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**AMERICAN SECONDARY EDUCATION****EDITORIAL AND PUBLICATION OFFICE**

Ashland University  
 Dwight Schar College of Education/231  
 401 College Avenue  
 Ashland, Ohio 44805-3702

Phone: 419-289-5273  
 rhannan@ashland.edu

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## A COMPARISON STUDY OF 12TH GRADE HISPANIC STUDENTS' COLLEGE ANTICIPATIONS, ASPIRATIONS, AND COLLEGE PREPARATORY MEASURES

### AUTHORS

**ALIBER LOZANO, ED. D.**, is the National Director of Professional Development for AVID Center in San Diego, California.

**KAREN M. WATT, PH.D.**, is the Director for the AVID Center Special Research Projects Office at The University of Texas Pan American in Edinburg, TX and is also an Associate Professor in the Department of Educational Leadership at UTPA.

**JEFFERY HUERTA, M.A.**, has been working with college preparatory programs in areas of research and evaluation for more than 5 years and is currently the research coordinator for AVID's Special Research Projects Office at The University of Texas Pan American.

### ABSTRACT

*This study assessed the differences in educational aspirations and educational anticipations between four groups (AVID, GEAR UP, AVID/GEAR UP, and Control) of high school seniors who participated in a previous study as 10th graders (Watt, Huerta, & Lozano, 2007). It also measured whether any change in aspirations and anticipations occurred within the four groups in the time between 10th grade and 12th grade and identified indicators of college preparedness achieved by the four participant groups. Findings indicated no differences in educational aspirations between the four groups but significant differences in educational anticipations between the four participant groups in the 12th grade, and a change in anticipations occurred between 10th and 12th grade. Findings also indicated that students participating in the intervention programs maintained high aspirations and antici-*

*pations for college and were prepared for college due to the rigor provided by AVID and GEAR UP.*

Although the increasing enrollment of Hispanics in college represents the highest growth of all ethnic groups, Hispanics remain the ethnic group least likely to go to college. The lower high school graduation rate of Hispanics affects their college enrollment rate because those who do not complete high school are generally ineligible for college or university enrollment (Greene & Forster, 2003). 36% of Hispanic high school graduates ages 18 to 24 enrolled in colleges and universities in 2000, an increase of 9% from the number of high school graduates enrolling in 1985 (National Center for Educational Statistics [NCES], 2001). Although a larger proportion of Hispanics attend college now than did 20 years ago, Hispanic enrollment still remains much lower than enrollment of White students in college (Perna, 2000). Also, White students applied to college when they met college admission requirements; minority students often applied without meeting the minimum requirements (Mahoney & Meritt, 1993).

To increase the likelihood of Hispanic students enrolling in college, the Commission on the Educational Excellence of Hispanic Americans recommends setting new and higher expectations for Hispanic students by helping parents navigate the educational system, by developing educational partnerships, and by implementing nationwide awareness on college preparation. Other recommendations include reinforcing high quality teaching, initiating a research agenda on Hispanic student education, and ensuring full access to college for Hispanics (*The Final Report of the President's Advisory Commission, 2003*).

### EDUCATIONAL ASPIRATIONS AND ANTICIPATIONS

The impact of educational aspirations on students' academic achievement is well documented (Campbell, 1983; Kao & Tienta, 1998). Traditionally, educational aspirations are defined as a desire for future status or gaining personal goals toward which an individual will direct behavior (Johnson, 1992; Williams, 1972). In existing comparative studies, low income and Hispanic students are characterized by lower educational aspirations than other ethnic groups, and their aspirations tend to be the least stable of any other group (Wahl & Blackhurst, 2000). With regard to factors affecting educational aspirations, however, findings are inconsistent; different factors

impact aspirations for different ethnic groups.

Because aspirations are so crucial in affecting college enrollment, many preparatory programs have focused their services on this aspect (Wahl & Blackhurst, 2000). Generally, students enrolled in intervention programs have had higher aspirations than students not enrolled in such programs (Gandara, 2002). Students who became exposed to information about college opportunities raised their aspirations over time and had higher, more stable aspirations than students who did not participate in an intervention program (Gandara, 2002).

Several researchers have gone beyond investigating aspirations as they relate to college enrollment and have examined students' expectations, plans, outcomes and anticipations. Hauser and Anderson (1991) made a distinction between the broad term "aspirations" and more concrete plans as to what activities the student would actually engage in to get to college. Hauser and Anderson (1991), Sewell and Hauser (1972), and others developed a model of students' aspirations and expectations. They found that plans and aspirations accounted for much of the variation in the post-high school success of seniors (Hauser & Anderson, 1991).

Research conducted by St. John (1991) found that "postsecondary plans" had a more significant and positive relationship with college attendance, and aspirations alone only had a positive influence on college application, but not necessarily on college attendance. Therefore, aspirations alone do not ensure college enrollment and, as St. John (1991) concluded, "aspirations alone are not sufficient to overcome poor academic preparation" (p. 154).

