Multicultural Navigators and College-Bound High School Students' Academic
Achievement, Self-Efficacy for Learning, and Perceived Task-Value

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DEDICATION

This is dedicated to Janae, Janera, Shannon, Preston IV (PJ), and Brooke. The world is yours.

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABSTRACT

MULTICULTURAL NAVIGATORS AND COLLEGE-BOUND HIGH SCHOOL
STUDENTS' ACADEMIC ACHIEVEMENT, SELF-EFFICACY FOR LEARNING,
AND PERCEIVED TASK-VALUE

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The purpose of this study was to explore how the presence of a multicultural navigator in

the lives of college-bound middle and high school students enrolled in the Advancement

Via Individual Determination (AVID) program affected their academic achievement

(GPA), self-efficacy for learning, and perceived task-value. AVID is designed to increase

first-generation college bound students' preparedness for college (Swanson, Mehan &

Hubbard, 1995). AVID staff members are school-based social models who transmit the

codes required for college preparation. Multicultural navigators are people who provide

access to the codes related to college preparation for first-generation college-bound

students (Carter, 2005). Fifty-three students enrolled in the AVID elective class at one

high school located in a rural school district responded to a demographic questionnaire

and two scales, the Self-Efficacy for Learning Form (SELF) (Zimmerman & Kitsantas

2007) and the Self and task perceptions questionnaire (STPQ) (Eccles & Wigfield, 1994).

The results of this study indicated that 100% of the students were able to identify at least

one multicultural navigator. Further, 88% of the students in this study identified a

multicultural navigator in AVID, or had parents/guardians who had gone to college. Of

the students whose parents/guardians went to college, 61% identified a multicultural

navigator not in the AVID program. No significant differences were found, however,

there were several trends related to the results of this study, Those students who

identified someone in AVID as their multicultural navigator scored higher on SELF than

those who selected someone not in AVID as their multicultural navigator and those who

identified their AVID teacher as their multicultural navigator scored higher on Task-

Value, SELF, and GPA. However, the differences were not statistically significant. This

study concludes with discussion of the implications related to preparing first-generation

students for college, limitations of this study, and suggestions for future research.

1. Introduction

Going to college and earning a degree is now considered necessary to achieve
economic success in the 21st century (New Commission on Skills and the American
Workforce, 2006). Yet, as the demands increase for college degrees in the workforce,
first-generation college-bound, low income, minority students continue to represent the
lowest proportion of students in higher education (Choy, 2001; Tym, McMillion, Barone,
& Webster, 2004; Vargas, 2004). Access has been identified as one of the greater barriers
for college enrollment among this population (Adelman, 1999; Choy, 2001; Schmidt,
2003; Striplin, 1999; Thayer, 2000; Tym, McMillion, Barone, & Webster; Vargas, 2004).
Additionally, for these students, access depends on many other factors, including
financial assistance, academic support, awareness, and communication of the prospect of
higher education (Tym, McMillion, Barone, & Webster, 2004; Choy, 2001; Vargas,
2004). Families with parents/guardians who did not attend college have limited access to
the knowledge related to getting students to college (Choy, 2001; Vargas, 2004). The
knowledge related to preparing for college while in high school is different than what is
needed to complete the requirements for high school graduation. College knowledge
consists of students taking rigorous courses, college entrance exams, researching and
applying to multiple colleges, and understanding information related to financial aid.

Statement of the Problem

First-generation college-bound students need adults who can navigate how to get to and through college successfully, mainly because they are less likely than any other demographic group to attend college (Choy, 2001). These students lack access to adult social models in their homes and neighborhoods that have completed college and can direct them to their own goal of completing college. To counteract the dearth of social models who demonstrate how to not only balance but to acquire their multiple social worlds, contexts or cultures, for students, Prudence Carter (2005) suggests that some social models take on new roles including the explicit teaching of the knowledge related to success in the social contexts. Carter (2005) coins the term multicultural navigator to describe ideal social models. These multicultural navigators can direct students to pursue positive activities (e.g. course selection) related to their aspirations of going to college, entering the workforce, or joining the military.

According to Carter (2005) multicultural navigators are teachers, clergy, family members, relatives, neighbors, and any other social model who can teach (explicitly or implicitly) the skills to help students navigate an unfamiliar social world, such as the road to college for those first in their families to attend. Students, who will be the first in their families to attend college, are often also from minority and low income homes and neighborhoods where access to adults who have completed college is limited to those they encounter in school. It is understood that multicultural navigators are usually found in homes and neighborhoods. First-generation college-bound students' access to multicultural navigators who can navigate them toward college is frequently limited. If

the parents/guardians did not attend college, or if they had negative educational experiences, their children's beliefs and expectations of their ability to do well in college and the value of tasks related to college preparation can be linked to those of their parents/guardians. Because many minority students have parents/guardians who did not attend college, there is a need for navigators in the lives of these students that will navigate them towards a college preparatory path in high school, which will eventually lead them to college enrollment and graduation.

Conceptual Framework

This current research is designed under the theoretical framework of Bandura's (1997; 1986) Social Cognitive Theory which states that there are reciprocal interactions between personal variables (e.g. self-efficacy for learning and perceived task-value), environmental variables (sources of multicultural navigators) and behavior (academic achievement). Students live in multiple social worlds, such as home or school or their local community. Each of these social worlds holds separate codes, defined as knowledge, rules, skills, strategies, beliefs, and emotions required for successful navigation in it. The codes related to the social world of preparing for college differ from those related to receiving a standard high school diploma. The codes related to preparing for college include the knowledge of the importance of taking rigorous courses, researching colleges, completing college applications, and choosing an appropriate college major.

Given that students live in multiple social worlds they are challenged with learning how to navigate what is learned from their multiple multicultural navigators as

related to their goals. This balancing act becomes more profound for students whose goal includes accessing codes where no multicultural is available for them, such as first-generation college-bound students. Because their parents/guardians did not attend college, many first-generation college-bound students do not have access to multicultural navigators who can help them develop the knowledge related to college preparation in their home, school and community environments. Bandura's (1986; 1997) Social Cognitive Theory states that student learning is a result of reciprocal interactions among personal factors (i.e. thoughts, goals, beliefs, and values), behaviors (i.e. academic achievement), and environmental factors (i.e. multicultural navigators) (Figure 1). Simply stated, Bandura's (1986; 1997) theory suggests that students' thoughts, goals, beliefs, and values relative to specific social worlds (e.g. college preparation or community life) are shaped by observing social role models such as multicultural navigators in those worlds. It further posits that students are more likely to participate in the behavior of the social model if they believe in their own capabilities to learn or perform the specific tasks, which Bandura entitles, self-efficacy for learning, and if they value the potential outcomes related to the task (perceived task-value).

Behaviors

Environmental   Personal
Variables   Variables
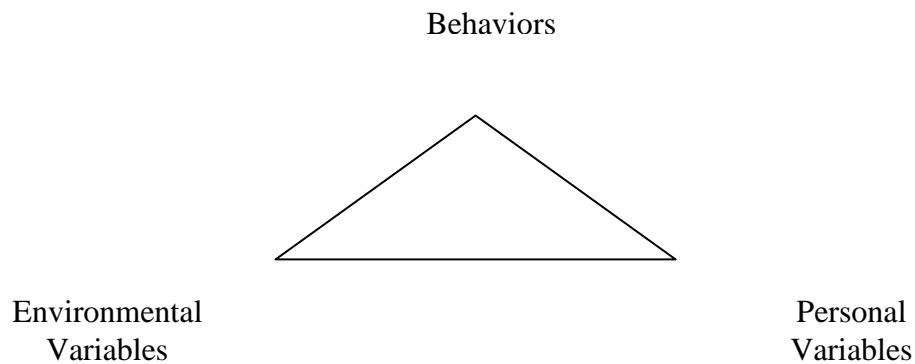
Figure 1. Reciprocal Causation

Background of the Problem

       According to Bandura's (1986; 1997) Social Cognitive Theory, the observation of

desired behavior in social models (i.e. multicultural navigators) is a major factor in

learning. Self-efficacy, defined as students' cognitive evaluations of their ability to

successfully perform tasks is a major component of Bandura's Social Cognitive Theory.

Task-value, the worth one places on outcomes related to task is also an important concept

in social cognitive perspectives of motivation and learning (Eccles & Wigfield, 1995).

Self-efficacy and task-value are both malleable and not constant over time or the same

across different contexts. Self-efficacy and task-values have been linked to motivation

and persistence in academic behaviors (Bandura & Schunk, 1981; Bong, 2002; Pajares &

Miller, 1994; Zimmerman & Kitsantas, 2005) such as course selection (Bong, 2001;

Simons, Dewitte, & Lens, 2003). Therefore, through modeling of behavior related to the

5

college preparation process, students can observe and internalize messages about their abilities and values in both implicit and explicit ways from multicultural navigators.

Researchers have found that students who have a desire to attend college, but have no social models who are similar to them that have completed college, have lower levels of self-efficacy for learning and perceived task-value beliefs about the importance of and their expectation of completing college (Kerpelman & Mosher, 2004). Since students' parents/guardians did not complete a four year degree, and because they come from groups underrepresented in higher education in their homes and neighborhoods, these students often lack access to the multicultural navigators who model for them the process of successfully preparing for and completing college (Hsiao, 1992; Schmidt, 2003). This also causes the gap to continue among college going rates related to parent education (Choy, 2001; Vargas, 2004), and the cycle continues to persist.

Adults who can successfully model the process of preparing for college for first-generation college-bound students in their homes and neighborhoods has been identified as lacking (Tym, McMillion, Barone, & Webster, 2004; Choy, 2001; Vargas, 2004). To counteract the lack of appropriate familial academic support for first-generation college preparing students, many programs have been created that are targeted at increasing access to higher education for first-generation college students, by providing them with access to multicultural navigators who will help them navigate the college preparation process (Striplin, 1999; Gullatt & Jan, 2003), such as Upward Bound, Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR UP), and Advancement Via Individual Determination (AVID), among others.

These programs attempt to address ways to teach the codes or skills of access to first-generation college-bound students (Gullatt & Jan, 2003). Teachers and counselors in these programs can become the multicultural navigators that move forward the college preparation process for students. Programs such as Upward Bound, GEAR UP and AVID provide direct training related to the entire college application process, including financial aid counseling, test preparation, and course selection (Gullatt & Jan, 2003). Through their instructional approaches these programs are able to leverage the power of the social interactions (e.g. requesting college recommendations from teachers) required for pre-collegiate education. These programs provide students with support and transmit the message that getting to and through college is not by way of individual achievement alone. Rather, support is seen as the bridge between students' academic goals related to college and actual attainment of their goals (Gullatt & Jan, 2003).

Advancement Via Individual Determination

One relevant program, Advancement Via Individual Determination (AVID) is designed to increase first-generation college bound students' preparedness for college (Swanson, Mehan, & Hubbard, 1995). AVID staff members are school-based social models who transmit the codes required for college preparation. AVID staff, especially AVID teachers, in many ways has the potential of being multicultural navigators as described by Carter (2005) for college-bound students. AVID has a proven track record for enrolling more first-generation college-bound students in rigorous courses and in college than similar programs (Mehan et. al., 1994), however, the reciprocal interaction among personal variables, such as self-efficacy for learning, and perceived task-value;

environmental variables, such as sources of multicultural navigators; and behaviors, such as academic achievement, have not been previously discussed in the literature in relation to AVID students. Therefore, the investigation of how the presence of multicultural navigators in the lives of AVID students relate to their academic achievement, self-efficacy for learning, and perceived task-value is worthwhile.

Purpose of this Study

The purpose of this study was to explore how the presence of a multicultural navigator in the lives of college-bound high school students enrolled in the Advancement Via Individual Determination (AVID) program affected their academic achievement, self-efficacy for learning, and perceived task-value. No study to date has explored students' self-efficacy for learning, perceived task-value, and multicultural navigators in the AVID program. The present study is based on social cognitive theories of learning (Bandura, 1986; Bandura, 1997) and tests how well it explains the identification and use of multicultural navigators in college preparation, and specifically how self-efficacy, a dimension of Bandura's theory, and task-value (Eccles and Wigfield, 1995) affect students' responses to the social learning experiences afforded by the multicultural navigators in the AVID program.

Research Questions

It has been proven that students who have mentors are successful, however the field of education needs a better understanding of the indirect and direct messages students received from all the adults in their social environments and a better understanding of the differences of the students that allow messages from some adults to

become internalized while others go without being internalized. Related to the purpose of this study four research questions are addressed using students who are participants in the AVID program at one high school. The research questions are:

1. Who are the multicultural navigators in AVID students' lives? (i.e. AVID staff, clergy members, parents/guardians, peers, siblings, neighbors, and other adults)

2. Are there differences between students who perceive AVID staff (e.g. AVID teacher, AVID tutor, or AVID counselor) as a multicultural navigator and those who do not perceive AVID staff as a multicultural navigator in their self-efficacy learning beliefs, perceived task-value, and academic achievement?

3. Are there differences between students who perceive their AVID teacher as a multicultural navigator, those who perceive other AVID staff such as their AVID tutor, or their AVID counselor in their self-efficacy for learning beliefs, perceived task-value, and achievement scores for?

4. To what degree does GPA, self-efficacy for learning, and perceived task-value predict choice of multicultural navigator?

Significance of the Study

This study is significant because of the importance of successfully preparing high school students for college. In order to prepare students to meet the educational demands of the 21st century educators must understand the ways in which college knowledge and access to college is traditionally passed down from parents/guardians based on their own academic experiences. This research argues that authentic and intentional multicultural

navigation should occur in all schools, and that the AVID program demonstrates how it can be done.

For students who have a goal to attend college that is reinforced by their families, schools share the responsibility of preparing them for college. However, for those students who do not have a tradition of going to college in their families and who remain unaware of the requirements needed to successfully prepare (e.g. course enrollment), the schools have the additional responsibility of orienting them towards a college preparation track, as well as teaching them how to maneuver the college application process. College access programs are designed to educate students and their parents/guardians about the resources available for college. To date, only a few, measurably successful in-school, college access programs exist that provide college awareness information and financial aid planning to parents/guardians while addressing the need to encourage a rigorous curriculum and accelerated learning opportunities for low-income, average achieving, first-generation to attend college, minority students, that is operated by the school district during the school day on the school site (National College Access Network, 2008). These programs include Advancement Via Individual Determination (AVID); Gear UP; and Pathways to College Education.

Few studies provide empirical support for program outcomes related to the programs and their role in providing multicultural navigators or other sources of academic support through role models (Vargas, 2004). Perhaps this has occurred because the nature of program evaluation and research focuses mainly on quantifiable outcomes

including student participation and attendance in the program, academic performance, college entrance exam scores, high school graduation rates, and college enrollment.

This study takes the approach that the support provided through multicultural navigators in these programs is essential to the development of and increases in personal factors such as self-efficacy for learning, and perceived task-value. This present study combines and extends the current understanding found in the literature related to multicultural navigators, self-efficacy for learning, perceived task-value and academic achievement for first-generation college-bound students enrolled in the AVID elective class. The results of this study could illustrate the importance of access to multicultural navigators as an outcome of AVID.

Chapter Summary

The purpose of this chapter was to introduce multicultural navigators in programs like AVID as a solution to the issues related to college access and support for low income, minority, and first-generation, college-bound students. The chapter ends with the notion that college access can be increased for this population through access to and identifying with an adult multicultural navigator, which in turn can directly or indirectly affect students' academic achievement, self-efficacy for learning and perceived task-value.

2. Review of Literature

The purpose of this study was to explore how the presence of a multicultural navigator in the lives of college-bound high school students enrolled in the Advancement Via Individual Determination (AVID) program affected their academic achievement, self-efficacy for learning, and perceived task-value. The literature related to college access for first-generation college-bound students, multicultural navigators, social cognitive theories, and academic support programs including AVID is reviewed in this chapter. Of particular interest in this review of the literature is a focus on studies that have included in their sample first-generation college bound high school students enrolled in the AVID program. However, very few studies focusing on AVID students and multicultural navigators were found.

