1993, p. 264), cited a study conducted by Seeley (1988) of 2,000 middle-school students from the upper intellectual quartile. This study found that 37% of these students maintained a "C" or lower grade-point average, and Seeley characterized over half of these students (i.e., over 18% of the upper-quartile population) as being at risk for dropping out of school. Both of these estimates should be treated with caution, since they are based on educated guesses rather than on direct measurement.

In a recent two-part empirical investigation, Renzulli and Park (2000, 2002) used the National Education Longitudinal Study (NELS:88) data set to identify and characterize gifted students who dropped out of school. These authors used the NELS:88 operational definition of dropouts, which counts as dropouts those students who had not attended school for 4 weeks or more, but who were not absent due to accident or illness, or who had attended school for less than 2 weeks after having been classified as a dropout. Renzulli and Park adopted a broad and inclusive definition of gifted students, characterizing them as "those students who have participated in their school district's gifted program or who have been enrolled in three or more classes in advanced, enriched, or accelerated English, social studies, science, or math" (2002, p. viii). Although stating, "this study obtained comprehensive information about gifted dropouts not to determine the number of gifted dropouts, but to help them continue their education" (2000, p. 268), Renzulli and Park did provide figures on the number of gifted dropouts. The first portion of their study compared gifted dropouts with non-gifted dropouts. Following the above definitions of giftedness and of dropping out, 334 of 1285 student dropouts (26.0%) were identified as gifted based on the NELS:88 Second Follow-up Dropout Questionnaire data. In the second part of the study, which relied in part upon dropouts who completed all four NELS:88 surveys, the authors identified 3,520 students as gifted from an overall population of 12,625 students (27.9%) and found 177 dropouts among this group of gifted students. Using these numbers, gifted dropouts constituted 5.0% of the population of gifted students, and 1.4% of students overall.

Among other findings, Renzulli and Park (2002) noted that the dropout rate was approximately three times higher among gifted-male students than among gifted-female students. White gifted students were

significantly less likely to drop out than gifted students of other ethnicities. Socioeconomic status was also an important predictor, as nearly half of gifted dropouts were from the lowest SES quartile, while only 3.6% came from the highest quartile. Among gifted students who completed high school, in contrast, the figures showed 20% were from the lowest quartile and 33.8% from the highest SES quartile. These findings are consistent with the general dropout literature.

The above-mentioned studies of gifted dropouts have employed broad definitions of giftedness, counting from one-tenth to as many as three-eighths of all students as gifted. Regarding this fact, Irvine has speculated, "Would results be different if a stricter definition of 'gifted' were used?" (1987, p. 79). Renzulli and Park (2000) echoed this sentiment, although they later contended that for the purposes of providing educational assistance, "It is more appropriate to use a broad definition of giftedness when we study the population of dropouts" (p. 269). Given the different possible pathways to dropping out, many of which might interact with ability level, it seems vital to address the dropout question within groups at different levels of giftedness if we are to gain a more nuanced understanding of how the varied causal factors that have been described may contribute to these students' decisions to drop out of school. For example, there are cases in the literature documenting situations in which schools have refused to allow highly gifted students to graduate for purely technical reasons (e.g., Karnes & Marquardt, 1991). Although these cases would be classified as dropouts according to common understanding of the term, such students clearly differ in some important respects from other categories of dropouts.

In light of the protective effect posited for high-academic ability, or alternatively the attenuation of the observed detrimental effects of low ability, a reasonable hypothesis might suggest that the use of stricter criteria for defining giftedness would identify a group among which dropout rates would be lower than the rates found among gifted groups established using less stringent criteria. Reasons for dropping out might also be expected to differ in relative importance, although not necessarily in kind, across groups classified using more stringent, as opposed to more inclusive, criteria for giftedness.