Both in the original *Answers in the Tool Box* (Adelman, 1999) and the follow up *Tool Box Revisited* (Adelman, 2006) studies, Adelman distinguished between students' educational "aspirations" and "anticipations." Aspirations are often investigated by a single question about post-secondary plans such as: How much education do you want? (Adelman, 1999, 2006; Wahl & Blackhurst, 2000). Anticipations, on the other hand, as defined by Adelman (1999, 2006), have been investigated with six questions asked in both the 10th and 12th grades describing the consistency and level of a student's expectations and concrete post-secondary plans. Despite Adelman's (2006) assertion that "expectations [and anticipations] are distinctly secondary to one's use of academic time and to one's academic performance" (p. xxxiii), his previous research (Adelman, 1999) followed students beyond high school and concluded that "there is a very clear and dramatic linear relationship between bachelor's degree attainment and the level of anticipation" (p. 34).

Adelman's questions addressed educational expectations, concrete plans, and projected affective states. From the six pairs of responses, an anticipations variable was built on the basis of consistency and level. The five resulting gradations of the variable were: *consistent expectations* for a bachelor's or higher degree; *either raised expectations from grades 10 and 12 to a bachelor's degree or evidenced consistency* in some pairs of questions about bachelor's degree-oriented behaviors but not in others; *either lowered expectations from bachelor's to a sub-baccalaureate credential, or indicated bachelor's degree expectations at some time*; *lowered expectations* from a bachelor's degree to no degree and/or evidenced considerable confusion about future plans; and *expected no degree of any kind* (Adelman, 1999, p. 33-34).

Like aspirations, anticipation of college enrollment has tended to decline as students progressed through their high school careers (Adelman, 1999, 2006; Kao & Tienta, 1998). Underneath the consistency-by-level construct of the educational anticipations of the students in Adelman's studies (1999, 2006) was what Kao and Tienta (1998) defined as a growth from abstract attitudes when students are in junior high to a more realistic judgment based on a number of experiences as high school graduation grows closer.

### HIGH SCHOOL INTERVENTION PROGRAMS: AVID AND GEAR UP

Increase college enrollment for Hispanic students requires academic preparation, increased educational aspirations, and financial assistance (St. John, 1991). Academic intervention programs with long-term strategies that focus on these three factors aim to alleviate the problem of Hispanic under-preparedness for college. *Advancement Via Individual Determination* (AVID) and *Gaining Early Awareness and Readiness for Undergraduate Programs* (GEAR UP) are two college preparatory programs that strive to increase the access of Hispanic students to higher education and better prepare them to succeed in college.

#### AVID

AVID is a college preparatory program that was established in 1980 in one English teacher's classroom as a means to support underserved students. Mary Catherine Swanson began the social and academic support elective class called AVID that has now expanded to over 47 states and 15 countries, and in some cases, such as in Texas, has been used as a school reform model (Watt, Yanez, & Cossio, 2003). Students must meet specific criteria, such as being an academically "middle" student, and are selected for AVID based on such.

AVID has established indicators by which to measure program quality and success. To be a certified AVID school, 11 essentials must be successfully implemented. Implementation of the AVID essentials ensures a school environment conducive to empowering students to becoming more responsible for their learning, thus increasing their college preparation and educational expectations to pursue a college education. Schools implementing AVID over as many as 10 years still adhere to these 11 essentials (Guthrie & Guthrie, 2000).

In 1999 some public schools in Texas began to implement AVID using Comprehensive School Reform Demonstration (CSR D) grants (Watt, Powell & Mendiola, 2004). Although AVID was not originally meant to serve as a school-wide reform effort, it went from serving a small group of students to become a school-wide program designed to change the teaching and learning of an entire campus (Watt, Powell, Mendiola & Cossio, 2006). When the increased school-wide achievement of AVID students extended to the improvement of the entire school, the school began to experience the "AVID Effect" (Mehan, Villanueva, Hubbard, & Lintz, 1996).

Research on AVID programs in Texas illustrates Mehan's et al (1996) "AVID effect". Watt, Yanez, and Cossio (2003) examined AVID in 26 schools over a two year implementation period and found that through proper implementation (strong instructional leadership, using AVID strategies school-wide, and staff development), "underachieving, economically disadvantaged, ethnic minority students can succeed in rigorous curriculum" (p. 43).

In Watt, Powell and Mendiola's (2004) study of 10 high schools that implemented AVID over a period of three years, similar results were found. As for school-wide impact, all 10 schools improved their accountability rating, as established by the Texas Education Agency. The study also compared AVID students' achievement to that of the non-AVID students in the same school and found that AVID students outperformed their non-AVID classmates on various standardized tests and attended school more often. The findings also implied that Advanced Placement (AP) course enrollment in each of the AVID schools increased and more underrepresented students were being prepared for college.