Issues Related to College Access for College-Bound Students

According to the New Commission on Skills and the American Workforce (2006), going to college and earning a degree is now considered necessary to achieve economic success in the 21st century. Yet, as the demands increase for college degrees in the workforce, first-generation college-bound, low income, minority students continue to represent the lowest proportion of students in higher education (Choy, 2001; Tym, McMillion, Barone, & Webster, 2004; Vargas, 2004). The path to college for first-

generation college bound students' who are also more likely to be from low income and minority households, often becomes frustrating as they face continual obstacles and challenges both outside and inside school that have historically limited their enrollment in college. Accessing the information related to the preparation necessary for college readiness is one of the greater barriers for college enrollment among this population (Adelman, 1999; Choy, 2001; College Board Forum, 2005; Conley, 2003; Schmidt, 2003; Somerville &Yi 2002; Striplin, 1999; Strong American Schools, 2008; Thayer, 2000; Tym, McMillion, Barone, & Webster; Vargas, 2004).

Researchers from the Consortium for Chicago Schools define information and skills necessary for college readiness as, "college knowledge". According to the researchers "college knowledge" includes information about the steps needed to enroll in college (Chait & Venezia, 2009). This includes picking appropriate schools, choosing majors, submitting applications, writing college essays, enrolling in appropriate courses and applying for financial assistance. According to the Center for American Progress the lack of academic preparation and skills needed explains the gap between first-generation students who indicated a desire to complete college and those who actually complete college (Nagaoka, Roderick, & Coca, 2009). After reviewing research related to college readiness (Nagaoka et al., (2009) identified academic rigor, high school grades, academic skills needed for success in college level courses, and general college knowledge as indicators of a students' readiness for college.

College knowledge includes a different set of information and held beliefs than that of traditional school knowledge. Knowing which classes to take, selecting the

appropriate college, choosing a major, and other activities related to accessing the college-going culture of school can be challenging, demanding and difficult for students who attempt to be academically prepared for college. Traditionally schools have been identified as places where students develop knowledge of the ways to interact deemed appropriate in school (Delpit, 1995). Delpit (1995) describes a set of information or held beliefs (culture) that differ from what people are accustomed to, as a culture of power. The culture of power refers to codes or rules that relate to "ways of talking, ways of writing, ways of dressing, and ways of interacting" (Delpit, 1995, p. 25) that are deemed appropriate (Delpit, 1995). In school, college knowledge represents a culture of power for first-generation college bound students. Delpit (1995) argues in her essay that those who are interested in accessing cultures of power must be explicitly taught the rules and codes by those who are participants. In the case of first-generation college bound students, they need adults who have an understanding of the college knowledge needed and have experienced their own success in navigating the college going culture within secondary schools.

Students whose parents/guardians completed college are at an advantage because they have access to college knowledge in their homes prior to beginning school. These students are primed and encouraged to develop the appropriate academic skills and to enroll in rigorous classes early on such as taking Algebra in middle school.

Within families where parents/guardians did not attend college, access to this information is limited (Choy, 2001; Pascarella, Pierson, Wolniak, & Terenzini, 2004; Vargas, 2004). These students whose parents/guardians did not attend college face the

additional barrier of identifying appropriate sources for accessing college knowledge. The sole source of college knowledge for these students comes from schools that often overlook them when providing information about college (Vargas, 2004). After reviewing the literature related to the barriers to college knowledge for first-generation college bound students, Vargas (2004) found that first-generation students are overlooked when the information and guidance needed for successful college readiness is distributed in schools. According to Vargas (2004) college knowledge includes all information related to preparing for college such as options for paying for college; preparing for and taking college admissions test; linking career and educational goals; taking the appropriate courses; and selecting colleges. Vargas (2004) concluded that student college readiness can be increased by focusing interventions early while students are in elementary school to increase student enrollment in college preparatory tracks in middle and high school. Schools that provide information for first-generation students related to college knowledge helps to close the knowledge gap between those who have desires to attend college but not familiarity with what it takes to be college ready.

How students feel about college knowledge has been explored from a qualitative perspective. Reid and Moore (2008) explored students perceptions and attitudes related to college knowledge developed in high school. In this study the authors interviewed thirteen first-generation college bound students. The authors reported two major themes: students' preparation during high school with college success, and identified the skills that were lacking for college success. For example one student in their study stated that:

I was more prepared for college because I was told more and I learned more on the way. You're in middle school and no one gives you points to go into high school. I felt like high school gave me that extra help to let me know what was on the way. (Reid & Moore, 2008, p. 246)

Students who develop college knowledge are more prepared for their future college experiences. However, those who reported lacking in the knowledge disseminated in high school reported some negative outcomes related to their college experiences. For example one student in the study noted that:

They prepared us with the information but we weren't prepared for classes that are really big. There's no one-on-one with the teachers unless you go to their office hours and half the time, you don't have time for that. There is no daily homework. You take notes and take an exam. In high school you have homework every day. You have papers projects and a whole bunch of stuff to learn it better. You take quizzes and then you have an exam. We don't have all that in college. (Reid & Moore, 2008, p. 252)

Reid and Moore (2008) concluded that first-generation students face difficulties and under preparation for the rigors of college level work and the social responsibilities related to it. This comment from the student highlights the importance of preparing students for all aspects related to college and not simply enrolling more students in advanced placement courses. Schools have the responsibility of preparing students for all aspects of college.

Students who are unaware of the requirements for college readiness often leave college without graduating. In a report completed by the National Center of Education Statistics, it was reported that 40% of first-generation students who entered college in 1992 did not complete a degree before 2000. In this study the authors examined college course taking patterns for first-generation student's (Chen & Carroll, 2005). They used data from the Post-secondary Education Transcript Study from the National Education Longitudinal Study of 1988 (NELS: 88). In addition to not completing college they also highlighted that first-generation students also took more remedial courses during college, 65% who took remedial courses 40% were for mathematics. It was also found that first-generation students were less likely to have a college major decided. Compared to students whose parents/guardians did attend college first-generation students also had lower GPAs. The authors concluded that students remain disadvantaged after entering college if their parents/guardians did not attend college (Chen & Carroll, 2005). McCarron & Inkelas, (2006) also used the NELS: 88 data to examine first-generation college bound students. In their analysis they addressed the impact of parental involvement on the educational aspirations of first-generation college bound students. Their sample included 1,879 students. The authors measured parental involvement using a three item subscale that asked students about their parents/guardians involvement in their activities related to school on a Likert-type scale. The authors reported that the difference between first-generation students and non-first-generation students on academic outcomes could be explained by parental involvement ($\rho < .001$). The authors also completed a Chi-square test and indicated that the majority (62.1%) of first-

generation students who aspired to graduate from college did not graduate between 1990 and 2000. Pascarella, Pierson, Wolniak, & Terenzini (2004) also used longitudinal data to study first-generation college bound students. In their study the authors used data collected for the National Study of Student Learning (NSSL) to examine differences for first-generation college bound students and their peers on outcomes such as demographic characteristics, college academic experiences and college non-academic experiences. Pascarella et al., (2004) reported that there were significant differences ($\rho < .001$) for first-generation students when compared to non first-generation students on college academic experiences such as credit hours completed and non academic experiences such as hours worked. The authors also concluded that parental education directly affected student experiences related to college. Students whose parents/guardians lack information and experience with college for themselves need support related to learning about the requirements and skills needed to successfully complete college before they leave high school. When first-generation college bound students go to college they often take remedial classes, are unable to identify a major, and end up taking fewer credits than students whose parents/guardians went to college.

First-generation students lack access to those who can provide them with the information related to preparing for college. They are often overlooked when schools give out information about applying to college (Vargas, 2004), or recommendations for enrollment in college preparatory courses (Carter, 2005). Students can enroll in college bound tracks through self-selection or recommendations. In the case where a student or their parents/guardians are not fully aware of the academic preparation required for

18

college entrance, self-selection into these courses does not happen. Therefore, students who are first in their families to attend college enter college less academically prepared than others and are required to take more remedial courses than their non-first-generation peers (College Board Forum, 2005; Strong American Schools, 2008).

Academic Preparation

Academic preparation is not only a concern for first-generation students. Students are completing high school less prepared for college at alarming rates (Strong American Schools, 2008). According to the College Board (2005) one third of all students who complete high school are not college ready. Almost half (46%) of these students are required to take remedial courses (College Board Forum, 2005). Of this number, minority students represent the majority of students who are the least prepared academically for college and end up in remedial courses more than non-first-generation students. A report by Strong American Schools (2008), also points out that one-third of students who enter college need to take remedial classes to learn skills they should have developed prior to graduating high school. In the report, the authors obtained data from the National Commission on the Cost of Education and the Delta Project on Secondary Cost and pointed out that on average colleges and universities spend more than 2.5 billion dollars a year teaching non-credit accruing mathematics and reading skills similar to high school classes. The authors concluded that to address the economic and social obligations of public education all students should leave school with basic standards, without regard to their plans for college. Moreover, all students who successfully complete the

requirements of high school should be prepared for the workforce, which currently requires post-secondary education.

The divide between high school graduation requirements and college preparation requirements, compounded by the school's inability to direct students to a college preparation track, leave many first-generation, low-income, minority students unfamiliar and unclear as to what constitutes college academic preparation. Schools are challenged to produce college ready high school seniors, who will enter college equipped with the skills necessary for college level course work. Two prominent alternatives exist to addressing the challenge of increasing the number of college ready high school graduates. The advocates for the aligning of high school and college entrance requirements have argued that in order to increase the number of college ready high school students, graduation requirements and college entrance requirements should mirror each other (Somerville & Yi, 2002; Conley, 2003). Others advocate that school personnel should be transparent in their methods for encouraging all students to enroll in college preparatory tracks as a way toward college readiness (Allen, Bonous-Hammarth, Suh, & McGowan, 2003).

Currently, the general requirements for a high school diploma do not guarantee student readiness for college level work (Strong American Schools, 2008). The disconnect between the high school requirements and college entry requirements leave students and their parents/guardians with a false assurance that success in general high school courses will lead to college readiness. Somerville and Yi (2002) found that high school math requirements do not represent the level of difficulty needed for college

freshmen. The authors compared state graduation requirements to state college admission requirements and found that the expectations for high schools in the state were lower than those of college entrance in the same state. They concluded that the gap between the requirements influence students' ability to enter college academically prepared.

Without a clear distinction of what constitutes a college ready high school student, college-bound students face a continual obstacle of understanding the difference between the requirements for high school and those needed for successful preparation for college. However, aligning graduation requirements with college entrance requirements is problematic right now. Without national standards for education, it is difficult to identify a curriculum that will meet the needs of secondary and post-secondary institutions. Setting a national high school curriculum will be a tedious task, that which will not address the needs of students who are currently enrolled in high school. On the contrary, increasing the number of students enrolled in college preparatory tracks in high school can address the academic preparation needs of current high school students. Research on college choice often finds that one of the most important predictors of whether students go to college is whether they took rigorous classes and attend a high school where the majority of students tend to go to college.

The rigorous classes included in a college preparatory curriculum include the explicit teaching of effective academic skills such as self-regulated learning and the value of education, that will help students not only in the rigorous courses but also in their other classes and ultimately in their college courses. Rigorous courses such as AP classes also benefit students because unlike the remedial courses students may take in college, once

completed students can earn college credits while in high school. Conley (2003) reviewed data from the National Assessment of Educational Process (NAEP) and found that students who have not taken AP courses or higher level mathematics classes in high school were required to take more remedial math courses once they gain admission to college.

Student enrollment in rigorous courses has also been identified as increasing student chances for enrolling in college. Allen, Bonous-Hammarth, Suh, and McGowan (2003) stated that students who enrolled in AP classes in high school were more likely to enroll in college. In a survey 660 minority Gates Millennium Scholars (GMS) enrolled in college, Allen et al., (2003) found that the number of college preparatory courses in science taken in high school ($\rho < .01$) predicted student college persistence. In their qualitative study Reid and Moore (2008) also found that students who took AP courses in high school felt better prepared for college. The students reported feeling that they already had experiences with college. For example one student reported that

> When we first came [to college], we had to take a placement test for math, and I tested out of the first math class. So I only had to take three math classes instead of four, which definitely helped my schedule. (Allen et al,. 2003, p. 249)

Thompson and Rust (2007) also found better preparation for students who enrolled in rigorous AP courses. In their study the authors asked 41 college students to complete a questionnaire related to experiences in college and high school. The authors found that college grade point averages (GPA) for those who had taken AP courses in high school were higher $\rho < .05$ than those who did not enroll in AP courses in high

school. Klein (2007) also compared students who took at least one AP course with those who did not take AP courses on college performance. Students included in their study had similar SAT scores and eligibility for free and reduced priced meals. The author found that about 40 percent of students in their study who took AP classes in high school did graduate college within four years.

While AP enrollment is linked to student success, first-generation, low income, minority college bound students continue to face bias/discrimination in AP enrollment. The college board reported that an increase in low-income students making up 17% of AP test enrolling in AP courses, however minority, African American , accounting for 7.8% of the AP population in particular continue to be underrepresented in AP courses in schools (Gewertz, 2009). African-American students, who made up 14% of the student population in 2006, comprised only 7% of AP participants (USDOE, 2007). Students who participate in the college preparatory tracks in high school have an increased readiness for college level coursework, however, low-income, first-generation college-bound, minority students face great odds in securing proper support for enrolling and navigating these tracks successfully.

In the survey of the 660 Gates Millennium Scholars (GMS), Allen et al., (2003) pointed out that students reported that negative racial and ethnic stereotypes kept other students in their high schools from accessing the college preparatory track. For example one high-achieving student interviewed in the study commented on the unfairness she/he perceived:

As far as prepping for college, I think they [the teachers and counselors] are kind

of biased, like the school and everything because the school like even in

elementary, they're kinda divided. You have kinda the smart kids and the like not

so smart kids. And, when I was in high school, like all the kids who were in the

good classes, they got the benefits of everything. We got the college tours, we got

mentors, we got tutoring, like helping with our financial aid package and

everything. And you know, telling us what classes to take. But as far as the other

kids, they didn't get any help toward preparing for college and that's why the

majority of them don't even attend college after graduating. (Allen et al,. 2003, p.

16)

Allen et al., (2003) concluded their study with a recommendation for an increase in

mentors who can support for first-generation college bound students' access to college

knowledge including college preparatory tracks in high school.

While the challenge appeared difficult for students to access the college

preparatory track in high school, the college students in this study cited role models who

supported and helped them rise above educational disadvantage, poverty, despair, and

hardship by helping them successfully prepare for college. This relationship between

behavioral choices such as enrolling in college preparatory courses, and role models is

the focus of social cognitive theories of learning (Ormrod, 2004). Specifically, social

cognitive theories focus on what and how people learn from one another (Ormrod, 2004).

In the previous studies the process of college preparation was taught explicitly and

24

implicitly by role models who intentionally primed first-generation students for college level coursework throughout their secondary school experiences.

<center>Social Cognitive Theory</center>

Social cognitive theories view learning as an interaction between individual cognitions, behaviors and social contexts (Bandura, 1986; Schunk & Pajares, 2004). Social cognitive theories states that knowledge is acquired depending on experiences with interacting and observing others. Specifically, social cognitive theories focus on how personal and contextual factors are related to beliefs about and approaches to learning. According to this approach choices are a result of a reciprocal interaction between behaviors, environment, and other personal variables including personal beliefs. Social cognitive constructs related to individual beliefs include self-efficacy: a person's beliefs about their ability to perform or learn a task (Bandura, 1997); and task-value: the worth placed on the outcomes related to completing a task (Eccles & Wigfield, 1995). Both self-efficacy and task-value are influenced by individual contexts. For first-generation students in their families to attend college their self-efficacy and values related to the task of preparing for college are shaped by environments that often include a home with no parents/guardians who have not completed college (Vargas, 2004) and neighborhoods with very few adults who have completed college (Carter, 2005).