The present study used relatively stringent criteria for giftedness--test scores at or above the 95th percentile--to investigate the high-school dropout rate among a large population of gifted students. Students were followed for 5 years, beginning in seventh grade when they were identified as gifted by their participation in a regional talent search program, and ending with their expected high-school graduation year. This study sought not only to identify the proportion of these gifted students who dropped out, but also to characterize the reasons this select group of students provided to explain their dropout decision.

## Methods

### Data Sources

This study relied upon data from two sources. Students were identified as gifted through their participation as seventh graders in the Duke University Talent Identification Program (Talent Identification Program, 2002), the largest of the several regional talent search programs in the United States (Lee, Matthews, & Olszewski-Kubilius, in press; Olszewski-Kubilius, 1998). To participate in the Talent Identification Program (TIP), students had to have documented full-scale or subscale scores at or above the 95th percentile on a grade-level achievement or intelligence test. Students performing at this level would be considered gifted according to all but the strictest operational definitions of the term (see e.g., Fox, 1981).

Dropout data initially were collected by the North Carolina Department of Public Instruction, and were made available for research through the North Carolina Education Research Data Center (NCERDC) at Duke University (Center for Child and Family Policy, 2003). Staff at the NCERDC merged the TIP records with dropout files and other relevant records, and then deleted individually identifying information before returning the merged data files for analysis.

The initial TIP talent search records for 1996 and 1997 (years refer to the spring of the school year, so 1996 is the 1995-96 school year) included 9,527 entries, but a number of these were duplicates or had missing information. Removing a few hundred duplicate records and eliminating several hundred more with missing or incorrect information (addresses outside North Carolina, incomplete identification numbers, etc.) yielded records for 8,399 individual students. Of these, 94.25% ( $N = 7,916$ ) were matched successfully with one or more individual student records from the NCERDC database. These included 3,196 matches to 1996 entries and 4,720 matches to student records from 1997.

### Giftedness Criteria and Study Population Characteristics

Grouping both cohorts together, students in the matched data set were 92.2% White, 4.1% Black, and 2.3% Asian. Half of 1% or less of the matched sample described themselves as American Indian, Hispanic, Multiracial, or Other. The matched sample was 49.3% female.

During the 2 years in which these students participated in the Duke University TIP's Seventh-Grade Talent

Search, North Carolina recognized gifted students based on superior intellectual aptitude and/or specific academic ability (Stephens & Karnes, 2000). As of 1999, every district (Local Education Authority) in North Carolina offered some gifted education programming (Council of State Directors, 2001), although not necessarily at all levels or in all schools. An estimated 11% of the student population met state gifted-identification criteria at that time, giving an estimated K-12 gifted population of 140,352 students statewide (Council of State Directors). Seventh graders constituted 7.79% of North Carolina public-school enrollment in Fall 1997 (National Center for Education Statistics, 1999), and multiplying these two numbers yields an estimated 10,933 gifted seventh graders statewide. Because all students who met the TIP talent search criteria would have met state gifted criteria as well, by this conservative approximation, the sample matched in the present study consisted of 43.2% (4,720 divided by 10,933) of the population of public-school gifted students statewide.

A somewhat different method of approximation relies on figures from other sources. Of 96,858 students in seventh grade statewide in North Carolina in 1996, 5,731 (5.92%) participated in the TIP Seventh-Grade Talent Search. For 1997, the numbers respectively were 102,128 and 6,955 (6.81%). Note that these participation figures are larger than those given in the preceding paragraph, because these include participants from private and home schools in addition to public schools. These students were not included in the present study because their records are not reported to the North Carolina Department of Education (DOE) or NCERDC. Dividing the weighted average of these 1996 and 1997 percentages by the 11% gifted figure given above, this second method of estimation suggests that students participating in the talent search program made up 58% of the seventh-grade gifted student population statewide during 1996 and 1997. It should be noted that gifted programs were not necessarily available to all of the students who met the 95th percentile talent search participation criterion, but nevertheless, it seems safe to conclude based on these estimates that the present sample included approximately half of all gifted seventh-grade students served by gifted programs statewide. Even after taking into account some obvious sources of potential selection bias such as motivation, family income, and education, these students are likely to be representative in many respects of the population of identified gifted students in this state as well as in other states in the southeastern United States.