### **GEAR UP**

The GEAR UP program was established under the Higher Education Amendments of 1998 to support programs which provide information on early college awareness, academic support, and financial assistance to disadvantaged students to enter and succeed in post-secondary education. Unlike AVID, GEAR UP serves entire grade level cohorts of low-income students

rather than using specific criteria to choose participating students. At least 50% of the participants must be eligible for free or reduced-priced lunch or at or above 150% of the poverty level (Cabrera, Prahbu, Deil-Amen, Terenzini, Lee & Franklin, 2006; Watt & Reyes, 2005; U.S. Department of Education, 2006a).

The GEAR UP initiative provides academic support and financial incentives to improve low-performing schools and their students through aligning K-16 curriculum, eliminating academic tracking, after school and summer activities, and professional development opportunities. The program also provides services to raise educational aspirations and strengthen college preparation and parental involvement (Fields, 2001; Gullat & Jan, 2003; Watt & Reyes, 2005).

In a recent study of GEAR UP students' preparedness for college, Cabrera et al. (2006) compared the reading and mathematics achievement of a cohort of students throughout their 6th to 8th grade school years in 47 GEAR UP and 133 non-GEAR UP schools in California. Although the researchers anticipated that the students participating in the GEAR UP schools might show a higher rate of growth in both reading and math scores, only moderate but not statistically significant reading scores were reported between the GEAR UP schools and non-GEAR UP schools. In mathematics, however, the GEAR UP schools did achieve statistically significant gains over the non-GEAR UP schools.

Like Cabrera et al's (2006) study, Reyes (2002) looked at reading and mathematics, but studied the attributions of success of student achievement in reading and math. The sample was comprised of 584 students from a cohort of GEAR UP 8th grade students in 23 middle schools with a predominantly Hispanic population. Researchers found a relationship between academic achievement and attributions of success due to task ease, and a relationship between academic achievement and attributions of failure due to task ability was also found (Reyes, 2002).

Going beyond academic assistance and performance, Martinez and Klopott (2003) identified characteristics of practices that comprise effective pre-college outreach programs and conclude that most programs are designed to counter the effects of negative schooling and/or lack of community resources and influences that inhibit student learning and goal setting. Gullat and Jan (2003) stated:

Connecting middle schools more explicitly to the college aspirations of their students, and combining academic intervention with college preparatory information ... equalize[s] the pre-college preparation ex-

perience for more students at an earlier age. This evolution is extremely important, not only because of its implications for policy (and thus funding), but because it marks an important attempt to uncover what is fundamental about when and why a student aspires to, prepares for, applies to, and enrolls in a postsecondary institution. (p. 9-10)

### METHODS AND DATA COLLECTION

A mixed-methods approach was used in this study. A non-experimental approach, via natural experiment, was found to be common in other youth programs (Denner, Cooper, Dunbar & Lopez, 2005; Eccles & Gootman, 2002) and thus guided this research because it does not, for ethical reasons, constrain or randomly assign who receives program benefits.

The dependent variables were anticipation and aspiration. The independent or group variable was participation in the intervention programs, GEAR UP and AVID. Student transcripts were reviewed, and college preparatory measures were identified and organized using descriptive statistics. We addressed the following research questions:

1. What is the difference, if any, in the educational anticipations among the four participant groups: AVID, GEAR UP, AVID/GEAR UP, and Control?
2. What is the difference, if any, in the educational aspirations among the four participant groups: AVID, GEAR UP, AVID/GEAR UP, and Control?
3. What is the difference in 10th grade anticipation and 12th grade anticipation among the various groups: AVID, GEAR UP, AVID/GEAR UP, and Control?
4. What indicators of college preparedness have been achieved and can be identified in the four groups of students: AVID, GEAR UP, AVID/GEAR UP, and Control?

### SETTING AND SAMPLE

This study is a follow-up to Watt, Huerta, and Lozano's (2007) study which involved 139 Hispanic students selected from two high schools in South Texas. Selection began by reviewing 61 transcripts of 10th grade AVID students' from AHS (the AVID, non-GEAR UP school) and selecting the initial group to which other groups would be matched. A matching technique was used,

equating the comparison group on one or more variables (Johnson & Christensen, 2004). Forty of the 61 students were randomly selected to form the first group, which served as a basis for selecting two other non-AVID groups.

A group of 40 non-AVID 10th graders were then identified from the same school (AHS), and served as the control group. They were matched to the first group by gender, then by similar 8th grade coursework (whether or not the student took pre-AP Algebra and/or English I), and finally by similar (within 3-7 percentage points) grades in core academic areas of science, math, social studies, and language arts from their 9th grade year. All students in both groups were Hispanic. Other demographic variables such as socio-economic status and parental education were not, however, taken into consideration when selecting students. A control group was selected from AHS because it was the only high school in the district with 10th graders who did not receive direct benefits from either AVID or GEAR UP.