Bandura's (1986; 1997) social cognitive theory explains student choices and performance related to academic behavior during high school as a function of reciprocal interactions among individual beliefs (i.e., self-efficacy for learning and task-value) and contextual factors (i.e., role models who encourage a college preparatory track).

<center>25</center>

Moreover, it postulates that the observation of desired behavior from role models is a major factor in learning (Bandura, 1997). Role models in social cognitive perspectives are individuals who provide concrete explanations of how to behave in a particular situation. In the case of first-generation college bound students' behavior this includes enrolling in and being successful in college preparatory tracks in high school.

<div align="center">*Self-Efficacy*</div>

Self-efficacy, a major component of Bandura's (1997) theory represents a person's belief about their ability to perform a specific task. Self-efficacy refers to students' beliefs that an action will bring the desired result, and whether they can change the outcome based on their behavior. Self-efficacy beliefs are domain specific, meaning they differ depending on the social contexts to which they are applied. For example students can have different levels of self-efficacy for their Science performance than their English performance. According to Bandura (1997) Students have four sources of self-efficacy. These include: direct mastery experience, vicarious experience, verbal persuasion, and emotional arousal. Direct mastery experience relates to students' expectations based on their own past experiences. Vicarious experience represents that of watching models' experience with the task. Verbal persuasion relates to the messages students' receive from social role models about their ability to perform the task, and emotional arousal relates to feelings related to success or failure at a task. Specifically related to college preparedness, direct mastery experience and vicarious experiences related to learning in advanced courses may be problematic for first-generation students. These students who have few role models in their social networks (direct mastery

experience) or others who are similar ethnically, economically, or racially to them (vicarious experience) that are seen as successful in the rigorous college like courses.

Self-efficacy beliefs related to learning have been identified as predictive of future academic achievement related behavior choices (Bong, 2008; Pietsch, Walker, & Chapman, 2003) and college enrollment (Kerpelman, Eryigit, & Stephens, 2008). Pietsch, Walker, and Chapman (2003) found self-efficacy as a strong predictor for academic performance ($\rho < .05$). The authors used structural equation modeling to analyze survey results of 416 high school students' scores on measures of self-efficacy, self-concept, and math performance.

Bong (2008) also found self-efficacy as a strong predictor of academic performance for high school students. In a sample of 753 South Korean high school students the author addressed students' perceptions of their environments, self-efficacy, and academic behavior in math. After analyzing survey data Bong (2008) found that self-efficacy mediated all relationships between perceptions and academic behaviors ($\rho < .05$). In addition to academic achievement in high school Kerpelman, Eryigit, and Stephens (2008) identified self-efficacy as a predictor for future college enrollment. In a sample of 374 African American students in grades seven through twelve Kerperlman et al., (2008) addressed future college enrollment and completion. The middle and high school students completed a questionnaire related to self-efficacy, ethnic identity, perceived parental support for achievement, and future education orientation. The questionnaire responses were analyzed using ANOVA, multiple regressions, and descriptive statistics. The findings revealed that self-efficacy ($\rho < .01$), ethnic identity (ρ

< .001), and maternal support ($\rho < .001$) were significant predictors of future education orientation. Kerpelman et al., (2008) concluded that students' self-efficacy, ethnic identity and access to support were important when addressing future educational goals.

Grimes and David (1999) also examined self-efficacy and future behavior in a sample of 500 community college students. The authors used data collected as part of the freshmen data collection. Student groupings based on the number of advanced math classes taken in high school was included in the ANOVA analysis. The authors reported that students with fewer math courses had lower levels of self-efficacy beliefs related to earning a bachelor's degree, graduating with honors, and maintaining a B average in school ($\rho < .05$). Grimes and David (1999) concluded that schools could increase student readiness for college by including a focus on increasing self-efficacy and values for incoming students. Robins, Lauver, Davis, Le, Langley & Carlstrom (2004) also found self-efficacy as a major factor in predicting student college readiness. In their meta-analysis of 109 studies representing approximately 9,000 students, they found academic self-efficacy to account for up to 14% of the variance in college students' grade point average ($r = .38$). They also reported a significant correlation between academic self-efficacy and college persistence ($r = .26$). Robbins et al., (2004) concluded that academic self-efficacy beliefs explained college related behaviors more accurately than other traditional predictors such as high school GPA and test-scores. Self-efficacy is a strong predictor of future performance, however, self-efficacy beliefs related to performance only does not fully explain how beliefs and feelings about completely novel tasks such as being the first in your family to prepare for college, affects the outcome.

More recently, social cognitive theorists have distinguished between self-efficacy beliefs related to learning and performance (Schunk, 1991; Zimmerman & Kitsantas, 2005). Self-efficacy for performance is a student's belief about their ability to perform a learned skilled (Schunk 1991). Whereas self-efficacy for learning refers to a student's beliefs about using self-regulatory processes to learn a new task (Zimmerman & Kitsantas, 2005). According to Bandura (1986) students are likely to perform tasks that they think they are capable of doing, and avoid those that are seen as going beyond their abilities. In settings where students are to learn higher level thinking skills needed for college level work, students are more likely to put in effort and engage in learning the task if they believe they can complete it successfully. The inverse is true also, for students who see a task as something they are not capable of learning, they will put in little effort or none at all in completing the task. Both self-efficacy for learning and self-efficacy for performance can predict future behaviors, however, self-efficacy for learning is critical in settings where the tasks are novel to the students, such as first-generation college bound students learning about the college preparatory process.

Self-Efficacy for Learning

As noted, self-efficacy for learning refers to a student's beliefs about using self-regulatory processes to learn new tasks (Zimmerman & Kitsantas, 2005). According to Schunk (2001) self-regulated learning is related to "learning that results from students' self-generated thoughts and behaviors that are systematically oriented toward the attainment of their learning goals" (p. 125). Within social-cognitive theory self-efficacy for learning is context specific (Schunk, 2001). That is students' beliefs about their

abilities to learn and use self-regulated learning strategies is not the same over time and contexts or as Schunk (2001) noted "people are not generally self-regulated or non- self-regulated" (p. 125). For example, a student with a high self-efficacy for learning in Math may have different levels of self-efficacy for learning in Science. A students' self-efficacy for learning can determine their choice of activities in their classes and ultimately their performance in those classes (Schunk, 2001). Students with a strong sense of self-efficacy for learning have higher academic accomplishments and expand their interest and motivation to participate in college preparatory related activities such as engaging in self-regulatory learning in rigorous high school classes.

Self-efficacy explains the judgment of one's ability to perform a task however, many students can be self-efficacious about their ability to enroll in higher level math courses, yet, the value they see in the courses related to their future goals explain why they do not enroll. Social cognitive theory also suggests that the values students place on tasks related to college preparation will differ for students who are culturally, racially, academically, and socially different from those who traditionally attend college (Bandura, 1997; Wigfield, 1994). Given that first-generation students enroll in remedial math courses in college at larger rates than other classes, it can be speculated that in order to increase student college readiness the task-value related to higher level mathematics in high school is important in addressing college readiness for first-generation college bound students. Wigfield and colleagues asserted that "When students value a task, they will be more likely to engage in it, expend more effort on it, and do better on it" (Wigfield, 1994, p. 102). This applies to enrolling in higher level math courses.

Task-Value

Task-value is the worth one places on the outcomes related to completing a task (Eccles & Wigfield, 1995). Bandura (1997) explains that students' motivation is highly determined by the value they place on attaining the outcome related to the task. For example, two students may hold the same belief that studying hard (behavior) will result in better grades (outcome), but they may view the importance of getting good grades as it relates to their futures differently. According to expectancy-value theory (Eccles & Wigfield's, 1995), the value that a student places on either the task or the outcome of the task and their perception of the probability of success determines the amount of effort the student will spend on attempting to successfully complete the task.

Expectancy Value Theory

Eccles and Wigfield's (1995) expectancy-value theory describes student motivation as a result of expectancies for success and perceived task-value. This model for predicting a behavior related to course enrollment suggests that when there is more than one behavioral outcome students will chose a behavior that they believe to have the most expected success and the most value. Wigfield and Eccles (1995) introduced three reasons for students to value a task that included intrinsic value (how much the learner likes doing the task); attainment value (the importance of doing well on a particular academic task); and utility value (the perceived usefulness of an academic task related to future goals). In their research they hypothesized that students' motivation to complete tasks relates to social or monetary costs the student will have to give up to do the task.

Eccles and Wigfield (1995) assessed their expectancy-value theory related to the domain of mathematics with secondary school students. The students completed the Self- and Task Perception Questionnaire, (STPQ) a 19 item Likert-type survey, developed by the authors related to their expectancy-value model. These scales were related to perceived task-value, ability/expectancy, and perceived task difficulty. The authors reported reliability estimates for the scales as an alpha greater than .70. Through factor analysis they identified three significant components of task-value as interest, attainment, and utility. Results indicated that children's subjective task-values are strong predictors of their intentions and decisions to continue taking coursework in Math. The authors concluded that understanding the value one places on a specific task can help predict future behavior choices.

Eccles, Wigfield (1994; 1995) have also tested their model with other students ranging from elementary through secondary school students in mathematics and English and have found that students' task-perceptions relate strongly to their achievement and their use of more effective cognitive and metacognitive strategies (Pintrich & Schunk, 2002). Task-value has been shown to predict behavior choices in other studies using the full STPQ, or selected items and scales. For example, using items from the STPQ, Simons, Dewitte, and Lens (2003) found that when utility value was increased by highlighting the usefulness of an activity (e.g. by telling participants how it could help them achieve their future goals) the participation in the activity also increased. Eccles, Vida & Barber (2004) also included items from the STPQ when they examined the relationship between college plans, academic ability, and task-value. In this study the

authors included questionnaire data collected from 681 sixth grade students and their

mothers. Results of hierarchical logistic regression revealed that the value of college and

mothers' value of going to college predicted if the students would attend college in the

future ($\rho < .01$). Similar to the conclusions of other studies related to task-value and

college preparation, the authors concluded that when attempting to address future college

plans schools should focus on increasing the values related to college for both mothers

and their children. Indicative of the studies summarized above, self-efficacy for learning

and task-value beliefs are influenced by environmental contexts, such as access to social

models (Bandura, 1997).

Social Models

Role models in social cognitive perspectives are individuals who provide concrete

explanations of how to behave in a particular situation. In the case of first-generation

college bound students', behavior includes enrolling in and being successful in college

preparatory tracks in high school. As noted previously, contextual factors and individual

factors directly relate to students' decision to engage in tasks related to those of the

observed model.

When adults who are in close proximity to students model behaviors that support

the value of activities related to college preparation and provide opportunities for students

to engage in direct mastery experience in those tasks, students are more likely to engage

in the particular tasks (Olive, 2008). For example, Fogel (2002) found that when given

support through adult role models both student achievement and self-efficacy increased.

The author explored the role of programs that provided students with academic support

and the development of students' self-efficacy, goal orientation, academic achievement, and college enrollment in a sample of 203 urban minority high school seniors. The students responded to multiple surveys related to program involvement, cognition, achievement behavior, and academic outcomes, and activities related to the college application process and plans beyond high schools. Data were analyzed using both ANOVA and structural equation modeling. Results indicated that involvement in academic support, information support, enrichment activities and study support had increases in self-efficacy ($\rho < .05$). Students' participation in the programs was related to more college readiness courses taken ($\rho < .05$). The author concludes that support from social models such as the teachers in the programs have positive effects on student self-efficacy, behavior, and achievement.

Smith (2007) noted that students seek supportive adults to help gain access to varying cultures of power. Smith (2007) explored how first-generation college students develop social and cultural capital, such as the dispositions, attitudes, and behaviors that foster academic success, through mentoring. Through semi-structured interviews with four mentors and four mentees Smith addressed the research question: "how do mentors and mentees create and maintain social capital within academic mentoring relationships?" The findings indicated that students and mentors enter mentoring relationships in order to provide or receive knowledge and access to resources for academic success. Mentees viewed mentors as someone who can teach them about the academic culture by sharing personal academic challenges, and how to overcome them, and providing access to campus resources. Through the interview transcripts the author identified that learning

how the university works was important to the mentees but they did not provide detailed examples of how the mentors helped them in understanding the academic culture. One student commented on how he sought his mentor's experience in helping him navigate the academic culture of the school:

> I think the biggest thing that he can offer me is the fact that he has been in the university longer than I have. He has been in the university system and he can draw off of what has happened in past years, what he has found has worked or hasn't worked for his students or other people that he has worked with in the university. He has knowledge of the workings of the university. (Smith, 2007, p. 8)

Also when mentors shared with their mentees parts of their personal life they were seen as developing trust between them. For example one student spoke of how he and his mentor appeared to have little in common until the mentor shared past experiences with him:

> I think when we first met we were a little uncomfortable but fairly pleased with how things were going. It seemed like we were getting along okay. He did a really good job and I think we both did a good job of opening up to each other and saying, this is me, and this is my background maybe that will be useful. He told me some of his experiences both positive and negative with the university and things like that. I think over time, we have just gotten more comfortable with each other and we know more about each other and do things socially. (Smith, 2007, p. 5)

The author concluded that trust, friendship, and sharing personal life stories are key components of social role model relationships. Students seek these relationships in the adults they experience in their environments.

When teachers take on the additional role of being social role models for their students, more students enroll in college preparatory tracks which, prepares them for college level work. Klopfenstein (2004) found that when students were encouraged by teachers to enroll rigorous college preparatory courses in high school more students enrolled in the courses. Data from the Texas Schools Microdata Panel (TSMP) were reviewed for 383,043 White, Black, and Hispanic students attending a variety of public high schools in Texas. The data were analyzed using multiple regression analysis. The results indicated that minority students were enrolled in fewer rigorous courses than White students with the similar academic goal of pursuing college after high school ($\rho <$ .01). Students' social economic status (SES) was identified as the single most important factor related to student enrollment in rigorous courses, high SES students enrolled in advanced placement (AP) courses significantly greater than did their low SES peers ($\rho <$ .01). For the few minority students who were enrolled in AP courses in their sample it was revealed that these students were enrolled in classes with minority teachers. Klopfenstein also found that Black male students who had teachers who acted as social models who were also Black took more AP courses ($\rho < .01$). The author concluded that large schools should work to encourage all students to enroll in AP courses as a way to increase their chances of college enrollment, and also to create access to adult social models in smaller intimate settings (Carter, 2005).

Encouraging students to take rigorous courses does not cover the entire spectrum of the responsibilities related to the ideal social role models for first-generation college bound students. In their qualitative study Liang, Spencer, Brogan, and Corral (2008) found that students viewed three major components of ideal social role models. The three components were spending time together and engaging in shared activities; trust and fidelity; and role modeling. The purpose of their study was to examine how students describe relationships with social role models. In this research the authors compared 56 middle school, high school and college students' perceptions of relationships with supportive adults. The students participated in multiple focus group interviews and responded to questions about their experiences with mentors. The authors highlighted trust and fidelity as important when identifying ideal social role models for first-generation college bound students. This is important to note because, while there are adults in the students' neighborhoods, the students must feel that the adults are trust worthy and reliable in order to identify them as a source of support. The middle school students in their study responded that the social role models are "good at keeping secrets", high school students had similar responses stating that, "we talk about any issue that you need to talk to an adult [about]", college students responded that "my mentor shared with me a time when he was really depressed after graduating from college and how he sought help." The middle and high school students often identified family members as mentors instead of other adults, while the college students identified professors and other non family members. The authors' concluded that students may choose family members as mentors because they do not have contact with adult mentors

who are not related to them. Considering the source of academic support is important when addressing the needs of college-bound first-generation students because one of the major barriers to their behaviors related to preparing for college is directly related to their social contexts.

Students who will be the first in their families to attend college that receive and internalize both the explicit and implicit messages about what is needed to be successful in college and their ability to do so from those who have successfully attended and completed college will place value on any task they see as getting them closer to meeting their educational goals. Students who have a model of success for college preparation will be self-regulated learners who pursue tasks related to success in activities including, taking advanced mathematics, and self-regulated learning strategy use. As stated in an earlier paragraph, direct mastery experience and vicarious experiences related to task-value and self-regulated learning in advanced courses may be problematic for students who have few social models in their community networks or others who are similar ethnically, economically, or racially to them that are seen as successful in the rigorous college preparatory courses.