Financial aid records from 1996 and 1997 were not available, but comparable figures for 1999 show that 3.5% of those public-school students from North Carolina participating in the TIP talent search received need-based fee waivers. As scholarship funds were insufficient at that time to grant waivers to all eligible applicants, this figure underestimates the actual percentage of low-SES students who participated in the talent search.

#### Definition of Dropping Out

Defining who is or is not a dropout continues to be a difficult task. Recent evidence suggests that more complex methods of calculating graduation rates (a phenomenon closely related to dropout rates) are not necessarily more accurate (Miao & Haney, 2004), and this may also hold true for dropout rates. As described above, different types of dropout rates may be calculated depending on the type of data used. The figures in the present study are cohort rates, and are based on the event count rates compiled by the North Carolina Department of Public Instruction.

During the time frame of the present study, a dropout in North Carolina was defined as an individual who (a) was enrolled in school at some time during the reporting year; (b) was not enrolled on the 20th day of the current school year; and (c) had not graduated from high school or completed a state or district approved educational program. Exclusions to this definition applied for students who (a) transferred to another public school district, private school, home school or state/district approved educational program; (b) were temporarily absent due to suspension or illness; or (c) had died (North Carolina Department of Public Instruction, 2000).

Dropout reasons are relatively self-explanatory with the possible exception of suspension/expulsion and attendance categories. Expulsion is permanent, while long-term suspension is shorter than expulsion (i.e., not permanent) yet longer than 10 days. Attendance problems may be reported in separate categories as personal, family-related, work-related, school-related, or simply "attendance" without a modifier. The general category "attendance" seems to be a catchall category, perhaps used when more specific attendance-related reasons are unknown. These dropout reasons are reported to the state either by students themselves, or by the appropriate staff member (generally a dropout prevention coordinator or data manager) using firsthand knowledge of the student's situation. Of particular relevance to the academically gifted, students who have left high school for a community college (GED preparation or some other degree program) are considered dropouts according to this definition.

#### Results

##### Reliability of the Data

The high levels of matching observed between the TIP and NCERDC data sets suggest that the record matching process can be considered reliable. Nearly 95% of TIP records had corresponding NCERDC records across the two annual cohorts, although the vast majority of these matches occurred within End of Grade or End of Course test score files rather than within the dropout files. This high overall rate of matching suggests that if dropout records existed for these students, they would have been located during the matching process. The approximately 5% of TIP records that did not have matching NCERDC records were primarily ascribed to schools that had closed ( $n = 8$ ), as well as to students who either transferred to private schools or moved out of state shortly after participating in the talent search. Social security numbers provided the primary means of identifying individual students and NCERDC staff reported using these unique identifiers to perform the bulk of the successful matches.

### Estimating Dropout Rates

According to the matched records, 38 dropout events (37 students) from the initial group of 7,916 were recorded by the close of the 2002-2003 record-keeping year. This actually represents the 2001-2002 academic year, because records reported in the fall each year are for dropouts leaving school during the previous academic year. This would have been the final year in high school for those students in the 1997 cohort who progressed through school at a standard pace, that is, without either skipping a grade or being retained.

Students' reasons for dropping out are reported as 1 of 21 possible reasons, although the dropouts identified in the present study fell into just 12 of these categories. The number of students identified within each category, as well as each student's ethnicity, gender, age, and grade at dropout, are summarized in Table 1.

Dropout record matches appeared beginning in 1999-2000 for the 1996 cohort, and beginning in 2000-2001 for the 1997 cohort. In total, 14 students dropped out from the 1997 cohort, and 23 dropped out from the 1996 cohort. These numbers correspond to an overall dropout rate among this group of gifted students of just 0.48 percent. It is possible that some additional students from the 1997 cohort might be recorded as dropouts in the upcoming 2003-2004 reporting year if they had been retained a grade some time between their 7th- and 12th-grade year. Also, one individual student from the 1996 cohort was listed twice in the dropout records. North Carolina dropout reporting procedures specify that each dropout event be counted separately, even if the same student drops out more than once.