At the second site (GUHS), the GEAR UP school, a group of only 22 10th grade AVID/GEAR UP students were chosen for the study because they represented the entire 10th grade AVID population. Also chosen was a group of 40 GEAR UP only 10th grade students, selected by the same transcript-matching technique, used for the Control group at AHS. Since both participating schools' student populations are over 97% Hispanic, ethnicity was not used as a criteria for selection in Watt, Huerta, and Lozano (2007).

### MEASUREMENT

Variables investigated in this paper include educational aspirations, anticipations, and indicators of college preparedness. These are described below.

### EDUCATIONAL ASPIRATION

This variable was measured by a survey item soliciting how much education a student wishes to achieve. Responses range from *high school only to graduate/professional school*.

### EDUCATIONAL ANTICIPATION

The anticipation scale consists of six multiple choice items soliciting post-high school plans, specifically those relating to college attendance and completion. These items include soliciting answers about how far in school the students think they will get; the minimum level of education with which they will be satisfied; what activity will take the largest share of time in the year after high school; if they plan to go to college at some time in the future; if they will attend a 4-year or a 2-year institution; and, if they would be disappointed if they did not graduate from college (Adelman, 1999, p. 33).

**INDICATORS OF COLLEGE PREPAREDNESS**

These indicators include grade point averages (GPA); advanced course-taking; exit-level Texas Assessment of Knowledge and Skills (TAKS) performance; the Texas Success Initiative's Higher Education Readiness Component (HERC) in English Language Arts and mathematics; college exam participation and performance (SAT and ACT); college credit accrual through Advanced Placement (AP), dual credit enrollment, and concurrent enrollment; and, high school graduation plans.

**DATA SOURCES**

We gathered data from two main sources: a student survey and student high school transcripts. Data from the transcripts and surveys were inputted into SPSS 12.0 for analysis.

A student questionnaire, *Survey of College Preparation* (Watt, Huerta, & Lozano, 2007), was administered to all students participating in the study. The 25-item questionnaire includes two sections, one that asked for demographic characteristics of the participants and the other focused on education and academic preparation. Adelman's (1999, 2006) aspiration questions and anticipation questions were included on the survey.

High school transcripts were collected from the schools and delineated the indicators of college preparedness observed in this study. Transcripts typically included the following information: courses taken, grade point average, school rank, number of high school credits, standardized test data, AP exam scores, and ACT/SAT scores. AHS transcripts revealed scholarship awards and colleges applied to; however, these data were missing from the GUHS transcripts.

**ANALYSIS OF DATA**

Several statistical analyses were performed to address the research questions and test the null hypotheses. Descriptive statistics were utilized to describe the data collected for all research questions. Analyses of variance (ANOVA), including a Kruskal Wallis test (Hinkle, Wiersma & Jurs, 1998), were used to determine whether there were differences in the levels of educational anticipations or in the levels of educational aspirations among the four 12th grade participant groups. The Kruskal-Wallis one-way analysis of variance for ranks was applicable with the independent samples, and when a significant difference was found, a Scheffe's pairwise comparison was performed to determine which means differed significantly. Paired samples t-tests were employed to determine if there were significant changes in levels of aspiration and anticipation from 10th to 12th grade among the four participant

groups. All statistical analyses were tested with a working alpha of .025, but reported alpha of .05 since the sample sizes were small or uneven, and statistical assumptions such as random sampling, normality of distribution, and homogeneity of variance matrices may not be tenable (Hinkle, Weirsma & Jurs, 1998).

In addition, we conducted a review of student transcripts to identify the indicators of college preparedness that students achieved during high school. Data were first organized by recording the indicators on a spreadsheet and coding them to detect possible emerging themes or patterns among the four groups. This qualitative analysis provided triangulation which helped eliminate bias that might have resulted from relying exclusively on one data collection method (Gall, Gall & Borg, 2003).

**FINDINGS**

We hypothesized that differences would exist in the educational anticipations among AVID, GEAR UP, AVID/GEAR UP, and Control group students (see Table 1); however, a one-way analysis of variance did not yield any significant differences,  $F(3,86)=2.71, p>.05$  for anticipations survey item responses. A Kruskal Wallis analysis of variance was performed to compare the possible differences in ranks among the groups. Item 12, which states *As things stand now (realistically), how much education do you think you will get?* yielded significant rank differences,  $p=.013$ , where the Control group ranked the highest and anticipated getting more education than the other student groups.