However, when students do not have access to these adults in their homes and neighborhood they often receive information related to preparing for college from individuals without the appropriate experiences related to college (Heckman & Rubinstein, 2001). Access to appropriate social models, self-efficacy for learning and task-values are closely tied to situational and cultural contexts. The situational contexts for first-generation college bound students include homes and neighborhoods where they

do not have contact with appropriate social models that can provide them with access to information related to preparing for college. Successful college bound students require a different type of social role model who have experience in multiple cultures and those who can assist students in the navigation of multiple cultures.

Multicultural Navigators

In *Keepin' it real: School success beyond Black and White,* Prudence Carter (2005) introduces "multicultural navigators"; a new concept to the literature to describe the ideal social models for first-generation college bound students. Carter introduced the term multicultural navigator after studying 68 African American and Latino youth in Yonkers, New York ranging in age from thirteen to twenty. She employed both quantitative and qualitative methodologies to:

> [Explore] students' beliefs, attitudes, and practices about racial and ethnic identity as well the student's experiences in school and with their teachers, and their beliefs about economic opportunity, race relations, culture and styles, and the means to success and achievement in this society. (Carter, 2005, p. 178)

Survey questionnaires were administered to the students to collect information on their academic performance, self-esteem, truancy, and peer and family associations. To identify the social contacts who could serve as social models for the students, Carter asked the students to answer six questions about people in their lives; these included their best friends, five close friends, five adult neighbors, five neighborhood kids about the students' age, up to five people in their household who were older, and five adult relatives. The questions asked students about people listed and: 1) their relationship to the

student, 2) their educational attainment, 3) their employment status, 4) whether they worked in a professional setting, 5) whether they were perceived as an important source of job information for the students, and 6) whether they could comfortably discuss with them their future plans and options. She then followed up the questionnaire with small-group interviews. During these interviews, the students were asked questions about their racial, ethnic and gender identities such as "In your family are there expectations related to your [racial or ethnic and gender] background, for how you should act?" and "How do you feel about these rules?" (Carter, 2005, p. 179). Carter conducted semi-structured individual interviews to explore what she called a deeper meaning to students' beliefs, attitudes and practices.

From the students' responses to the interview and survey questions about the people in their social networks, Carter (2005) found that most of the students who participated in her study were lacking access to multicultural navigators (the adults who had information and access to the culture of power). According to Carter (2005), multicultural navigators are adults who:

> Demonstrate how to possess both dominant and non-dominant cultural capital and how to be adept at movement through various sociocultural settings, where cultural codes and rules differ. Multicultural navigators possess some of the appeal of hip-hop stars, not because of fame, but because they can keep youths invested in the dream of upward mobility and show them how to retain their social and cultural origins. (p. 150)

Multicultural navigators are people who are aware of cultural know-hows, such as how to access Delpit's (1995) culture of power and who teach the rules both explicitly and implicitly to those who may not be aware of the different rules and roles across cultures (Carter, 2005).

Carter (2005) found that low income, minority youth had positive beliefs about the value of academic success related to their future educational goals; however, due to varying levels of access to multicultural navigators they develop varying academic identities to assist their navigation of the challenges of their communities and academic demands of school. She identified three kinds of students. She labeled them: 1) noncompliant believers, defined as students who understand what cultural behaviors lead to academic, social, and economic success, exert little effort to adapt the cultural codes of the school, 2) cultural mainstreamers, defined as students who accept the idea that minority students should be culturally, socially, economically, and politically assimilated, and 3) cultural straddlers, defined as students who bridge the gap between the cultural mainstreamers and noncompliant believers, they are strategic movers across cultural contexts (e.g. school and home., thereby describing the three different ways the students responded to navigating both cultures.

Carter (2005) argued that these students' navigation patterns were influenced by and related to their experiences and ethnic identity. Specifically, the non-compliant believers ($n = 38$) reported negative experiences related to discrimination and positive identification with their ethnic or racial groups. They reported experiencing housing discrimination at significantly higher rates than the cultural straddlers ($\rho < .10$), and they

also expressed beliefs that Whites either don't care about the progress of their racial/ethnic group or wanted to keep them down ($\rho < .10$). Noncompliant believers also had fewer relatives with White-collar work than the other students ($\rho < .05$). In school their behaviors represent students who resist the culture in school in an attempt to stay connected to their cultural groups. In contrast, the next group, whom Carter (2005) labels the cultural mainstreamers ($n = 5$), reported positive experiences with the traditional culture of school, and negative ideas or identity towards members of their ethnic group. Cultural mainstreamers had significantly higher GPAs than the other groups ($\rho < .01$). They were also least likely than the other groups to identify adults in their neighborhoods who they viewed as a good source of information related to getting a job ($\rho > .01$). Cultural mainstreamers also reported a larger percentage of White, non Hispanic persons in their social networks than the other students ($\rho < .10$). The cultural mainstreamers ($n = 25$) were students who removed themselves from their cultures and are mainstreamed into the larger school culture. They reported more adults in their social networks that they talked to about their future ($\rho < .05$). She states that the third group, the cultural straddlers, navigated through the traditional culture of school and their individual cultural communities. They have positive identities within their communities and with the school and future success. The cultural straddlers represent an ideal student who has to navigate multiple social contexts and schools. They are students who are able to identify adults in their homes and lives who can serve as multicultural navigators in getting them to their future educational goals. Cultural straddlers were students who reported significantly higher number of relatives who worked in White-collar jobs compared to the

noncompliant believers ($\rho < .05$). Compared to the cultural mainstreamers the cultural straddlers identified adults in their social networks who they thought of as a good source of job information ($\rho < .01$). More than the cultural mainstreamers and noncompliant believers the cultural straddlers identified adults with whom they spoke to about their future ($\rho < .05$).

Even within multiple social contexts students still held to the belief that upward mobility is possible though education, however, due to personal factors such as perceived discrimination the students in Carter's study developed different achievement identities and achievement ideologies representative of the adults they perceived in their lives and neighborhoods. Carter reported that only a few of the adults over the age of 21 (10%) who were identified by students in their social network had some college experience. Only 31% of these adults were identified by students as someone they view as a good source of job information or someone with whom they talked to about their futures. Further descriptive information about adults whom students identified as sources of academic support led Carter to suggest that many low income students in her sample and those in other similar areas were lacking access to multicultural navigators who could help to shape students' academic futures. Carter concluded her study by noting that multicultural navigators are essential components to increasing the number of students who become cultural straddlers with a desire to succeed in high school and in college.

Carter's (2005) study focuses on racial, ethnic and gender identity development and achievement ideologies of low-income minority youth living in impoverished neighborhoods. Her argument brings attention to the construct of navigation that all

students must learn explicitly and implicitly to be successful academically in school. Further, her qualitative approach in identifying the presence or absence of multicultural navigators provides insight into how students who are from families where neither parent attended college may be in need of direct exposure to a multicultural navigator either at home, school, or in their neighborhoods. However, Carter does not expand the notion of multicultural navigators to include their role for college-bound students, and where students will have access to them. This current research aims to include in it the answer to the questions of who college bound students identify as multicultural navigators and how those perceptions relate to their self-efficacy for learning, and math task-value.

Students whose only source of support is family members without a college degree end up with mentors who have good intentions, however, are unaware of what is necessary for students to be academically prepared for college, because they have no prior experience with college. In the case of college-bound students, multicultural navigators are adults who have completed college successfully. As noted with the cultural mainstreamers, the students must identify the adult as a source of support and seek them to gain the benefits of having access to a multicultural navigator. By definition multicultural navigators can be anyone including parents/guardians, teachers, pastors, family members, neighbors, peers and even celebrities whom students see as a source of academic, social, or future occupational support. First-generation college-bound students benefit from multicultural navigators within school programs because they have less access to adults in their homes and neighborhoods who can navigate the path to college.

Academic Support Programs

44

To counteract the lack of access to appropriate role models for first-generation college preparing students, many programs including Upward Bound, Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR UP) and Advancement Via Individual Determination (AVID), have been created that are targeted at increasing access to higher education for first-generation college students. These programs assist students by providing them with access to resources that will help them navigate the college preparation process (Striplin, 1999; Gullatt & Jan, 2003). Carter's (2005) multicultural navigators can be identified in these programs. The goals of these programs include teaching the cultural "know-hows" of navigating and negotiating college preparation. These know-hows, as discussed earlier, include the importance of taking rigorous academic courses and college entrance exams, information related to financial aid information, and researching and applying to multiple colleges. Due to the targeted population and the goals of the program, Advancement Via Individual Determination (AVID) stands out as a program at meeting these goals. AVID teachers and staff appear to be the model multicultural navigators for students they encounter in their program. The AVID teachers and staff go beyond to assist students in the development of the skills related to being college ready (Mehan et., al, 1994). The social models found in the AVID program are those who are aware of the challenges related to both their community and the academic demands of college preparation for first-generation college bound students. Carter's (2005) concept of multicultural navigators, describes the ideal social models found in the AVID program.

Advancement Via Individual Determination (AVID)

AVID was founded by high school English teacher Mary Catherine Swanson in San Diego California in 1980 for the purpose of placing average achieving students on a college bound track in high school. AVID is an elective class designed to prepare students who have been identified as being in the "academic middle" for post-secondary education. Students in the academic middle are those who are identified as having average or above average grades in general middle and high school courses. The AVID elective class removes students from the general education courses and allows them to participate in college preparatory courses and provides them with inquiry based tutorials. The curriculum and tutorials are designed to help the students practice higher level thinking skills, improve reading and writing strategies, and improve test taking skills. Each program operates under eleven research-driven guiding program "essentials" necessary for the success of the program. The AVID essentials are detailed in Appendix A. The AVID center provides professional development and materials for teachers to implement the AVID elective class.

The AVID program is implemented in individual schools with financial support from school districts. Each school has an AVID site team that is comprised of the AVID elective teacher, a guidance counselor, an administrator, and interdisciplinary teachers who attend training and professional development and incorporate AVID methodologies (WICR) into the curriculum of their specific content area. As of 2007 the program has spread to more than 3,500 sites across forty five states including the District of Columbia, and fifteen countries serving approximately 250,000 students (AVID Center, 2007).

AVID Students

AVID is a program designed for the "forgotten majority" of students in public school who perform well enough not to get noticed or pulled for special services such as remediation or accelerated learning tracks. AVID targets the students "in the middle" who have potential with support to be successful in rigorous courses and in college. Potential AVID students are identified by counselors, teachers, parents/guardians, and/or themselves. They are selected to participate after a screening, application, and interview process. Student selection includes academic achievement and determination to complete rigorous college preparatory courses and the desire to enroll in and be successful in college. To be considered for AVID students have a cumulative grade point average between 2.0 and 3.5 in grade level courses.

While AVID does not specifically target minority and low income students, the majority of AVID students are from these backgrounds, as the majority of these students are underrepresented in rigorous college preparatory courses and in college. Nationally out of the 200,738 students enrolled in AVID during the 2006-2007 general data collection 50% were Hispanic, 21% White, 19% African American, 5% Asian, 2% Filipino, 1% Multi-Racial, 1% Declined to answer, 1% Pacific Islanders, and 1% American Indian. In addition AVID prides itself in their advances and strides in closing achievement gap among low income students and minority students.

AVID Curriculum

Once selected to participate in the AVID program, students enroll in the AVID elective course where they receive academic credit throughout middle and high school. The curriculum includes rigorous standards driven by writing, inquiry, collaboration, and

reading (WICR method). The WICR method, noted in the Appendix B, is used by AVID teachers to address the goals of increasing college preparation for average performing students. The components of WICR help students become active learners and critical thinkers. The format of the AVID curriculum is divided into two parts. The first part of the curriculum is what Bandura (1997) refers to as direct mastery experience in the teaching of requirements for college readiness facilitated by the AVID elective teacher. The second part of the curriculum is student led inquiry based tutorials facilitated by AVID tutors. Both tutorials and instruction support student development of skills related to higher-level thinking, writing across the school curriculum, and reading strategies for accessing challenging course material. The tutorial component of the AVID elective class is designed where the students participate in inquiry based tutorials. Students develop higher level questions based on their other core curriculum courses and work in groups to address them. In the AVID tutorials students work in groups of approximately four students and an adult tutor to addresses questions with the goal of promoting self-regulatory strategy use and not providing answers. Through the direct mastery experience portion teachers provide students with information and training related to time management, note taking, research, organization, and other skills fundamental to success in higher-level mathematics, social studies, English, science, and foreign language courses (AVID Center, 2008). In addition to the focus on academic rigor AVID students also participate in college, career, and cultural activities, including college visits with the goal of increasing student representation in colleges and universities.

The AVID curriculum also explicitly addresses the value of education by helping

students identify links between their career goals and college goals. In the *Value of a*

High School/College Education section of the curriculum teachers are provided resources

for activities that highlight the value of education in a general sense for students (AVID

Center, 2007). The task-value component of the AVID curriculum creates an atmosphere

where students develop an understanding of the value of education through vicarious

experiences in their learning about wage differences in the AVID class. These activities

include objectives for students to have a view of education as a way to give students

multiple opportunities in life including those related to their careers.

AVID Staff

AVID operates within school districts. AVID staff includes district and school

level personnel who are committed to increasing access to information related to

preparing for college for first-generation college bound students. At the district level

AVID staff includes a district coordinator and a tutor coordinator. They coordinate the

daily functions of the AVID program across multiple schools in the district. They hire

and train AVID tutors, and work closely with school administrators to identify and select

AVID elective teachers and subject area teachers to join the AVID site team. The district

staff provides support and training for the AVID program at each individual school.

Each individual school has an AVID site team that includes an administrator, a

guidance counselor, and subject area teachers from core subject areas (i.e. English, math,

science, and history), tutors and the AVID classroom teacher(s). The site teams are

advocates for the AVID program and the AVID students within each school. Inside each

AVID school there are multiple adults who monitor the academic performance of the AVID students. Teachers work together across subjects to devise plans to address the needs of the AVID students directly.

According to the AVID Center (2009) each member of the site team has a defined role. The role of the principal is to provide instructional support and allocate resources to the AVID program. Guidance counselors assist the AVID teacher in placing the students on a college preparatory track, selecting students to participate in the program, and monitoring the achievement of each student. The core subject area teachers are trained in AVID methods and include the use of them in their classroom instruction (i.e. Cornell note taking). To support the tutorial component of the AVID elective class, college students and professionals from local businesses, or retired teachers are recruited to serve as tutors for the AVID program. Tutors facilitate inquiry based tutorials for the AVID students, during the AVID elective class. The AVID teachers work with each member of the site team to coordinate AVID activities within the school, and they are responsible for teaching students the skills necessary for success in their college preparatory tracks in school (i.e. organization and time management). AVID teacher/coordinators teach the AVID classes and work with other teachers to monitor student progress and, with the support of the site team, oversee tutors, arrange motivational and enrichment activities, coordinate parent programs, and arrange for speakers and college tours. AVID teachers serve as site team coordinators and are responsible for overseeing the program and for sharing techniques with colleagues.

AVID Teacher. The AVID teachers are the most vital factors in motivating student success in the AVID program (Swanson, 1993). AVID teachers are traditionally trained teachers in other curriculum areas (e.g. English) who as a part of their teaching loads teach one or more AVID elective classes. They attend multiple professional development conferences and workshops throughout the year including a five-day summer institute, in-school workshops, district-sponsored training, and planning meetings with the faculty members on each school's site team. The teachers are selected by the district AVID coordinator based on the judgment that they are capable of meeting the demands of the AVID program (AVID Center, 2008). AVID teachers coach students by working with all areas of their students' life that affects their academic performance. AVID teachers are typically those within the school who are respected by others and can influence and lead other teachers to teach using AVID strategies outlined in WICR. In addition to being strong academically, AVID teachers must also have experience in the educational system in order to navigate it for the students.