As noted previously, the definition of dropout used in North Carolina includes those students who have left school to attend a community college, GED program, or other adult educational program. Such students presently are counted as dropouts regardless of their success or failure in these programs. The educational options grouped under this rubric are not coded separately, so it was not possible to determine whether an individual leaving under this category went into a GED, community college, or even perhaps a 4-year college program. Nine of the 37 gifted dropouts were listed under this code, and removing them from the list reduces the overall dropout rate to 28 students (29 events) in 7,916 or 0.37%. One other student was listed in the category "Moved--School Status Unknown," and this individual was retained in calculations for the present estimates although he actually may or may not have dropped out.

To account for the possibility that some students from the 1997 cohort may have repeated a grade, dropping out after their expected final year of high school, it is reasonable to consider an estimate based solely on the 1996 cohort. Within this group, 3,196 student records were matched and 23 dropouts (24 events) were recorded, yielding a dropout rate of 0.75%. Removing the 4 students who went to community college from this dropout count reduces the estimated dropout rate based on the 1996 cohort to 0.63%.

### Dropout Characteristics

Sex and ethnicity. Among those dropouts not leaving school to attend a community college, 11 were female and 19 were male, while those who reported leaving school to attend college consisted of 4 female and 3 male students. These numbers suggest that 22 of 37 (counting only once the student who dropped out twice) or 59.5% of these gifted dropouts were males, while 15 of 37 or 40.5% were female.

Three of the 30 students who left school for reasons other than college were Black and one was Asian, while the remaining students in this group were White. The proportion of dropouts who were Black (10%) was higher than would be expected based upon these students' prevalence in the full sample (4.1%), while the representation of White students among dropouts (86.7%) was slightly lower than their 92.2% prevalence in the full sample. One Asian student and 1 American Indian student were the only other ethnicities represented among the gifted students who dropped out.

Grade level and socioeconomic status. Gifted dropouts in this sample were more persistent than non-gifted dropouts, as gifted students reached a higher grade level before dropping out. Statewide in 2002-2003, nearly a third of dropouts occurred at ninth grade followed closely by a quarter of dropout events at 10th grade. Only 22% of dropouts were 11th graders, and only 13% were 12th graders. Among the gifted

dropouts, however, more than half (54.1%) dropped out of the 11th grade. The remaining gifted students who dropped out were distributed approximately equally over grade 9 (13.5%) and grades 10 and 12 (16.2% each). It was not possible to characterize at the individual level the economic status of the students who dropped out.

SAT performance. Mean seventh grade SAT scores from the initial TIP sample ( $N = 8399$ ) were Math = 452 ( $SD = 68.7$ ) and Verbal = 435 ( $SD = 74.3$ ). Mean dropout group scores ( $n = 37$ ) were Math = 425 ( $SD = 70.8$ ) and Verbal = 403 ( $SD = 68.1$ ). These differences were statistically significant in both areas,  $F(1,8439) = 6.233, p = .013$  and  $F(1,8439) = 6.833, p = .009$ , respectively. Levene's test for equality of variances was nonsignificant in both comparisons ( $p = .967$  and  $.687$ , respectively). Cohen's  $d$  effect sizes, calculated for the comparison between gifted dropouts and gifted students who did not drop out, were 0.387 for SAT Math and 0.449 for SAT Verbal scores.