**Table 1. Group Means and Standard Deviations for 12th Grade Anticipation Items**

	AVID	GEAR UP	AVID / GEAR UP	Control
	M	M	M	M
	(SD) n=33	(SD) n=18	(SD) n=12	(SD) n=27
12. As things stand now (realistically), how much education do you think you will get?	3.85 (0.80)	3.94 (0.64)	3.33 (0.65)	4.07 (0.83)
13. What is the minimum level of education with which you would be satisfied?	3.64 (0.93)	3.78 (0.73)	3.50 (0.52)	3.74 (0.53)
14. What activity most likely will take the largest share of your time in the year after you leave high school?	2.15 (0.51)	2.53 (0.62)	2.17 (0.58)	2.33 (0.55)
15. Do you plan to go to college at some time in the future?	2.79 (0.42)	2.78 (0.43)	2.67 (0.49)	2.92 (0.27)
16. If yes, to what college do you intend to apply?	1.85 (0.36)	1.78 (0.43)	1.83 (0.39)	1.93 (0.27)
18. Will you be disappointed if you don't graduate from college?	0.97 (0.17)	1.00 (0.00)	1.00 (0.00)	1.00 (0.00)

We also hypothesized that there would be differences in the educational anticipations from 10th to 12th grade among the AVID, GEAR UP, AVID/GEAR UP, and Control groups. A series of paired samples t-tests were conducted for each of the six anticipation items to determine whether educational anticipations changed over time. No significant differences were found among the groups for four of the items. However, item 13, which asks about the *minimum level of education students would be satisfied with*, was statistically significant,  $t(11)=2.35, p<.05$ , and thus warranted some consideration. As seen in Table 2, AVID/GEAR UP students had a greater gain (.33) in mean on item 13 from 10th to 12th grade than did the other groups. As 12th graders, the minimum level of education with which AVID/GEAR UP students would be satisfied increased. Similarly, item 14, which solicits in-

formation about the activity that respondents anticipate will take up most of their time after high school, was statistically significant,  $t(16) = 2.38, p<.05$ , and thus warranted some consideration. As seen in the mean comparisons in Table 2, the GEAR UP group had a greater gain (.41) in mean on item 14 from 10th to 12th grade than did the other groups. As 12th graders, they anticipated that more of their time after high school would be spent going to college rather than working.

**Table 2. Mean Comparisons and Standard Deviations for Selected 10th and 12th Grade Anticipation Items**

	AVID	GEAR UP	AVID / GEAR UP	Control
	10th M(SD)	10th M(SD)	10th M(SD)	10th M(SD)
	12th M(SD) n=31	12th M(SD) n=17	12th M(SD) n=12	12th M(SD) n=27
13. What is the minimum level of education with which you would be satisfied?	3.65(1.05) 3.65(0.95)	3.47(0.51) 3.78(0.75)	3.17(0.58) 3.50(0.52)	3.88(0.65) 3.77(0.51)
14. What activity most likely will take the largest share of your time in the year after you leave high school?	2.13(0.57) 2.17(0.54)	2.12(0.49) 2.53(0.62)	2.00(0.43) 2.17(0.58)	2.19(0.48) 2.33(0.55)

When responding to survey item 12, (*realistically*) how much education do you think you will get? the AVID, GEAR UP, and Control groups remained consistent in their anticipations. However, the AVID/GEAR UP group lowered their anticipations from a bachelor's degree attainment to a sub-baccalaureate credential. For survey item 13, the *minimum level of education students would be satisfied with*, only the Control group remained consistent. The AVID, AVID/GEAR UP, and GEAR UP groups raised their anticipations by increasing their level of *satisfaction* from attaining an Associate's degree to that of Bachelor's degree. Survey item 14 yielded consistencies in the responses of the AVID group.

**EDUCATIONAL ASPIRATION**

An additional research question that guided this study required an investigation into whether differences existed in the educational aspirations among the AVID, GEAR UP, AVID/GEAR UP, and Control groups. The aspiration item, *How much education do you want to get?* was analyzed using a Kruskal Wallis test, but no significant difference was found ( $p>.05$ ) among the groups.

Though not included as an original research question, additional analyses were performed to examine possible changes in educational aspiration from 10th to 12th grade within each of the four groups. A paired samples t-test was conducted for each group and yielded no significant changes in educational aspiration over time ( $p > .05$ ).

**INDICATORS OF COLLEGE PREPAREDNESS**

We reviewed high school transcripts to identify indicators of college preparedness that were achieved by the four groups. Descriptive statistics were used to facilitate the identification of emerging themes among the following college preparatory measures: grade point average (GPA); graduation plan; AP courses; college credit; SAT, ACT, and TAKS performance; meeting the HERC standard for English and/or math; courses taken in middle school for high school credit, such as Algebra 1 and English 1; completing math beyond Algebra 2 in high school; and scholarships and universities for which they applied.

Adelman’s (1999) “academic resources” were defined as the composite measure of academic content and performance that a student brings from high school to post-secondary education. While reviewing transcripts, these academic resources were identified and grouped into categories or themes. Transcripts for all students, regardless of whether they completed both the 10th and 12th grade surveys, were reviewed. Table 3 shows the number of survey participants, the number of campus withdrawals, and the number of transcripts reviewed. Of the original 139 10th grade participants in this study, 112 transcripts were available for review.