AVID teachers serve as a resource for students to access preparation related to college. AVID teachers play the role of caring adults in the lives of their students. According to the founder of AVID the AVID teachers are a fundamental part of AVID student success:

> The academic life of AVID students in school is supported by dedicated teachers who enter the lives of their students and serve as mediators between them, their high schools and the college system. By expanding the definition of their teaching role to include the sponsorship of students, AVID coordinators encourage success

and help remove impediments to students' academic achievement. (Swanson, 1993, p. 22)

Teachers in AVID provide support for first-generation college bound students. The presence of a caring teacher consistently proves to greatly affect student success in the educational environments (Mehan, 1992; Swanson, 1993). Within the AVID program, the AVID teachers work to develop a community of practice in their classes where students work together toward academic gains.

The term multicultural navigator is unique to Carter's (2005) research; however, it should be applied hear to refer to AVID staff who are the ideal social models that assist students in navigating multiple cultures such as preparing for college in high school. AVID teachers and staff should be identified as the multicultural navigators who Carter (2005) describes as lacking in the communities of low income, first-generation, college bound students. Specifically related to teachers as multicultural navigators Carter suggests that:

A teacher who inspires and excites students to grasp multiple kinds of knowledge, including reading, writing, and using analytical skills, and who respects the integrity of her or his own culture and other cultures fits the image of the multicultural navigator. (p. 150)

In AVID the students are exposed to teachers who support the development of these multiple kinds of knowledge. As a part of the AVID curriculum AVID elective teachers' focus on improving academic skills related to college, they require students to take

challenging courses, they help in students' relationships with other teachers throughout school, and other activities related to the college process.

The role of the AVID teacher has been documented in the literature. Mehan et al., (1994) identified that AVID teachers and staff through what Bandura (1997) refers to as direct mastery experience, teach students the social and cultural ways of talking, thinking and acting in academic settings. Through teaching study skills, the college entry process, teaching conflict-resolution strategies, providing teacher advocacy for students, and by bridging the college entry process, the AVID students are instructed in things that students whose family has a history of college preparation may already be aware of. The author's recommendations included a shift to policies that target social support. The AVID teachers remain the most influential part as identified by Mehan et al., (1994) in the development of positive academic identities. AVID teachers enter the lives of AVID students and serve as mediators for the students throughout the high school, and the college experience. The authors stated that, "By expanding the definition of their teaching role to include the advocacy and sponsorship of students, AVID coordinators encourage success and help remove impediments to students' academic achievement" (Mehan et al., p. 22). AVID teachers are ideal social models for first-generation minority students. AVID teachers are seen as role models for students enrolled in the AVID program. Through the focus on the AVID curriculum, AVID teachers provide students with vicarious and direct mastery experiences in behaviors related to college preparation related to task-value, and self-efficacy for self-regulated learning. AVID provides a service to students related to their self-efficacy for self-regulated learning and task-value

related to their achievement that has yet to be documented in research including the AVID program and their outcomes. According to Bandura's (1997) social cognitive theory, personal beliefs (i.e. self-efficacy for self-regulated learning and perceived task-value) are shaped by previous experiences and witnessing experiences of others. Further Bandura's theory states that access and experience with social models mediates the relationship between personal beliefs and behavior choices (i.e. taking advanced math courses and academic achievement). Multicultural navigators can positively influence this interaction by providing students with intentional authentic opportunities related to college preparation.

Program Outcomes

AVID teachers and staff provide a resource to their students similar to those provided by Carter's (2005) multicultural navigators. Martinez and Kolpott's (2005) study of school reform and college access and success for low income minority youth found, after reviewing several school reforms that services provided by AVID were successful program components to address low income minority youth college preparation. These components of AVID included access to rigorous academic core curriculum, structure and climate of personalized learning environments, and balance of academic and social support for student development of social networks. Mehan, Hubbard, & Villanueva, (1994) addressed the individual and organizational contexts of schooling. The specific focus of their study was to examine AVID and the development of academic identities among 144 AVID students and 72 minority students who enrolled in AVID but did not complete the AVID program. Four case studies of the schools

participating in AVID were developed using information from student school records, classroom observations and interviews with students, teachers, parents/guardians, and other school officials. During the interview students were asked questions about their activities since graduation, information about home life including parents/guardians' occupation, education and languages spoken. Results from these case studies indicated that the AVID students developed beliefs about the relationship between school and success (Mehan et al., 1994 & Mehan et al., 1996). According to the authors AVID students develop an achievement ideology. Students believed that with individual effort, motivation, and opportunity success is obtainable for all. Mehan et al., (1994) suggested that AVID students do internalize this achievement ideology that they term "accommodation without assimilation". The authors describe this in saying that: "The Latino and African American students of AVID have also developed provocative beliefs and practices about culture contact. They affirm their cultural identities while at the same time recognize the need to develop certain cultural practices, notably achieving academically, that are acceptable to the mainstream" (Mehan et al., 1994, p. 16). The authors concluded that in AVID the students did not have an oppositional ideology, or pattern of resistance to schooling. Instead AVID students had positive academic identity in addition to positive beliefs about their race and/or ethnic group membership. Through interviewing and observations Mehan et al., (1994) also identified that the AVID teachers "explicitly taught aspects of the implicit culture of the classroom and hidden curriculum of the school" (p. 14). The hidden curriculum as identified by the authors included what Bandura (1997) refers to as direct mastery experience in ways of talking, thinking, and

acting that are demanded by the conventions of schooling. Also the authors argued that AVID mediates the relationship between families, schools and colleges.

AVID has consistently demonstrated success towards closing the achievement gap (AVID Center, 2008; Mehan et al., 1996). Through the support and requirements of AVID, the AVID student completion of the 4-year college entrance requirements surpasses that of national and state averages. For the state of California alone 88% of the AVID graduates in 2007 completed the requirements for entry into a California public university compared to only 36% of students in California overall (AVID Center, 2008). AVID has a record of increasing minority representation in AP courses. In 2007 while nationally only 12% of Hispanic students participated in AP testing, 59% of those enrolled in AVID completed the AP test in 2007. More than one-half (61%) of AVID eighth graders in 2007 enrolled in Algebra, only twenty-two percent (22%) of all US eighth graders enrolled in Algebra that same year. It is the foundation of AVID that believes that if students received support they could reach average or above average performance in college preparatory courses.

AVID has a history of making advances toward closing the achievement gap for low income minority students who will also be first in their families to attend college (e.g. Mehan, Hubbard, Lintz & Villanueva, 1994). The Center for Research on Education completed an AVID evaluation that addressed the role of AVID in addressing the achievement gap. In this report the authors Mehan, Hubbard, Lintz & Villanueva (1994) explored AVID's success in preparing students for college through the process of untracking. Through AVID, lower-achieving students were placed in college-preparatory

classes with high-achieving students. Mehan's et al., (1994) purpose was to determine if untracking helped students from low-income and underrepresented backgrounds enroll in college. To address the purpose the authors completed case studies for eight high schools that participated in AVID during the evaluation period. Data were collected using interview and school records for students enrolled in AVID during 1990, 1991, and 1992. School records were collected for 1,053 AVID students, and 248 AVID students who graduated and 146 students who started but did not complete AVID were interviewed by the authors. During interviews participants were asked questions about their activities since high school graduation (e.g. attending college or university), their family background, and their high school and AVID experiences. The results of the evaluation indicated that 88% of the students who completed at least three years of AVID reported that they enrolled in college. Forty-eight percent (48%) enrolled in four year universities. Fifty-five percent (55%) of the African American and forty-three percent (43%) of the Latino students enrolled in AVID attended a four year university. Through interview data the authors concluded that the AVID program creates a space that fosters the growth and development of academic identities that supported academic rigor and social support for each other. The authors identified these academic identities as students' ability to "develop strategies to negotiate between their academic community and their neighborhood communities" (Mehan et al., 1994).

In 2001 CREATE was funded by the AVID Center to conduct another evaluation, the AVID Best Practices Study (Guthrie & Guthrie, 2002). In this evaluation, eight AVID schools were selected to participate based on previous student academic achievement,

college acceptance, and attendance rates. Another four year longitudinal study conducted by Guthrie and Guthrie (2000) was designed to evaluate the impact of AVID on students' GPA, AP courses taking rates, and SAT-9 standardized test scores. In this two-part longitudinal study Guthrie and Guthrie (2000) first addressed whether and to what extent middle school AVID affected students' high school performance. The authors surveyed 1158 middle school AVID students in 1998-1999 and 1999-2000. Results of this longitudinal study indicated that there were no significant differences in GPA for AVID students who took AVID in middle school and those who did not. However, the authors did find that girls' GPAs were significantly higher than boys' (p =.001). They also found that taking algebra in middle school was strongly related to GPA, ($\rho < .< .05$). No significant difference in AP course taking rates was found between those students who had AVID in middle school and those who did not. The second purpose for the study was a review of the impact of AVID beyond high school. In the second part of this longitudinal study, Guthrie and Guthrie (2000), addressed AVID's impact on those who have previously graduated. Using a Likert-type rating scale ranging from 1 (least) to 6 (best) the authors surveyed students about how AVID prepared them for the college culture. Of the 70 AVID graduates who responded to the survey 95% were enrolled in college. The descriptive statistics of the survey results indicated that 57% for the students rated AVID as a 4 on their test preparation, and 60% ranked AVID as a 3 or below for preparing them for financial aid. Almost two-thirds (65%) of the AVID students worked either part-time or full time while attending college. Majority (81%) of the AVID students reported constant enrollment in college. Over three-quarters (79%) of the

students reported planning to complete college four to five years after graduation. Of specific interest to this current study, the authors report that 54% of the AVID students are not in contact with their AVID teachers, while 74% are in contact with their AVID classmates. Concluding the study the authors recommended that AVID continues to emphasize the importance of algebra in middle school, test taking skills, continue two-year enrollment of AVID in middle school, continue enrolling students in higher level courses, and add time management strategies to the AVID high school curriculum.

In addition to the formal evaluations of AVID, the research surrounding AVID has focused primary on outcomes related to AP enrollment, GPA, and college enrollment exclusively. For example Watt, Huerta, and Lonzano (2007) compared Latino high school students in AVID and GEAR UP and a control group of students not enrolled in a college preparatory program on AP enrollment, GPA, and college enrollment. The authors found that academic preparation was significantly higher for the AVID students. In a similar study Watt, Yanex, and Cossio (2003) used a mixed methods approach to address AVID students GPA, state mandated exams, and attendance rates compared to non-AVID students. The BEST organization (2004) also compared AVID students to those who were enrolled in AVID but did not remain in the program on their matriculation through college. The study concluded that AVID students were more likely to matriculate to college. Watt, Powell, & Mendiola, (2004) also studied AVID in relation to these outcomes. In their study AVID was seen as a comprehensive school reform model for students underrepresented in higher education. Student performance data were collected for 1,291 AVID students in Texas. The purpose of this study was to

determine how the AVID students performed relative to their classmates on the state student performance indicators (e.g. demographic information, attendance rates, state-mandated test scores, end of course exam scores, AP course enrollment, and graduation). The authors found that the majority of AVID students' were Hispanic and African American and more than 70% of AVID students were from economically disadvantaged families and households where their parents/guardians did not complete college. More than 90% of the AVID students in this study completed the graduation requirements required for entry into the University of California system. Also AVID students in this study had higher attendance rates compared to all students in AVID schools and all high school students in Texas. On average AVID students also passed the end of year exams and state standardized exams at higher rates.

Watt, Powell, Mendiola, and Cossio (2006) also examined the impact of AVID on graduation rates, advanced course enrollment, advanced placement results, and the number of students graduating with an advanced diploma. The question the authors focused on in this study was whether selected Texas high schools and their districts that implemented AVID have shown progress toward preparing more underrepresented students for college as measured by their state accountability ratings and school wide graduation. The researchers found that these AVID schools showed an increase in graduation, completion and AP course taking rates. In contrast, the authors discovered a decline in these outcomes in the non-AVID high schools.

Summary of AVID Research

The history of AVID has constantly identified it at making gains in closing the achievement gap during high school for low income, first-generation, and minority students. Research on AVID also identifies the program as a model for increasing enrollment of underrepresented students in college. There have been few studies that examine the AVID teacher and the AVID student separately in developing social and academic skills. While current AVID research supports a connection between student achievement and social support provided by AVID staff, it is still unclear from this review what explains students identifying AVID teachers as a primary source of academic support. There is a healthy body of research that addresses the role of parents/guardians in students goal attainment, goal setting, and some academic behavior, however to my knowledge there has yet to be a study completed that addresses the academic messages AVID students receive as coming from competing and/or complimentary sources (e.g. academic, home, and community) related to first-generation college students, academic self-efficacy for self-regulated learning and perceived task-value.

<center>Summary of the Literature</center>

From the review of the research it is known that AVID represents positive academic gains; that role models provide support for students related to these gains; and that how students feel (self-efficacy for self regulated learning and task-value) about the activities of the multicultural can determine if they students internalizes the messages given to them by the multicultural navigators. However, what is unknown is if there are measurable differences on students' personal factors and who or how they identify their

multicultural navigators in a program where they have surrogate navigators who are trained and in positions to serve as multicultural navigators, such as staff in the AVID program.

Of importance to this current study is how student perceptions of the adults in their lives who they identify as a multicultural navigator relate to their self-efficacy for learning and task-values associated to their academic potential related to preparing for college. It is hypothesized that varying degrees of self-efficacy and task-value for behaviors related toward future academic goals change when students are provided with what Bandura (1997) refers to as direct mastery experience in both self-efficacious thinking and the valuing of education as provided by AVID.

This study focuses specifically on multicultural navigators related to the college preparation process in the high school AVID elective class because the process of preparing students for college is an explicit goal of the AVID elective class. Therefore the AVID elective class becomes ideal for studying the differences of students who have access to an adult in their life whose goal includes helping students navigate the college-bound culture. The focus on these types of multicultural navigators is selected because currently the gap of college enrollment for students whose parents/guardians did not attend college and those whose parents/guardians did attend remains a concern of education researchers (Conchas, 2006). Also, because the high school transcripts of first-generation college-bound students who do apply and attend college indicate a need for students to complete more prerequisite courses compared to others suggests that there is a need for college-bound multicultural navigators in the lives of these students. For

students who have a desire to attend college a multicultural navigator works to ensure that students enter college prepared to succeed, which includes completing the appropriate coursework prior to graduating high school.

This study is designed to address four research questions and hypothesis related to the stated purpose of this study. The research questions guiding this study are:

1. Who are the multicultural navigators in AVID students' lives? (i.e. AVID teachers' AVID tutors, clergy members, parents/guardians, peers, siblings, neighbors, and other adults)

2. Are there differences between students who perceive AVID staff (e.g. AVID teacher, AVID tutor, or AVID counselor) as a multicultural navigator and those who do not perceive AVID staff as a multicultural navigator in their self-efficacy learning beliefs, perceived task-value, and academic achievement?

   - H_o: There are no differences between students who perceive an AVID staff member (e.g. AVID teacher, AVID tutor, or AVID counselor) as a multicultural navigator and those who do not perceive AVID staff as multicultural navigators on self-efficacy for learning, perceived task-value, and academic achievement scores.

   - H_a: There are differences between students who perceive an AVID staff member (e.g. AVID teacher, AVID tutor, or AVID counselor) as a multicultural navigator and those who do not perceive AVID staff as multicultural navigators on self-efficacy for learning perceived task-value, and academic achievement scores.

3. Are there differences between students who perceive their AVID teacher as a multicultural navigator, those who perceive other AVID staff such as their AVID tutor, or their AVID counselor in their self-efficacy for learning beliefs, perceived task-value, and achievement scores for?

   - H_o: There are no differences between students who perceive their AVID teacher as a multicultural navigator and than those who perceive other AVID staff as a multicultural navigator on self-efficacy for learning, perceived task-value and academic achievement scores.