Discounting scores from six of the seven students attending community college (number seven did not have SAT scores, but took the ACT instead), mean SAT Math scores of the dropout group remained virtually unchanged with a mean of 424. Verbal SAT scores of the non-community college dropout group declined, after removal of the community college attendees, to a mean of 396 for the dropout group versus a mean of 435 (identical to the mean for the full gifted sample) among the group attending community college/GED programs. Although the small sample size of the group dropping out to attend community college prevents this difference from reaching statistical significance,  $F(1,34) = 1.668, p = .205$ , the actual score difference is comparable in magnitude to the difference observed between the entire gifted sample and the entire gifted-dropout group.

### Generalizing Reasons for Dropping Out

It is possible to consolidate the reason codes used in the dropout reporting system to produce broader categories that are more convenient for purposes of interpretation. Figure 1 shows these generalized dropout explanations in graphical form. Personal, school, and general attendance categories may be consolidated into a single category of "Attendance problems," encompassing 17 dropouts (45.9%). "Academic problems" remains a single-item category with 4 students (10.8%). Discipline problems, long-term but not permanent suspension, and incarceration may be grouped into a single category of "Discipline problems" that includes 5 students (13.5%). Two students reported "Work by choice" (5.4%), which remains a single-item category as no students were reported under the other two possible work-related reasons for dropping out. Seven students who left high school to attend college or a GED program were listed as "community college," a category that could be consolidated with the 1 student in each category listing "health" or "moved-school status unknown" to form a miscellaneous group. The 9 students in this group collectively might be considered "non-dropouts" (24.3%), because these reasons do not suggest convincingly that the students have discontinued their formal education.

### Discussion

Gifted dropouts were predominantly male rather than female, by a 3:2 ratio. This is consistent with other published estimates for dropouts in general and for gifted underachievers. As is the case with mainstream dropouts, the numerical majority of gifted dropouts were White rather than minority students. This finding reflects the ethnic distribution of the initial sample, which was predominantly White (92.2%). Ten percent of the gifted dropouts in the present study were Black, while 90% were White (not counting those students dropping out to attend community college programs). Although this Black dropout rate clearly is higher than the 4.1% representation of Black students within the gifted sample, these proportions remain substantially lower than the statewide dropout figures. In the most recent figures available, 33.42% of North Carolina dropouts in 2002-2003 were Black, while 54.75% were White (Public Schools of North Carolina, 2004). The statewide public-school population at the same time was 31.4% Black and 59.6% White.

Within the Black population, the statewide dropout rate was reported at 1.77%, nearly double the 0.95% rate documented within the gifted Black population in the current study. This finding may simply reflect the fact that high ability exerts a protective effect against dropping out of school, possibly through peer effects on motivation. Another explanation might be that the risk factors identified as contributing to dropout decisions do not act in the same manner or with the same intensity for students at high levels of academic ability. High ability together with high SES also may prove to have a more potent protective effect together than either factor would have on its own. Finally, sampling bias also might contribute to these observed differences. Students who participate in talent search programs may be self-selected for higher than average achievement motivation. If students with equivalent potential but lower motivation did not sign up to participate in the talent search in the first place, the sample may be missing many potential dropouts at its inception. If such motivational differences exist, they would preclude generalizing these results to the larger gifted population. Future research should address these possibilities by comparing students who are served by gifted programming with students of similar abilities who are not identified, or who do not participate in such programs.

It has been suggested (Lajoie and Shore, 1991) that dropout rates among the gifted population may be equivalent to the average dropout rate among the population as a whole. However, dropout rates among the estimated half of gifted North Carolina students not included in this sample would have to be nearly double the rate of the population at large, in order to bring the average rate among all gifted students to a level comparable with the dropout rate among the rest of the school population. Therefore, consistent with the hypothesized effects of high SES and high academic ability, it seems that dropout rates actually are lower among gifted students than they are among average students.