**Table 3. Sample Size in Each of the Groups for Transcript Data**

	10th Grade Survey Sample	Withdrew from Campus between 10th and 12th Grade	12th Grade Survey Sample	Transcripts Reviewed
AVID	39	5	33	34
GEAR UP	39	10	18	29
AVID /GEAR UP	21	7	12	14
Control	40	5	27	35
Total	139	27	90	112

**RIGOROUS HIGH SCHOOL CURRICULUM**

A review of the 112 transcripts revealed that students took rigorous coursework, as evidenced by participation and completion of AP and college credit courses, high school credit-bearing courses in middle school, and mathematics beyond Algebra II. Only the AVID/GEAR UP group took an average of fewer than 2 AP courses during their high school careers. The GEAR UP group performed the highest, taking an average of 2.9 AP courses. The AVID group took an average of 2.44 AP courses, and the Control group averaged 2.25 AP courses. Although all four groups preferred taking AP courses over courses for college credit, such as dual or concurrent enrollment, the Control group averaged the most college credit courses (1.15).

Transcripts also revealed which courses were taken in middle school for high school credit. The GEAR UP group averaged the highest number of courses at 2.84. The AVID, AVID/GEAR UP, and Control groups took an average of 2.38, 2.64, and 2.25 high school credit-bearing courses, respectively, while in middle school. With this in mind, 78.6% of the AVID/GEAR UP group took Algebra 1 in middle school; however, only 64.3% of this group took math beyond Algebra 2 in high school. On the other hand, only 55.9% of the AVID group took Algebra 1 in middle school, but 70.6% of this group took math courses beyond Algebra 2. Hence, the AVID group yielded more students who took four years of math in high school than did the other groups. Both the GEAR UP and Control groups yielded fewer percentages of students taking math beyond Algebra 2.

**TESTING PERFORMANCE**

All students in each of the groups met minimum passing standards on the TAKS; however, not all students met the HERC for English and Math. The AVID group yielded the highest percentage of students meeting the HERC in English (76.5%); however, only 61.8% of them met the HERC in Math. This is an interesting finding since this group had the highest percent of students taking math beyond Algebra 2. The Control group also had a high percent of students meeting the HERC in English (75.0%). The AVID/GEAR UP group had the highest percent of students meeting the HERC in Math (71.4%). Upon examining average ACT scores, the Control group had the highest composite score of 17.34. The AVID and GEAR UP groups were similar, at 16.56 and 16.46 respectively.

**OTHER INDICATORS**

Other indicators that were examined include GPA, graduation plan, universities applied to, and scholarships applied for. Grade point averages in the

four groups were very similar, ranging from 84.39 (AVID/GEAR UP) to 87.42 (GEAR UP). The Texas graduation plans included Minimum, Recommended, and Distinguished. Students who are college-bound must graduate on at least the Recommended plan. The Control group had the highest percent of students graduating on the Distinguished plan (59.4%). The AVID group was next at 52.9%, with only 2.9% graduating on the Minimum plan. While none of the GEAR UP students graduated on the Minimum plan, 14.3% of the AVID/GEAR UP group and 6.3% of the Control group did so.

Perhaps the most interesting transcript indicator examined was the number of universities applied to and the number of scholarships applied for. Unfortunately, GUHS did not record these on the transcripts; therefore, only transcripts from the AVID and Control groups could be examined. The AVID group applied for an average of 4.35 scholarships while the Control group applied for only 1.09 scholarships. In addition, the AVID group applied to an average of 3.58 universities, while the Control group applied to an average of 2.06 universities.

#### DISCUSSION AND LIMITATIONS

It is important to note demographic differences among the participant groups, which were discovered after analyzing the survey data. The Control group reported having parents with at least some college or bachelor's degree completion (mother 36%, father 29%), while the other three participant groups reported considerably less. Additionally, 90% of the Control group was born in the United States while the other participant groups ranged from 66-80%. According to Watt, Huerta, and Lozano's (2007) study, "the majority of the students in the intervention programs are characterized as coming from low-income families with little college experience and limited education: their parents are less educated than parents from the Control group" (p. 209). When selecting the Control group, socioeconomic status and parent education were not taken into consideration because this information was not available on the 8th grade transcripts. These demographics were gathered from the *Survey of College Preparation*. In addition, Watt, Huerta, and Lozano (2007) noted that focus group interviews revealed a Control group with greater educated parents and higher socioeconomic status. The percentage of Control group students who spoke primarily Spanish at home was also markedly lower than the other groups.

A possible conclusion that may help explain the findings from the quantitative and qualitative analyses of this study is the "AVID effect" (Mehan et al, 1996; Swanson, 2000). In addition to the Control group having parents with more education than the intervention groups, the Control group also

came from AHS, the AVID High School. This school has a national demonstration AVID program and has been implementing AVID since 1999, as reported by the Texas AVID State Office's (2006) annual certification report. National demonstration eligibility occurs when a campus institutionalizes all 11 of the AVID Essentials. Institutionalization of AVID strategies and methodologies transforms the school culture into a college going culture, thereby creating an "AVID effect" (Mehan et al, 1996; Swanson, 2000). It is believed that because of the "AVID effect," no true Control group could have been obtained from AVID High School due to spillover effects of AVID strategies used in all classrooms.