   - H_a: There are differences between students who perceive their AVID teacher as a multicultural navigator and those who perceive other AVID staff as a multicultural navigator on self-efficacy for learning, perceived task-value, and academic achievement scores.

4. To what degree does GPA, self-efficacy for learning, and perceived task-value predict choice of multicultural navigator?

Chapter Summary

The purpose of this chapter was to provide a review of the literature related to first-generation college-bound students and college access. This chapter also introduces multicultural navigators, defined both by Carter (2005) and in this study, as a major component and solution to some issues related to college access and support for low income, minority, and first-generation college-bound students. The description of and literature related to the AVID program is a major component to this chapter. AVID is reviewed and described as a program that targets first-generation students as a possible

source for multicultural navigators for first-generation college-bound students. With

AVID as a source of multicultural navigator research related to self-efficacy and

perceived task-value was reviewed in this chapter as possible theoretical explanations

students may or may not identify the multicultural navigators in their lives. In conclusion

this chapter provides evidence that college access, self-efficacy for self-regulated

learning, and perceived task-value can be increased for this population through access to

and identifying with an adult multicultural navigator.

3. Methods

The purpose of this study was to explore how the presence of a multicultural navigator in the lives of college-bound middle and high school students enrolled in the Advancement Via Individual Determination (AVID) program affected their academic achievement, self-efficacy for learning, and perceived task-value. This chapter describes the research methodology employed in this study including a description of study participants, variables, questionnaire, data collection procedures, and data analysis procedures.

Setting

Data were collected from students enrolled in the AVID elective class at one high school located in the rural area of southern Virginia. In order to retain the confidentiality of this school it is referred to in this study as March High School, a pseudonym. March High School has an enrollment of 477 students 126 in grade nine; 124 in grade ten; 129 in grade eleven; 98 in grade twelve. The Virginia Department of Education reported the school as being Fully Accredited since 2006. The school also reported a pass rate of 80% for all subjects tested. Twenty-four percent of students at March high school participated in dual enrollment classes. According to the Virginia State Department of Education website the school reports a graduation rate of 78% with 71% receiving an advanced

diploma. The school also reports a dropout rate of 7% for the school and a rate of 8% for males, 7% for Black males and 5% for White males. Fifty-four percent of the teachers at March high school have a Bachelor's degree and 39% have a Master's degree. The school is located in a rural community with a population of 9,017 reported in the 2000 census.

The purpose of AVID at March High School is to restructure the teaching methods of an entire school and to open access to the curricula that will ensure four-year college eligibility to almost all students. A total of 117 students are enrolled in AVID in grades nine though twelve at March High School (51 in grade nine; 31 in grade ten; 25 in grade eleven; and 10 in grade twelve). The AVID site team includes subject area teachers, tutors, a guidance counselor, the school's principal, and the AVID elective teacher. The students attend their AVID elective class on Tuesdays, Thursdays, and every other Friday. During the week students participate in the AVID elective curriculum and tutorials. During AVID tutorials students participate in collaborative study groups, writing groups, and Socratic seminars. On Fridays students attend field trips to colleges, have visits from guest speakers, or work on college applications.

Participants

The 117 students enrolled in AVID at March High School were asked to participate; 53 students returned consent forms and participated in this study, representing a response rate of 45%. Students from a total of eight AVID classes agreed to participate in the study. The sample included 25 ninth graders, 21 tenth graders, 4 eleventh graders and 3 twelfth graders. Of the sample 39% were males and 61% were females in the study.

67

The participants included 60% African American students, 14% White/Caucasian students, and 13% who selected multiracial as their ethnic or racial group. Compared to the total 117 students, those who participated in the study was representative of the racial and ethnic groups in the AVID classes. Of the total asked to participate in the study that were given permission slips, 60% of the students identified as Black, 28% identified as White and 12% identified their racial and ethnic group as Multiracial. A high school diploma was the highest level of education for 35% of the female guardians or mothers and 39% for the male guardians or fathers. Student grade point averages ranged from 2.20 to 4.00. Every student was enrolled in at least one college preparatory course at the time of data collection.

Only students in grades nine and ten were included in the analysis. Students from grades eleven and twelve were not included in the analysis because their responses suggested a lack of commitment to the study and were therefore deemed unreliable. They tended to have extreme high and low values on measures. Forty out of the 43 (93%) of the students in grades nine and ten indicated a desire to attend college after high school. There were three students who selected something other than college as their plans directly following high school. The three students selected military, work, and cosmetology as future plans after high school.

Study Variables

The independent (grouping) variable for this study was the source of multicultural navigator(s) identified by the students. A multicultural navigator is defined in this study as any adult whom a student lists as a person of contact and from whom they seek help

with navigating the academic related demands of the college preparation culture within high schools. The multicultural navigators identified by the students were sorted into groups based on who students listed as their multicultural navigators.

The primary dependent variables were academic achievement, self-efficacy for learning, and perceived task-value. For this study academic achievement was operationally defined as the average of student high school course grades (GPA). Self-efficacy for learning was defined as students' perceptions about their ability to cope with academic problems or contexts (Zimmerman & Kitsantas, 2005). Perceived task-value was defined as the importance of doing well on higher level math tasks in terms of one's self-schemas and core personal values (attainment), the inherent enjoyment or pleasure one gets from engaging in an activity (interest or intrinsic) and the usefulness of the task in reaching a variety of long and short-range goals (utility) (Eccles & Wigfield, 1995). Data related to these variables were collected using measures identified in previous research as both valid and reliable for measuring the constructs, as discussed in Chapter 2 (Carter, 2007; Eccles & Wigfield, 1995; Zimmerman & Kitsantas, 2007).

Measures

Data were collected in this study using a demographic questionnaire and two scales, the Self-Efficacy for Learning Form (SELF) (Zimmerman & Kitsantas 2007) and the Self and task perceptions questionnaire (STPQ) (Eccles & Wigfield, 1994). The measure, found in Appendix C, included items related to the identification of multicultural navigators, the students' Self-Efficacy for Learning Form (SELF-A), perceived task-value, and background information including academic achievement

69

Demographic Questionnaire

A demographic questionnaire was used to gather information related to whom students list as their multicultural navigators, their academic achievement, ethnicity, gender, and other characteristics. The first items of the demographic questionnaire were related to who students identified as their multicultural navigator. Other items in the questionnaire were related to students' academic achievement. The remaining items of the questionnaire were related to student background characteristics such as gender and ethnicity.

Items related to multicultural navigator. The items related to the students' identification of their multicultural navigator were developed similar to Carter (2005) who asked students to think of adults in their life and then list characteristics of them (i.e. seen as a good source of job information). The items in this current study were designed specifically around the function of the adults in the students' lives who helped them prepare for and succeed in college. To identify the adults whom the students in this study list and rank as their multicultural navigators, the students were asked to list adults who they saw as teaching them life skills and encouraging them to do well and go to college. Students were asked to read the following paragraph:

> I am very interested in your thoughts and opinions about the adult role models in your life who encourage you to do well in school and go to college and teach you life skills. Would you please list on the lines below, the adults who you are comfortable talking to about preparing for college that you think can help you get to college?

After the participating in the pilot of the questionnaire, students read an introductory paragraph they were asked to list up to five people in their life along with their relationship to them who they believe performed for them the role of the multicultural navigator. After the students listed the people in their life, they selected their top three choices. The items were reviewed by three female eleventh grade students enrolled in AVID program. The girls all participated in AVID in grades 8 - 11. They represented three separate ethnicities (African American, Cuban American, and Caucasian American). Individually, each one of the young women was asked to read the two items and offer comments on words or directions that appeared to be confusing. In addition one of these young women was asked what she would include if she were completing the questionnaire for data gathering purposes. She stated that she would list her mother, friends, and definitely her AVID teacher. Based on the recommendations from the students the items were modified resulting in the first two items of the demographic questionnaire (Appendix C).

Items related to academic achievement. Students self-reported grade point averages (GPA) were used to measure academic achievement. The final question on the questionnaire asked students to write down their most recent cumulative grade point average. Students reported their grade point averages on a 4.0 scale. The grading scale included 1.0, 2.0, 3.0, and 4.0. The numbers corresponded to the letter grades A, B, C, D and F, in that order.

Items related to student characteristics. The final items on the questionnaire were developed to obtain information about the students' backgrounds. These items included

71

questions that asked students their age, gender, race or ethnicity, current grade level, year

in AVID, and if they wanted to go to college after high school. Students also responded

to questions about their parents/guardians' educational level.

Self-Efficacy for Learning (SELF)

Zimmerman's and Kitsantas' (2007) Abridged Self-Efficacy for Learning Form

(SELF-A) was used as a measure of self-efficacy for learning for the participating AVID

students. This measure has been used with high school and university students to assess

self-efficacy for learning. The SELF-A was designed to measures students' perceptions

about their ability to cope with academic problems or contexts (Zimmerman & Kitsantas,

2005; Zimmerman & Kitsantas, 2007). The original SELF was a 57 item instrument that

included five types of academic behaviors: 1) reading, 2) note taking, 3) test taking, 4)

writing, and 5) studying. The overall alpha reliability for the SELF in a sample of high

school students was $\alpha = .99$ (Zimmerman & Kitsantas, 2005). Due to the high reliability

the authors suggested that a shorter version of the scale could be used. For the purpose of

this study the 19 item abridged form of the SELF was used (SELF-A). The alpha

reliability coefficient for the scores on the SELF-A was $\alpha = .97$ in a sample of university

students (Zimmerman & Kitsantas, 2007). The Likert-type scale ranges from 0 to 100.

The scale options are broken into ten percent increments representing: 0 = definitely

cannot do it, 30 = probably cannot do it, 50 = maybe, 70 = probably can, and 100 =

definitely can do it. The items are descriptions of situations such as: "*When you are

feeling depressed about a forthcoming test, can you find a way to motivate yourself to do*

well?" Higher overall scores on this scale represent positive levels of self-efficacy beliefs for learning.

Self-and Task-Perception Questionnaire (STPQ)

To address students' perceived task-value, the Perceived Task-Value subscale of Eccles and Wigfield's (1995) Self-and Task Perception Questionnaire was used. The Self- and Task-Perception Questionnaire (STPQ) has been used with middle and high school age students to assess their beliefs, values, and attitudes related to a specific academic domain, such as mathematics (Eccles & Wigfield, 1995). The STPQ is a 19-item Likert-type scale that measures perceived task-value, expectancies of ability, and perceived task difficulty. Items related to task-value were used in this current study. The seven items related to perceived task-value were scaled using a 7-point Likert-type scale. The scores reported represent the average of the seven items. Students were to read statements such as "How useful is learning advanced high school math for what you want to do after you graduate and go to work?" and selected options 1 (not very useful) to 7 (very useful). The alpha coefficient for each of the task-value constructs was reported by Eccles & Wigfield, 1995 as $\alpha = .76$ for interest value; $\alpha = .70$ for attainment value and $\alpha = .62$ for extrinsic utility value. Higher scores for each subscale represented higher levels of task-value for the domain of math.

Intervention

The intervention, Advancement Via Individual Determination (AVID) is an elective class founded by high school English teacher Mary Catherine Swanson in San Diego, California in 1980 for the purpose of placing average achieving students on a

college bound track (AVID Center, 2008). AVID has consistently demonstrated success towards closing the achievement gap and enrolling more first-generation college-bound students in a college bound track in high school (AVID Center, 2008; Guthrie & Guthrie, 2000; Guthrie & Guthrie, 2002; Mehan et al., 1996; Mehan, Hubbard, Lintz & Villanueva, 1994; Watt, Powell, & Mendiola, 2004; Watt, Powell, Mendiola, & Cossio, 2006; Watt, Huerta, & Lonzano, 2007). Compared to the national averages AVID students outperform students not enrolled in the AVID programs on measures related to college readiness including, AP course taking and college entrance. Refer to Table 1 for a comparison between AVID averages and national averages on selected academic outcomes.

Table 1

Comparison of AVID and National (United States) 2008 high school graduates

Outcome	AVID	United States
% AP Test Takers		
Hispanic	57%	12%
Black	13%	7%
White	14%	64%
Other	16%	17%
% Enrolled in College	78%	67%

Source AVID Senior Data Collection. Report Taking on AP Exam, 2007-2008; retrieved from

http://www.avidonline.org/content/pdf/4240.pdf

The goal of AVID is to increase the number of students in four-year universities by providing academic and social support related to preparing for college. According to Mehan et al., (1996) AVID students are instructed in the things that students whose families have a history of college education and preparation may already be aware of. Potential AVID students are identified by counselors, teachers, parents/guardians, and/or themselves to apply to the program. AVID is seen by the students who enroll as a way to reach their college goals. To be considered for AVID students must have at least a C average (2.0 GPA) in their grade level courses. Once selected to participate in AVID students are required to enroll in at least one advanced placement course and the AVID elective class where they are provided support in these classes by the AVID site team.

Students enrolled in AVID benefit from a college going culture in their AVID class when they interact with their AVID teachers, AVID tutors, and classmates weekly. The AVID classroom represents a college going culture in that, the curriculum focuses on preparing students for college. Typical lessons in the AVID curriculum include a focus on aligning future goals with current choices. For example, a student who indicates a desire to become an engineer is given opportunity during their AVID class to research careers, universities, and majors that will help prepare them for the career. AVID teachers not only cover the AVID curriculum, they also work with every aspect of the students' academic lives (Mehan et al., 1994). In addition to helping students prepare for college, AVID includes time for students to participate in inquiry based tutorials. These student led tutorials are designed to provide support for students in their college preparatory

classes. More detailed information about AVID and the supporting research can be found in Chapter 2, beginning on page 46.

<div style="text-align:center">Data Collection Procedures</div>

Parental consent and student assent forms, were given to students during their AVID elective class by the primary researcher to request student participation in the current research. Prior to conducting this study, parental consent and student assent forms and approval of the prospective review boards including George Mason University and the cooperating school district were secured. Participants in this study were given a demographic questionnaire and two scales, the Self-Efficacy for Learning Form (SELF) (Zimmerman & Kitsantas 2007) and the Self- and Task- Perceptions Questionnaire (STPQ) (Eccles & Wigfield, 1994) to complete during their AVID elective class by the primary researcher. The demographic questionnaire and the two scales (SELF and STPQ) was used to collect information related to the study variables including multicultural navigators, academic achievement, and self-efficacy for learning, perceived task-value, and other background characteristics. Students were given fifteen minutes to complete a demographic questionnaire and two scales, the Self-Efficacy for Learning Form (SELF) (Zimmerman & Kitsantas 2007) and the Self and task perceptions questionnaire (STPQ) (Eccles & Wigfield, 1994). Each student who agreed to participate was given a paper copy of the questionnaire and a pencil to record their answers. Students who chose not to participate or those who had not returned their consent and assent forms were given an alternative assignment to complete while the participants completed the demographic

questionnaire, the SELF and the STPQ. The demographic questionnaire, the SELF and STPQ is found in Appendix C.

Research Design

Bandura's (1997) Social Cognitive theory and the role of the AVID program in providing AVID students with access to Carter's (2007) multicultural navigators was the guiding framework of this study. This study employs an ex post facto (causal comparative) research design to examine the effect of the naturally occurring intervention (AVID) after it has happened (Cohen, Manion, & Morrison, 2007). An ex post facto design was used because an experimental design was not feasible, such as in this case where students have self-selected levels on the independent variable (multicultural navigators) and because the intervention is naturally occurring (AVID program) and also self-selected by the students (Cohen, Manion, & Morrison, 2007).