Test score differences were intriguing. Both community college attending and non-attending dropouts had seventh grade SAT Math scores averaging significantly lower than the SAT Math scores of all talent search participants. However, for SAT Verbal scores, the community college-attending dropouts had the same average performance as the gifted students who did not drop out. Gifted students who dropped out for other reasons, in contrast, had SAT Verbal scores that were significantly lower than those made by both dropouts attending community college and by gifted students who did not drop out. These relationships are consistent with those reported in the Colangelo et al. study of gifted underachievers (1993), which found the greatest disparity between achieving and underachieving groups was in the area of mathematics. These differences underscore the need for further investigation of the discipline-specific performance patterns of gifted underachievers.

An additional weakness of the present study is the limited variation in economic status among the sample population. Dropout rates generally are much higher among both non-White populations and those having low socioeconomic status (Battin-Pearson et al., 2000; Renzulli & Park, 2002), so the low gifted dropout rate observed may be in part due to the reduced range of ethnic and economic variation in the present sample. High SES would seem to protect against dropping out by reducing or eliminating the impact of some dropout reasons, chiefly the need to support one's family and probably also the need to drop out to provide childcare. Findings from the present study appear to support this interpretation, as no students reported dropping out for reasons of pregnancy, childcare, or having to work (as opposed to choosing to work, which was the case for two gifted students). High familial SES also could be invoked to help explain the decreased incidence, in comparison with statewide dropout figures, of the code "moved--school status unknown," as well as the increased incidence of community college attendance among gifted students in this sample. Although few data are available to address the idea, higher familial education levels may also be responsible for these higher observed rates of community college attendance.

Due to data source limitations, this study may have missed students who dropped out prior to their ninth-grade year. Fortunately such students are relatively uncommon, making up only 6.54% of dropouts statewide, and probably are even less common among gifted students given the higher average grade level of gifted dropouts observed in the present study. Also, given the high level of academic ability demonstrated by these students during their seventh-grade year, few would be expected to drop out of school voluntarily only 1 year later. The low dropout rate of these students, even at ninth grade would also appear to support this position.

Gifted students in North Carolina drop out for many of the same reasons that average students do (see Figure 2). Attendance problems are the primary factor both groups cite for dropping out of school, although gifted students are somewhat less likely than average students to report this reason (44.8 versus 56.5 percent, respectively). As might be expected, gifted students in this sample were nearly three times as likely as other students to drop out to attend a community college GED or other educational program, (18.4 versus 6.5 %, respectively). Gifted students also were less likely (2.6%) than other students (10.6%) to move without notifying school officials of their new whereabouts.

[FIGURE 2 OMITTED]

## Conclusions

Observed dropout rates in recent studies appear to vary widely with the selectivity of the gifted criteria used, ranging from 0.72% or less in the present study (5% of the population considered gifted) to the 5 % dropout rate documented in the Renzulli and Park studies (2000, 2002) in which 27.9% of the population was considered gifted. It appears that as the criteria for defining giftedness become stricter, the proportion of students who drop out becomes proportionally somewhat smaller, decreasing from a ratio of 0.179 to a ratio of 0.144. These differences underscore the need for researchers to go beyond summary descriptive statistics to consider individual developmental paths when attempting to understand the reasons why gifted students may elect not to complete a public education.

With regard to the selection of research methods for future studies, it seems likely that both the hierarchical linear modeling and path analysis approaches suggested by Renzulli and Park (2000), as well as the qualitative methods that have been applied successfully in recent years to study underachievement (e.g., Kanevsky & Keighley, 2003; Worrell, 1997), will be required to reach an in-depth understanding of these

complex issues.

Future research building upon the present findings will investigate individual-level performance in specific academic courses, to clarify performance trajectories among gifted students who drop out of high school. This proposed work also would compare these individual trajectories with those of gifted students who do not make the decision to drop out, hopefully casting additional light on this important and extreme aspect of underachievement.

Classroom teachers working with gifted students should be aware that these students can and do drop out. Although individual case studies would certainly add to this knowledge, it appears that gifted students drop out for the same general reasons that regular students drop out. Teachers should be particularly sensitive to gifted students who show attendance problems, discipline problems, or academic problems as these issues may contribute to the decision to drop out of school.