In summary, the quantitative and qualitative findings of this study favored the academic futures of all the participant groups. Their aspirations, anticipations and achieved indicators of college preparedness contradicted current literature which states that educational aspirations of minority students often do not match their academic preparation (Mahoney & Meritt, 1993); a mismatch occurs between aspirations/anticipations and academic achievement (Wahl & Blackhurst, 2000). In addition, findings from this study support Gandara's (2002) conclusions about aspirations and college preparation.

Findings in this study, however, implied that participation in GEAR UP, AVID, or a combination of the two, does not yield better results for one program over the other, with the exception of advanced course-taking in mathematics. Both AVID and GEAR UP provide students with additional college knowledge, preparation and support.

#### IMPLICATIONS

Students historically underrepresented at the post-secondary level, especially Hispanics, who are low-income and first generation college-goers are less likely to prepare for, enroll in, and persist through post-secondary education (Cabrera & La Nasa, 2000). The findings in this study imply that when given access to rigorous curriculum via intervention programs at the secondary level, Hispanics can be prepared for college and attain the necessary academic resources that may, as research indicates, increase their likelihood to enter and succeed in post-secondary curriculum (Adelman, 1999, 2006).

In Texas the high school graduation and college enrollment rates of Hispanics are proportionately lower than that of Whites (Murdock, 2003). As the findings may imply, providing Hispanic students with college preparation and support of an intervention program may increase their graduation and college enrollment rates.

The low achievement rate has severe implications for policy makers because the Hispanic population is growing faster than other segments of

the country's population. Murdock (2003) projects that minorities, in Texas, will soon make up 63% of the state's population. The findings of this study, in particular those that focus on the achieved indicators of college preparedness (AP testing, advanced course enrollment, SAT/ACT testing, etc.), can inform policy makers of how to close the achievement gap and ensure an educated Hispanic workforce ready to meet the needs of our state and national economy.

College preparation programs such as AVID and GEAR UP have shown that the high post-secondary aspirations and anticipations needs of the Hispanic population can be supported with rigorous curriculum. High aspirations and/or anticipations alone are not sufficient to ensure college enrollment (St. John, 1991). "No matter how one divides the universe of students, the curriculum measure produces a higher percent earning bachelor's degrees..." (Adelman, 1999, p vii-viii). With early intervention and sustained support systems like AVID and GEAR UP throughout the secondary careers of students, the likelihood of enrolling and completing a post-secondary degree increases (Gandara & Bial, 2001; Gandara & Moreno, 2002). Therefore, policy makers should continue to support and increase the resources for more early intervention and college preparatory programs that target non-traditional college goers like Hispanics.

## REFERENCES

- Adelman, C. (1999). *Answers in the tool box: Academic intensity, attendance patterns and bachelor's degree attainment*. Washington, DC: US. Department of Education, Office of Educational Research and Improvement.
- Adelman, C. (2006). *The toolbox revisited: Paths to degree completion from high school through college*. Washington, DC: US. Department of Education, Office of Vocational and Adult Education.
- Cabrera, A. F., & La Nasa, S. (2000). Understanding the college-choice process. *New Directions for Institutional Research*, 107, 5-23.
- Cabrera, A. F., Prabhu, R., Deil-Amen, R., Terenzini, P., Lee, C. & Franklin, R. (2006). Increasing the preparedness of at-risk students. *Journal of Latinos & Education*, 5(2), 79-97.
- Campbell, R. T. (1983). Status attainment research: End of the beginning or beginning of the end? *Sociology of Education*, 56, 47-62.
- Denner, J., Cooper, C. R., Dunbar, N., & Lopez, E. (2005). Latinos in a college outreach program: Applications, selection, and participation. *Journal of Latinos and Education*, 4(1), 21-41.
- Eccles, J., & Gootman, J. A. (2002). *Community programs to promote youth and development*. Washington, DC: National Research Council.
- Fields, C. D. (2001). Can TRIO and GEAR UP continue to co-exist? *Black Issues in Higher Education*, 8(21), 26-31.