Data Analysis Procedures

To address the research questions of this study, descriptive and inferential statistics were used. Statistical Package for Social Science (SPSS) 15.0 was used for all descriptive and inferential statistical analyses in this study. Students' responses to the demographic items were coded and entered into SPSS and used in the analysis. The items related to multicultural navigators were coded and students were sorted into groups based on their identification of their multicultural navigator. The identified multicultural navigators were sorted into three groups by their type (AVID staff; Non-AVID staff; and none). The first group, the AVID staff group, included students enrolled in AVID who listed staff from the AVID program as their multicultural navigators, such as their AVID

teacher, tutor, or counselor. The second group, the Non-AVID staff group consisted of

students enrolled in AVID who listed others, such as parents/guardians, neighbors, or

community members as their navigators. Students in the third group, the "no one" group,

were those enrolled in AVID who did not list any adults as a multicultural navigator. The

first group AVID staff was further sorted into two groups the AVID teacher group and

the other AVID staff group. The AVID teacher group included the students enrolled in

AVID who selected their AVID teacher as their multicultural navigator. The "other

AVID staff" group was the AVID students who selected AVID staff but not their AVID

teacher as a multicultural navigator.

To address the first research question, *who are the multicultural navigators in

AVID students' lives*, the frequencies, percentages and a chi-square test was used to

analyze the source and ranking of multicultural navigators for students reported in the

first items of the demographic questionnaire.

An Independent-samples *t*-test was used to address the second and third research

question. To address the third research question, *are there differences between students

who perceive their AVID teacher as a multicultural navigator, those who perceive other

AVID staff such as their AVID tutor, or their AVID counselor in their self-efficacy for

learning beliefs, perceived task-value, and achievement scores*, an independent-samples

t-test was used with the SELF-A, Task-Value, and GPA scores as the outcome measures

and the multicultural navigator source as the grouping variable.

To address the fourth research question *to what degree does GPA, self-efficacy

for learning, and perceived task-value predict choice of multicultural navigator,* a

78

multiple regression (R^2) was used with student GPA as the outcome variable and the students' multicultural navigator, SELF-A scores and task-value scores as the predictor variables.

Validity and Reliability

To address internal validity concerns reliability tests were run on the SELF and the STPQ using the responses of study participants. The Cronbach Alpha reliability estimates for the instruments were reported as follows: SELF with 19 items $\alpha = .94$ and Task Value with 6 items $\alpha = .91$. The two scales used the same Likert-type scaling methods. Both scales were reviewed by previous researchers including the original authors for reliability and validity for use with multiple populations, such as minority, first-generation or college bound students.

4. Results

The purpose of this study was to explore how the presence of a multicultural

navigator in the lives of college-bound high school students enrolled in the Advancement

Via Individual Determination (AVID) program affected their academic achievement,

self-efficacy for learning, and perceived task-value. This chapter reports the results of this

study. Data were collected using a demographic questionnaire and two scales, the Self-

Efficacy for Learning Form (SELF) (Zimmerman & Kitsantas 2007) and the Self and

task perceptions questionnaire (STPQ) (Eccles & Wigfield, 1994). An ex post facto,

causal comparative design was used to address the four research questions.

Research Question I

To address the first research question, *who are the multicultural navigators in AVID*

students' lives, the frequency, percentages and Chi-square test for association, were used

to analyze students' source and ranking of multicultural navigators. The results from the

descriptive statistics indicated that 100% of the AVID students included in this study

were able to identify a multicultural navigator that they can speak to about college. The

results indicated that 63% ($n = 27$) of the students enrolled in AVID identified an AVID

staff member as their multicultural navigator; 37% ($n = 16$) chose people that were not

AVID staff as their multicultural navigator; and 0 % ($n = 0$) selected no one as their

multicultural navigator. Among the 27 who selected AVID staff as their multicultural

navigator, 82 % (*n* = 22) ranked their AVID teacher and 17 % (*n* = 6) ranked AVID staff

other than their AVID teacher.

The results shown in Table 2 display the results for the students' source of

navigator. The students were sorted into two groups depending on whom they listed as

their multicultural navigator. The first group included 27 students who selected an AVID

staff member as their multicultural navigator. This group included students who ranked

their AVID teacher, AVID tutor, or AVI D counselor as their multicultural navigator. The

second group included 16 students who ranked someone other than AVID staff as their

multicultural navigator. Students in this group listed people such as their

parents/guardians, classroom teachers not a part of the AVID program, and those they

had no contact such as professional sports teams. The first group, the 27 who selected

AVID staff as their multicultural navigator, was further sorted into two groups. The first

of the AVID multicultural navigator group included 22 students who ranked their AVID

teacher as their multicultural navigator. The second group included six students who

ranked AVID staff other than their AVID teacher as their multicultural navigator, such as

their AVID tutor or AVID counselor.

Table 2

Descriptive summary of the source of student multicultural navigator

	MCN Source for All Participants			MCN for AVID Teacher and other staff		
	Non-AVID MCN	AVID MCN	Total (%)	AVID Teacher	AVID Staff	Total (%)
Parent College						
Yes	11	7	18 (42%)	5	2	7 (26%)
No	5	20	25 (58%)	17	3	20 (74%)
Ethnicity						
Black	11	15	26 (60%)	13	2	15 (56%)
White	4	8	12 (27%)	6	2	8 (29%)
Multi-Racial	1	4	5 (12%)	3	1	4 (15%)
Grade						
9th	13	12	25 (58%)	9	3	12 (44%)
10th	3	15	18 (42%)	13	2	15 (56%)
Gender						
Male	6	11	17 (40%)	9	2	11 (41%)
Female	10	16	26 (60%)	13	3	16 (59%)

Total $N = 43$

AVID MCN $n = 27$

MCN = Multicultural Navigator

The results of the Chi-square test for association between grade level and source of multicultural navigator presented in Table 3 indicated that there is no statistically significant association between the students' choice for multicultural navigator and their grade level, X^2 (1, $N = 43$) = 5.60, $p = 02$. That is, the students in the two grade levels can be observed as similar to one another.

Table 3

Chi-Square Test for Association between Grade and Source of Multicultural Navigator

Source		AVID MCN		MCN not in AVID		Total	
Grade							
9th	Observed	12	(48%)	13	(52%)	25	(58%)
	Expected	16	(64%)	9	(36%)		
10th	Observed	15	(83%)	3	(17%)	18	(42%)
	Expected	11	(61%)	7	(39%)		
Total	Observed	27	(63%)	16	(37%)	43	(100%)
	Expected	27	(63%)	16	(37%)		

X^2 (1, $N = 43$) = 5.60, $p = 02$

The results from the Chi-Square test, as presented in Table 4, indicated that there is no statistically significant association between the source of multicultural navigator and parental education, X^2 (1) = 7.60, ρ = .01.

Table 4

Chi-Square Test for Association for Parent Education and Multicultural Navigator Source

MCN Source		AVID MCN	MCN not in AVID	Total
Parent College				
No	Observed	20 (80 %)	5 (20%)	25 (58%)
	Expected	16 (64%)	9 (36%)	
Yes	Observed	7 (39%)	11 (61%)	18 (42%)
	Expected	11 (61%)	7 (39 %)	
Total	Observed	27 (63%)	16 (37%)	43 (100%)
	Expected	27 (63%)	16 (37%)	

Pearson Chi-Square = 7.60 *df* = 1, *p* = .01; *SD > |2|

Research Question II

To address the second research question, *are there differences between students who perceive AVID staff as a multicultural navigator and those who do not perceive AVID staff as a multicultural navigator in their self-efficacy learning beliefs, task-value, and academic achievement*, an independent-samples t-test was computed with the SELF-A, Task-Value, and GPA scores as the outcome measures and the multicultural navigator source as the grouping variable. Results of the independent-samples *t*-test are presented in Table 5.

The means were compared for students who selected AVID staff as a multicultural navigator to those who did not select an AVID staff as a multicultural navigator. Of the 43 participants six did not self-report their GPA, they either wrote in "don't know" on the demographic questionnaire of left the item empty. This resulted in a total of 37 students included in the t-test for the GPA group. Results show that there were no statistically significant differences in mean SELF scores for the groups (equal variances not assumed) $t(31) = -.11, \rho = .91$. Results also show that there were no statistically significant difference in task-value for the groups (equal variances not assumed) $t(28) = -.57, \rho = .58$. The same was also true for GPA, there were no statistically significant differences in the mean GPA for the groups (equal variances not assumed) $t(28) = -83, \rho = .41$.

Table 5

Independent-sample t-test results for SELF-A, Task-Value, and GPA

	AVID MCN			MCN not in AVID			
	n	*M*	*SD*	*n*	*M*	*SD*	*ρ*
SELF-A	27	7.31	1.46	16	7.26	1.45	.91
Task-Value	27	5.20	1.21	16	4.96	1.37	.58
GPA	24	3.22	.41	13	3.32	.34	.42

* $ρ < .05$, ** $ρ < .001$

Research Question III

To address the third research question, *are there differences between students who perceive their AVID teacher as a multicultural navigator, those who perceive other AVID staff such as their AVID tutor, or their AVID counselor in their self-efficacy for learning beliefs, perceived task-value, and achievement scores*, an independent-samples t-test displayed in Table 6 was computed with the SELF-A, Task-Value, and GPA scores as the outcome measures and the multicultural navigator source as the grouping variable.

The means were compared for students who selected their AVID teacher as a multicultural navigator and those who selected someone from the AVID site team such as the tutor or guidance counselor. Of the 27 participants who selected AVID staff as their

multicultural navigator, three did not self-report their GPA, they either wrote in "don't

know" on the demographic questionnaire of left the item empty. This resulted in a total of

24 students included in the t-test for the GPA group. For results related to self-efficacy

for learning equal variances were not assumed ($\rho = .41$). There were no statistically

significant differences in mean SELF scores for the groups $t(6) = .12$, $\rho = .91$. The same

is true for task-value scores, equal variances were not assumed ($\rho = .28$). Further, the

results show that there is no statistically significant difference in Task-value for the

groups $t(8) = -.59$, $\rho = .57$. For GPA, equal variances were not assumed ($\rho = .38$). There

were no statistically significant differences in the mean GPA for the groups $t(4) = .69$, ρ

$= .52$.

Table 6

Independent-Samples t-test results for SELF-A, Task-Value, and GPA

	AVID Teacher			AVID Staff			
	n	*M*	*SD*	*n*	*M*	*SD*	*ρ*
SELF-A	22	7.32	1.52	5	7.25	1.28	.91
Task-Value	22	5.15	1.28	5	5.43	.87	.57
GPA	19	3.26	.34	5	3.06	.64	.52

* $\rho < .05$, ** $\rho < .001$

Research Question IV

To address the fourth research question, *to what degree does GPA, self-efficacy for learning, and perceived task-value predict choice of multicultural navigator,* a multiple regression (R^2) was run with students' multicultural navigator as the outcome variable and the students' GPA, SELF-A scores and Task-Value scores as the predictor variables. The results from the Multiple Regression presented in Table 7 show that there is no statistically significant explanation of the variance in who students selected as their multicultural navigators from GPA, SELF-A and Task-Value scores F (3, 33) =.25, ρ =.86. Also $R^2 = .02$ indicates that 2.2% of the source of multicultural navigator can be

explained by the three predictors. There were no statistically significant unique contributions for Task-Value ($\rho = .77$); Self-efficacy for learning ($\rho = .69$); and GPA ($\rho =.43$).

Table 7

Summary of Multiple Regression Analysis for Variables Predicting ranking a MCN in AVID or not in AVID (N = 43)

Variable	B	SE (B)	β	ρ	R^2	F
					.02	.25
SELF-A	.03	.06	.08	.69		
Task-Value	-.02	.08	-.06	.77		
GPA	-.18	.22	-.14	.42		

* $\rho < .05$, ** $\rho < .001$

Summary of Results

In summary, the findings are:

- 100% of the students were able to identify at least one multicultural navigator.

- 88% of the students in this study identified a multicultural navigator in AVID or had parents/guardians who had gone to college.

- Of the students whose parents/guardians went to college, 61% identified multicultural navigator not in the AVID program.

- 63% of the students identified an AVID staff as their multicultural navigator.

- 81% of students who selected AVID staff identified their AVID teacher as their multicultural navigator.

- Students who identified someone in AVID as their multicultural navigator scored higher on SELF scores but not on task-value and GPA than those who selected someone not in AVID as their multicultural navigator, however the differences were not statistically significant.

- Students who identified their AVID teacher as their multicultural navigator scored higher on Task-value, SELF, and GPA than those who selected other AVID staff, however the differences were not statistically significant.

- No statistically significant explanation for variance in the source of multicultural navigator was explained from GPA, SELF-A and Task-Value scores.

5. Conclusion

The purpose of this study was to explore how the presence of a multicultural navigator in the lives of college-bound high school students enrolled in the Advancement Via Individual Determination (AVID) program affected their academic achievement, self-efficacy for learning, and perceived task-value. Related to the purpose of this study four research questions were addressed in a sample of AVID students at one high school. The research questions were:

1. Who are the multicultural navigators in AVID students' lives? (i.e. AVID staff, clergy members, parents/guardians, peers, siblings, neighbors, and other adults)

2. Are there differences between students who perceive AVID staff (e.g. AVID teacher, AVID tutor, or AVID counselor) as a multicultural navigator and those who do not perceive AVID staff as a multicultural navigator in their self-efficacy learning beliefs, perceived task-value, and academic achievement?

3. Are there differences among students who perceive their AVID teacher as a multicultural navigator, those who perceive their AVID tutor as one, and those who perceive their AVID counselor as a multicultural navigator in their self-efficacy for learning beliefs, perceived task-value, and achievement scores for?

4. What are the relationships among student academic achievement, self-efficacy for learning, perceived task-value and choice of multicultural navigators?

Discussion

The task of preparing for college has become so daunting that it has given growth to the economic enterprise of college preparation consultants. These educational consultants are hired by parents/guardians to teach their children the knowledge needed to successfully prepare for college (Bick, 2008). According to Bick, about 4,000 companies have been created for this purpose. However, students without financial resources are continually left behind because they are unable to pay for these private services. If a goal of education is to prepare all students for a 21st century workforce that increasingly requires post-secondary education, then the goal of schools should be to prepare every graduate with the skills and competencies needed to enter a postsecondary institution without needing remediation. If schools can address this goal, then more students without regard to financial status can be prepared for the 21st century workforce. In order to reach this goal, the approach should include providing students with assistance from those in their networks to navigate the demands of preparing for college. The individuals must also be transparent and intentional in their attempts to help students leave high school successfully prepared for college. From this perspective simply telling students what to do is not enough, students need to be shown, encouraged, and supported in how to prepare for college by someone who has prior knowledge of how to do it. This is a goal of the AVID program; providing those college navigators.

Since it is a selective program students who fit the AVID profile are typically those who were selected by the adults in their school as someone with the potential of success in college preparatory courses. Since students are more likely to enroll in college preparatory courses when they perceive support and encouragement from their teachers to join the classes (Klopfenstein, 2003), these students may have been navigated toward their school's AVID program. Perhaps each student had an adult in her/his life to navigate him/her prior to joining AVID. Such experiences may assist students in identifying multicultural navigators. Since they are not leery of the adults they encounter, they may begin to seek appropriate adults to assist them as they navigate their way through high school and into college. When students, like those in AVID, experience adult role models who can help them successfully prepare for college they may be more receptive to the messages of the multicultural navigators about the classes to take and skills to hone. Students in the AVID program are at an advantage in that they have access to multicultural navigators in their school who are trained for the sole purpose of assisting them in getting to and through college.

Identifying a Multicultural Navigator

For this study all of the students had access to someone from whom they could seek for support related to preparing for college, their AVID teachers. All of the participants in this study (100%) were able to identify at least one multicultural navigator. Since the students were asked to list and then rank their multicultural navigators they were able to list multiple people they considered a good source of support related to preparing for college. However, some students listed people, such as pop stars with

whom they had no contact, as their navigators alongside their parents/guardians, teachers, and peers. It can be argued that since the students themselves are learning this new process about preparing for college that they should be instructed how to seek appropriate support related to their goals. The mere fact that students listed these people raises the question of the magnitude of the influence of the AVID teachers, parents/guardians, or other school staff that they listed as their navigators. For example, it can be speculated that students listing their AVID teacher, parent, and a pop-star as their top three may hold them in different regards. If there was an event where a student listed a parent who did not attend college, the pop star who did not exemplify college going behavior, or their AVID teacher, then the actual impact of the AVID teacher on students' college plans is likely minimized. This student may see value in preparing to enter the workforce just as her/his parents/guardians did and joining the dance team as the pop star did, but, little to no value in engaging in the behaviors such as taking the rigorous classes suggested by the AVID teacher. It is important for students to not only identify their AVID teacher as a multicultural navigator, but also, to identify those who have the experience of college that can help them reach their goal of college readiness.