Policymakers should be cautioned not to interpret the small number of dropouts identified in the present study as indicating that gifted students do not require appropriate educational services. While it is true that the great majority of the gifted students in this sample "survived" school by graduating from it, we should strive for students not merely to survive, but to prosper in the public-school setting. Likewise, those who consider themselves advocates for gifted students should refrain from interpreting the low dropout incidence within the present findings as evidence that they do not need to worry about these particular students. Further study of individual cases certainly is necessary, but even if dropping out only occurs at a rate of approximately 1 in 200 gifted students, those who do drop out of school clearly merit attention.

The protective effects ascribed to both high ability and high SES apply to many students among those presently considered gifted, suggesting that situations or trajectories that would cause the average student to drop out instead, may be expressed as drastically lowered achievement for many academically gifted students. Some evidence suggests that appropriate educational programming can reduce the expression of underachievement behaviors (e.g., Matthews & McBee, in press), and the same intervention could be beneficial for gifted students who are considering dropping out.

Gifted programs continue striving to identify and serve an ever-greater proportion of students from non-mainstream cultural and economic backgrounds. Because these are also the students within the general school population who presently are at the greatest risk for dropping out, it will become increasingly important to understand how giftedness or talent may interact with socioeconomic and cultural factors to influence students' educational decisions in this area. Improving our understanding will lead to more effective interventions for this small yet important group of students.

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Table 1

Gifted Dropouts Listed by Reason  
with Ethnicity, Gender, Age, and Grade Data

Number  
of Ethnicity (c); gender (c);  
Reasons for dropout (a) gifted age; and grade

Suspected substance abuse 1 (b) 1 WM grade 10; age 17 (b)

Academic problems 4 2 WM grades 10 & 12;  
ages 16 & 17  
1 WF grade 11; age 17  
1 Asian M grade 11; age 17

Attendance--personal 2 2 WM grades 11 & 12;  
ages 18 & 17

Attendance--school 6 2 WM grades 10 & 11;  
ages 16 & 17  
3 WF grade 11;  
ages 17 & 18 (x2)  
1 WF grade 9; age 16

Attendance 9 4 WM grade 11;  
ages 17(x3) & 19  
2 WF grade 11; age 16 & 18

1 WM grade 10; age 16  
 1 WF grade 12; age 17  
 1 BF grade 11; age 17

Dropout for Community College 7 2 WM grade 11; age 17  
 2 WF grade 11; ages 16 & 17  
 2 WF grade 12; age 17 & 18  
 1 Am. Indian M grade 9; age 16

Discipline problems 2 1 WM grade 9; age 16  
 1 BM grade 11; age 17

Health problems 1 1 WF grade 10; age 15

Incarcerated in adult facility 1 (b) 1 WM grade 10; age 17 (b)

Long-term suspension (d) 2 1 WM grade 10; age 17  
 1 WM grade 12; age 17

Moved-School status unknown 1 1 WM grade 11; age 18

Choice of work over school 2 1 WM grade 9; age 16  
 1 BM grade 9; age 16

Note. No students were reported within reason categories of Attendance-family, Attendance--work, Childcare Needs, Employment Necessary, Expulsion (Permanent), Unstable Home Environment, Marriage, Pregnant, or Runaway.

(a) Categories are those reported under North Carolina guidelines (North Carolina DPI, 2000).

(b) These two records concern the same individual, who is listed once under each reason code.

(c) W indicates White, B indicates Black; Am. Indian is American Indian. M indicates male and F female.

(d) Long-term suspension is defined as greater than 10 days, yet less than permanent expulsion. Dropping out is the failure to return to school after a long-term suspension.

Figure 1

Generalized Reasons  
 Why Gifted Students Dropped Out

Community  
 College, Health  
 and Unknown 24%

Work by Choice 5%

Discipline Problems 14%

Academic Problems 11%

Attendance Problems 46%

Note: Table made from pie chart.

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