- Final Report of the President's Advisory Commission on Educational Excellence for Hispanic Americans. (2003). *From risk to opportunity: Fulfilling the educational needs of Hispanic Americans in the 21st century*. Washington, DC: President's Advisory Committee.
- Gall, M. D., Gall, J. P., & Borg, W. R. (2003). *Educational research: An introduction*. Boston: Allyn & Bacon.
- Gandara, P. (2002). A study of High School Puente: What we have learned about preparing Latino youth for postsecondary education. *Educational Policy*, 16(4), 474-495.
- Gandara, P., & Bial, D. (2001). *Paving the way to postsecondary education: K-12 intervention programs for underrepresented youth*. Washington, DC: U.S. Department of Education, National Center for Educational Statistics.
- Gandara P., & Moreno, J. F. (2002). Introduction: The Puente Project: Issues and perspectives on preparing Latino youth for higher education. *Educational Policy*, 16(4), 463-473.
- Greene, J., & Forster, G. (2003). *Public high school graduation and college readiness rates in the United States*. New York, NY: Center for the Civic Innovation at the Manhattan Institute.
- Gullat, Y., & Jan, W. (2003). *How do pre-college academic outreach programs impact college-going among underrepresented students?* Boston: Pathways to College Network Clearinghouse.
- Guthrie, L. F., & Guthrie, G. P. (2000). *Longitudinal research on AVID: 1999-2000. Final report: Executive summary*. Burlingame, CA: Center for Research, Evaluation and Training in Education.
- Hauser, R. M., & Anderson, D. K. (1991). Post-high school plans and aspirations of Black and White high school seniors: 1976-86. *Sociology of Education*, 64, 22-30.
- Hinkle, D., Wiersma, W., & Jurs, S. (1998). *Applied statistics for the behavioral sciences*. Boston: Houghton Mifflin Company.
- Johnson, S. T. (1992). Extra school factors in achievement, attainment, and aspiration among junior and senior high school age African American youth. *Journal of Negro Education*, 61(1), 99-119.
- Johnson, B., & Christensen, L. (2004). *Educational research: Quantitative, qualitative, and mixed approaches*. Boston: Pearson Education.
- Kao, G., & Tienta, M. (1998). Educational aspirations of minority youth. *American Journal of Education*, 106, 349-384.
- Mahoney, J. S., Jr., & Merritt, S. R. (1993). Educational hopes of Black and White high school seniors in Virginia. *Journal of Educational Research*, 87(1), 31-38.
- Martinez, M., & Klopott, S. (2003). *Improving college access for minority, low-income, and first-generation students*. Boston: Pathways to College Network Clearinghouse.
- Mehan, H., Villanueva, I., Hubbard, L., & Lintz, A. (1996). *Constructing school success: The consequences of untracking low-achieving students* Cambridge, UK: Cambridge University Press.
- Murdock, S. (2003). *The new Texas challenge: Population change and the future of Texas*. College Station, TX: Texas A&M University Press.
- National Center for Educational Statistics. (2001). *High school academic curriculum and the persistence path through college*. Washington, DC: U.S. Government Printing Office.

Perna, L. (2000). Racial and ethnic group differences in college enrollment decisions. *New Directions for Institutional Research*, 107, 65-83.

Reyes, M. A. (2002). *Academic achievement as a function of attributions of success and failure and socio-cultural variables in Mexican American students* (Unpublished doctoral dissertation). The University of Texas-Pan American, Edinburg, TX.

Sewell, W., & Hauser, M. (1972). *Causes and consequences of higher education*. Washington, DC: American Council on Education.

St. John, E. P. (1991). What really influences minority attendance? Sequential analysis of the high school and beyond sophomore cohort. *Research in Higher Education*, 23(2), 141-158.

Swanson, M. C. (2000). Rigor with support: Lessons from AVID. *Leadership*, 30(2), 26-29.

Texas AVID State Office. (2006). *Resources: Reports*. Retrieved from [http://avid.panam.edu/Resources\\_Reports.htm](http://avid.panam.edu/Resources_Reports.htm)

U.S. Department of Education (2006). *Gaining early awareness and readiness for undergraduate programs*. Obtained from <http://www.ed.gov/programs/gearup/index.html>

Wahl, H. K., & Blackhurst, A. (2000). Factors affecting the occupational and educational aspirations of children and adolescents. *Professional School Counseling*, 3(5), 367-374.

Watt, K. M., Huerta, J., & Lozano, A. (2007). A Comparison of AVID and GEAR UP 10th grade students in two high schools in the Rio Grande Valley of Texas. *Journal of Education for Students Placed at Risk*, 12(2), 186-212.

Watt, K. M., Powell, C. A., & Mendiola, I. D. (2004). Implications of one comprehensive school reform model for secondary school students underrepresented in higher education. *Journal of Education for Students Placed at Risk*, 9(3), 241-259.

Watt, K. M., Powell, C. A., Mendiola, I. D., & Cossio, G. (2006). School-wide impact and AVID: How have selected Texas high schools addressed the new accountability measures? *Journal of Education for Students Placed at Risk*, 11(1), 57-73.

Watt, K. M., & Reyes, M. A. (2005). Academic enhancement, intervention, and preparation programs. In A. Pankake, M. Littleton, & G. Schroth (Eds.) *The administration and supervision of special programs in education* (2nd ed., pp. 69-82). Dubuque, IA: Kendall/Hunt Publishing Company.

Watt, K. M., Yanez, D., & Cossio, G. (2003). AVID: A comprehensive school reform model for Texas. *National Forum of Educational Administration and Supervision Journal*, 1(3), 43-59.

Williams, T. (1972). Educational aspirations: Longitudinal evidence on their development in Canadian youth. *Sociology of Education*, 45(2), 107-133.

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