In this study a majority of the students (88%) were able to list at least one multicultural navigator who had college experience. A majority of the students who listed their parents/guardians as their multicultural navigators had parents/guardians they lived with and who completed college. The students whose parents/guardians did not go to college tended to select their AVID teacher as a multicultural navigator. Additionally two-thirds of all the students enrolled in AVID saw value in their AVID teachers'

purpose and identified them as a multicultural navigator. This further illustrates the previous point, that students who feel encouraged by adults are more likely to identify appropriate multicultural navigators. While the first-generation students listed their AVID teacher as their multicultural navigator they also listed their parents/guardians. Even without their own college experience parents/guardians were identified as a source of support for college preparation by their children. The actual information the parents/guardians are able to provide may be limited since they themselves did not complete college. Unfortunately, information related to this was not included in this study. In this study, significant comparisons among the groups of students based on their multicultural navigators were not found so it remains inconclusive whether such differences actually do exist. However, it is important to note that students enrolled in AVID were also students who could identify people to help them towards their goals of preparing for college. For this school AVID appears to fill the gap between parental experiences related to college and students source of college related information.

AVID is providing a service that could not be filled by the community and parents/guardians alone. Parents/guardians of first-generation college students have good intentions to prepare their students for post-secondary education, yet, they are unaware themselves of what is necessary to get their students to college after high school (Smith, 2009). Students and parents/guardians have desires to attend college but coupled with background factors such as their environments students end up prepared to complete high school and not ready for college level work. The finding in this research that there are people in the lives of students who give them messages of how to prepare for school

successfully, such as AVID teachers and staff, and that students sometimes identify those who do not have the knowledge and experience of preparing for college needed to assist them with their own aspirations of college readiness. What has been learned is that some students do see teachers in school who are teaching how to negotiate the many worlds in which they live and that these teachers are carefully steering them toward a college education.

It was hypothesized that students' scores on the measures of self-efficacy for learning, task-value, and academic achievement would be higher for students whose multicultural navigators are AVID staff over those whose multicultural navigators are non-AVID staff, and for those whose navigators are AVID teachers over those whose multicultural navigators are other AVID staff. The data from this study did not support the hypothesized model. The AVID students in this study tended to have similar levels of self-efficacy, task-value and GPA. This suggests that if you're in the AVID program then you have higher levels of self-efficacy, task-value and GPA. There were no statistically significant differences among the sub-groups within these AVID students on the measures used in this study. However, trends were seen in the data that could support the hypothesized model. The AVID students who did select AVID staff as their multicultural navigator tended to have higher scores on the measures of self-efficacy for learning and task value. Also, the means for the group who had AVID teachers as navigators were higher than the group who had other AVID staff as multicultural navigators for task-value and GPA. These trends suggest that this study's inability to support the hypothesized model is in part related to limitations of this current study.

Limitations

The effects of identifying a multicultural navigator in the AVID program over those who selected non-AVID persons can only be assumed and not proved with certainty. Only in experimental research is the degree of control sufficient enough to establish cause-effect relationships (Creswell, 2002). Due to the nature of the ex post facto causal-comparative design, the researcher did not assign participants to a treatment or control group (Cohen, Manion, & Morrison, 2007). The sample included students who picked AVID only; no comparison group was included in this study. Therefore, a true cause and effect of AVID on students' choice of a multicultural navigator cannot be stated. The groups included in this study were preexisting self-selected groups of students in the AVID program. Since the data were collected from one program in one school, the results should only be generalized to the AVID students in the AVID program at the school included in this study. The number of participants limits the findings related to this study; a larger data set, across many AVID programs, could lead to more significant results. The use of a causal-comparative design in this study serves as a beginning step to help identify variables related to multicultural navigators to include in future experimental research designs.

Implications

There are three implications to be drawn from the results of this research. The first is related to the AVID program. This research suggests that students see their AVID teacher as guiding them toward college. AVID is one of a few in-school programs that targets a rigorous curriculum, instruction in the hidden curriculum, and includes

97

parents/guardians/guardians in information related to college. AVID teachers as

multicultural navigators appear to be essential in helping prepare first-generation students

for college. Since two-thirds of the students identified their AVID teacher as their

multicultural navigator, it is clear that AVID is providing students with someone who can

do what the external community cannot, navigate them toward college.

A second implication is related to the role of AVID in effecting change in the

school culture. The students in this study were being primed for college readiness by

choosing to participate in the AVID program. However, students who do not chose AVID

or programs like it can have teachers who serve as multicultural navigators in their daily

lives in other classes. In the present study, non-AVID teachers were also listed as

multicultural navigators by some students. The students are looking to these adults as a

source of support. Therefore, all teachers should understand their role in shaping and

preparing the students they encounter for college. All of the students in AVID had

someone, even if not in AVID, whom they identified as a source of support for their

college plans. Having schools infused with teachers who accept and are provided support

for their role to be multicultural navigators can address the concern of students who don't

follow AVID as well.

The final implication in this study is the inclusion of parents/guardians/guardians

in helping students prepare for college. Students whose parents/guardians/guardians had

gone to college tended to list their parents/guardians as their multicultural navigators and

not their AVID teachers. Therefore AVID teachers should pay attention to the adults

students identify as their multicultural navigator and make plans to work with these

adults which includes the parents/guardians or guardians. It is important that AVID programs include parents/guardians in discussions related to increasing access to college for their children because the messages that any multicultural navigator provides for college bound students should mirror that of the AVID program. Multicultural navigators for college bound students support the development of self-regulatory learning skills, and the value of activities necessary for post secondary success. As multicultural navigators parents/guardians transmit knowledge related to the value of education that often mirrors their own values.

Suggestions for Future Research

This current study and the results suggest the need for future research. The results of the present study were inconclusive in some significant ways. Because of this, there is a need for a more robust study with more participants and across sites. Since it is unknown how typical March High School is compared to other schools, this study should be replicated across different schools. March High School is located in a small rural school district. A sample including students in small and large, urban and rural school districts should be conducted. With the modest sample size of forty-three participants, significant differences were not found among the groups, and for this reason a follow-up study could include the students in AVID at several schools.

In addition to increasing the sample size, this study can be followed up focusing on different data collection methods. For example, this study suggests the need for related studies on the role of parents/guardians in teaching students information related to preparing for college. This focus was not explored, and therefore another study could

examine what parents/guardians as multicultural navigators are teaching their children. Further, the results of this study do not provide evidence for why students chose their multicultural navigators. It is recommended that a study be conducted that examines this important attribution. With such interview data, more information about why the students listed the people they did could be used in future comparisons of students based on their choice of multicultural navigators.

Appendix A

AVID Program Essentials

Essentials	Description
1. Student Selection	AVID student selection must focus on students in the middle (2.0 to 3.5 GPA as one indicator) with academic potential, who would benefit from AVID support to improve their academic record and begin college preparation.
2. Program Participants	AVID program participants, both students and staff, must choose to participate.
3. School Commitment	The school must be committed to full implementation of the AVID program, with the elective class available within the regular academic school day
4. Rigorous Course Enrollment	AVID students must be enrolled in rigorous course of study that will enable them to meet requirements for university enrollment.
5. Writing and Reading	A strong, relevant writing and reading curriculum provides the basis for instruction in the AVID class.
6. Inquiry	Inquiry is used as a basis for instruction in the AVID classroom.

7. Collaboration	Collaboration is uses as a basis for instruction in the AVID classroom.
8. Tutors	A sufficient number of tutors must be available in the AVID class to facilitate student access to rigorous curriculum. Tutors should include students from colleges and universities and must be trained in implementation of methodologies used in AVID.
9. Data System	AVID program implementation and student progress must be monitored through the AVID Data System and results must be analyzed to ensure success.
10. Resources	The school and district must identify resources for program costs, agree to implement the AVID Program Essentials and to participate in AVID Certification, and commit to ongoing participation in AVID staff development.
11. Site Team	An Active, interdisciplinary site team collaborates on issues of student access to and success in rigorous college preparatory courses.

Appendix B

AVID WICR Strategies Descriptions

Strategy	Description
W: Writing to learn	AVID emphasizes writing in all subjects, with a focus on clarifying and communicating their thoughts and understanding material.
I: Emphasis on inquiry	AVID is based on inquiry, not lecture. Many activities, from Cornell note taking to tutorial groups, are built around asking questions, which forces students to clarify, analyze, and synthesize material.
C: A collaborative approach	The AVID classroom is not a traditional one in which a teacher lectures to passive students. An AVID teacher is a facilitator and an advocate. But students, not teachers or tutors, are responsible for their learning. Tutors function as discussion leaders, while students challenge, help, and learn from one another.
R: Critical reading	AVID students don't merely read words on a page. They are taught to analyze, question, critique, clarify, and comprehend the material

Note. Information taken from AVID Center, (2008). *Teaching Methodologies-WICR.*

Retrieved October 7, 2008, from https://www.avidonline.org/info/?ID=2680

Student Questionnaire

1. Dear AVID Student:

     I am very interested in your thoughts and opinions about the adult role models in your life who encourage you to do well in school **and** go to college **and** teach you life skills. Would you please list on the lines below, the adults who you are comfortable talking to about preparing for college that you think can help you get to college?

My role models   **My relationship with them**

_____   _____
_____   _____
_____   _____
_____   _____
_____   _____
_____   _____
_____   _____
_____   _____
_____   _____
_____   _____

My Top three (3)

From your list above can you rank the top three people you speak to most often about life skills and preparing for college on the lines below?

<u>Name</u>

    1. _____

    2. _____

    3. _____

Please circle a number to indicate your answer

2. In general, I find working on math assignments…

Very Boring   Very Interesting
1   2   3   4   5   6   7

3. How much do you like doing math?

Not Very Much   Very Much
1   2   3   4   5   6   7

4. Is the amount of effort it will take to do well in advanced high school math courses worthwhile to you?

Not Very Worthwhile   Very Worthwhile
1   2   3   4   5   6   7

5. I feel that, to me, being good at solving problems which involved math or reasoning mathematically is…

Not at all important   Very Important
1   2   3   4   5   6   7

6. How important is it to you to get good grades in math?

Not at all important   Very Important
1   2   3   4   5   6   7

7. How useful is what you learn in advanced high school math for your daily life outside of school?

Not very useful   Very Useful
1   2   3   4   5   6

105

ACADEMIC SELF-EFFICACY SCALE (SELF)

Definitely Cannot Do it		Probably Cannot			Maybe			Probably Can		Definitely Can Do It
0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%

INSTRUCTION: Using the scale provided, please indicate how much each of the following statements reflects How you typically are. There is no right or wrong answer

---

_____ 8. When you miss a class, can you find another student who can explain the lecture notes as clearly as your teacher did?

_____ 9. When your teacher's lecture is very complex, can you write an effective summary of your original notes before the next class?

_____ 10. When a lecture is especially boring, can you motivate yourself to keep good notes?

_____ 11. When you had trouble understanding your instructor's lecture, can you clarify the confusion before the next class meeting by comparing notes with a classmate?

_____ 12. When you have trouble studying your class notes because they are incomplete or confusing, can you revise and rewrite them clearly after every lecture?

_____ 13. When you are taking a course covering a huge amount of material, can you condense your notes down to just the essential facts?

_____ 14. When you are trying to understand a new topic, can you associate new concepts with old ones sufficiently well to remember them?

_____ 15. When another student asks you to study together for a course in which you are experiencing difficulty, can you be an effective study partner?

_____ 16. When problems with friends and peers conflict with schoolwork, can you keep up with your assignments?

_____ 17. When you feel moody or restless during studying, can you focus your attention well enough to finish your assigned work?

_____ 18. When you find yourself getting increasingly behind in a new course, can you increase your study time sufficiently to catch up?

_____ 19. When you discover that your homework assignments for the semester are much longer than expected, can you change your other priorities to have enough time for studying?

_____ 20. When you have trouble recalling an abstract concept, can you think of a good example that will help you remember it on the test?

_____ 21. When you have to take a test in a school subject you dislike, can you find a way to motivate yourself to earn a good grade?

_____ 22. When you are feeling depressed about a forthcoming test, can you find a way to motivate yourself to do well?

_____ 23. When your last test results were poor, can you figure out potential questions before the next test that will improve your score greatly?

_____ 24. When you are struggling to remember technical details of a concept for a test, can you find a way to associate them together that will ensure recall?

_____ 25. When you think you did poorly on a test you just finished, can you go back to your notes and locate all the information you had forgotten?

_____ 26. When you find that you had to "cram" at the last minute for a test, can you begin your test preparation much earlier so you won't need to cram the next time?

Please answer the following questions about yourself

27.　Gender:　　☐ Male　　　☐ Female

28.　Grade Level:　☐ 7th　☐ 8th　☐ 9th　☐ 10th　☐ 11th　☐ 12th

29.　Which of the following best describes your racial or ethnic background (check one)?

☐ African American or Black
☐ Asian American or Pacific Islander
☐ White, Not of Hispanic Origin
☐ Hispanic or Latino
☐ Native American or Alaskan Native
☐ Multiracial (please specify)_____
☐ Other (please specify) _____

30.　During which grades have you been enrolled in AVID? (Check all that apply)

☐ 7th　　　☐ 8th　　　☐ 9th　　　☐ 10th　　　☐ 11th　　　☐ 12th

31.　What do you plan to do after you complete high school?
☐ College
☐ Military
☐ Technical School
☐ Work
☐ Other (please specify)_____

32.　If you picked college, what is the highest degree you expect to earn?

☐ Associates Degree (RN)
☐ Bachelors Degree (BS or BA)
☐ Masters Degree (MS or MBA)
☐ Professional Degree (Ph.D. M.D. or J.D)
☐ Other (please specify)_____

33.　If you want to go to college when did you decide this?

☐ Always knew　　　　　　　　☐ During 10th grade
☐ During elementary school　　☐ During 11th grade
☐ During middle school　　　　☐ During 12th grade
☐ During 9th grade

34.　Have you taken any Foreign Language courses?　☐ Yes　　　　☐ No

　　　If yes which one (s)? _____

35. Please select the Math classes you have taken, if your class is not listed please write it space for other(s).

☐ Algebra I ☐ Geometry ☐ Algebra II
☐ Pre-Calculus ☐ Calculus ☐ Trigonometry
☐ Statistics ☐ Other (s)_____

36. How many Math Honors or Advanced Placement classes have you taken?
_____

37. How many Math Honors or Advanced Placement classes do you plan to take?
_____

38. How many other Honors or Advanced Placement classes have you taken?
_____

39. How many other Honors or Advanced Placement classes do you plan to take?
_____

40. Do you have any siblings 17 and older? ☐ Yes ☐ No
    a. If yes, are they currently enrolled in college? ☐ Yes ☐ No
    b. If no, did they complete a college degree? ☐ Yes ☐ No

41. Did the parent or guardian who you currently live with go to college?

    ☐ YES ☐ NO

Please use the following letters to answer questions 42-43

    A) No formal education; Elementary School (1-5)
    B) Middle School
    C) Some high school
    D) Completed High school (diploma or GED received)
    E) Some college (no degree)
    F) Associates Degree (RN)
    G) Bachelors Degree (BS or BA)
    H) Masters Degree (MS or MBA)
    I) Professional Degree (Ph.D. M.D. or J.D)
    J) Other _____
    K) I don't know

42. _____What is your Mother/Guardian's highest level of education?
43. _____What is your Father/Guardian's highest level of education?

44. Please go to your binders and write your most recent GPA in this space _____

THANK YOU VERY MUCH FOR HELPING ME WITH THIS SURVEY!!

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