

ABSTRACT

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FACTORS RELATED TO COLLEGE GOING SELF-EFFICACY AMONG URBAN AFRICAN AMERICAN HIGH SCHOOL STUDENTS

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This study examined the relationship between college-going self-efficacy and high school students' perceived levels of achievement goal orientations (mastery-approach, performance-approach, performance-avoidance), vocational identity, need for occupational information, and barriers to occupational goals for a sample of African American urban high school students ($N = 200$). Furthermore, this study examined the extent to which those factors helped predict scores on the College-Going Self-Efficacy Scale. Findings revealed positive relationships between mastery-approach, performance-approach, and performance-avoidance goal orientation, as well as vocational identity across all subscales of the College-Going Self-Efficacy Scale. Results showed little to no relationship between occupational information, the barriers scale and college-going self-efficacy scores. Hierarchical multiple regression analyses were conducted to explore the predictability of the achievement goal orientation and career related factors on college-going self-efficacy. Results indicated that goal orientation would be consistently

statistically significant across all phases of the college going process reflected in their self-efficacy scores and vocational identity was a significant predictor during the first phase and the final phase of the college going process.

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URBAN AFRICAN AMERICAN HIGH SCHOOL STUDENTS

By

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Dedication

This work is dedicated to my parents. To my mother who modeled for me what it means to work hard and take pride in what I do no matter what the task. She taught me that just enough was never acceptable, even if it meant building the project again from scratch. To my father who always believed in me even when I never thought my goals were possible. The impact his belief had on me as a person has enabled me to move mountains and reach every milestone in my life. He exposed me to a world of possibility and wonder, a world of which I have become an integral part.

Thank you, and please know that all you sacrificed for me was not in vain. I did it with your help. So thank you!

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track when I needed guidance. He sacrifice and fought for me to finish, and we did together. Andrew, thank you for your unending love. I would still be on page two if it were not for your patience and support.

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CHAPTER 1

Youth growing up in low-income urban areas in the United States are facing a number of challenges on their path to adulthood. Specifically, research has shown that African American urban high school students face many barriers related to career decision-making and college going (Lerner, 1995). These students confront many challenges associated with living in urban and low-income areas, which include dropout rates as much as 300% higher among poor youth and an increased level of violence within schools (Lerner, 1995). Students who are exposed to various stressors, such as higher crime rates, unemployment stress of parents, financial hardship, teen pregnancy, violence, and drug and alcohol abuse, may experience personal psychological distress (McLoyd, 1998; Solberg, Carlstrom, Howard, & Jones, 2007) that affects all areas of their life.

Nationally, slightly more than half of African American students went straight to college after high school graduation. Conversely, approximately 50% dropped out of high school before earning their diploma (EPE Research Center, 2011; Contreras, 2011). Research suggests that some contributing factors for student dropout in urban areas could be mental health issues and interpersonal difficulties, which lead to students being pushed out of the system (Beauvais, Chavez, Oetting, Deffenbacher, & Cornell, 1996; Jessor, 1991). Students may also leave school prior to receiving a degree due to economic hardship and thus enter into a world of work lacking the education necessary to obtain a livable wage (National Research Council, 1993). Even for those students who continue on to college, challenges continue, as research indicates that they are entering

underprepared and lacking confidence in their ability to keep up with their peers (Barry & Finney, 2009).

In terms of college going, according to the National Center for Education Statistics (NCES, 2011), the country has experienced a steady increase in the immediate college enrollment rate after high school from 2001 to 2009, to its current 70%. While this may look very encouraging, it only tells a small piece of a complicated story. This increase should be viewed cautiously, as the NCES also notes that gaps continue to persist over time in these enrollment rates when the data is disaggregated for family income, race/ethnicity, and gender. When attention is focused on the persistence and outcomes to investigate the state of the nation's overall goal of increasing college graduates, the story changes significantly. Of the 70% of high school students who enroll in either 2 or 4 year colleges immediately or soon after graduating from high school, many never get a degree or credential of any kind. In viewing the education pipeline from ninth grade through college graduation, for every 100 ninth graders in the United States, approximately 70 will graduate high school on time, 44 will enter into college, approximately 30 will still be enrolled for their sophomore year, and 20 will graduate within 6 years from a 4 year college and within 3 years from a 2 year college (National Center for Higher Education Management Systems; NCHEMS, 2012).

These pipeline statistics are even more dire when disaggregated by racial/ethnic group. In 2001, NCES found that compared to 65% of White high school graduates who enrolled in college, only 55% of African American high school graduates enrolled in college (2004a). For those students who by choice or necessity enter the workforce, statistics show more than 54% of African American high school graduates, between the

ages of 16 and 19, were employed or were seeking employment in 2001 (NCES, 2004). However, those in the workforce are not without their own challenges. The transition from school to the world of work can prove to be just as challenging as the transition from high school to college and can vary for each student. Successful transitions can be dependent on several factors and research has posited internal and external factors, intrinsic and extrinsic motivation, environmental barriers, as well as life, cultural, and educational experiences that may play a role in the successes and shortfalls of this critical moment in time (Constantine, Erickson, Banks, & Timberlake, 1998; Fan & Williams, 2010; Gloria & Hird, 1999).

Lawmakers have responded to these statistics on the national, state, and regional levels. Nationally, the Race to the Top Assessment Program, authorized under the American Recovery and Reinvestment Act of 2009 (ARRA; Pub.L. 111-5), was created with the goal of restoring the nation's position as the world leader in college graduates by 2020. Programs and initiatives such as Pathways to College Networks and Gear Up are federal programs designed to increase the college-going rate of low-income students. These programs aim to improve student achievement and success in postsecondary education by raising underrepresented students' engagement, self-esteem, and motivation levels and assisting students in reaching their college aspirations (U.S. Department of Education, 2011).

Other programs and legislation that aim at creating change through data-driven outcome measures include the No Child Left Behind Act (U.S. Dept. of Ed. NCLB; 2001), and on the local level, legislation such as the recently proposed College Preparation Plan Act of 2012 (Legislation #B19-649). This proposed act would require

all District of Columbia public high school seniors to apply to at least one post-secondary institution, apply for financial aid, and take college entrance exams (the SAT or ACT) prior to graduation. The implications of this proposed legislation on the future of these students, their families, the schools, the community, and the school counselors who will be charged with implementing many of the mandates are still being considered. An important question is: will mandating these requirements translate into the types of results the college-going movement is advocating?

Exploring the connections between the challenges facing African American urban high school students and in the college-going rates has been an important aspect of higher education research in recent years (Brewer, Stern, & Ahn, 2007; Hernandez & Lopez, 2004; Sokatch, 2006; Tierney, 2009). Such research is especially critical, now that according to the Census Bureau, for the first time in United States history children are not getting a better education than their parents (Goldin & Katz, 2009). Once the world leader in the proportion of people finishing high school, according to the Organization for Economic Co-operation and development (OECD, 2009), the United States has fallen to 21st out of 26 developed countries in high school graduation rates. The United States ranking is also slipping when it comes to college completion. While “still a leader in college attendance, its college-completion rates for recent cohorts are lagging [behind] other nations” (Goldin & Katz, 2009, p. 31). And finally, with an unemployment rate nationally at 8.9%, and a staggering 14% for African Americans according to the Bureau of Labor Statistics (2012), it is critical that further exploration into factors related to the success of students transitioning out of high school continues.

According to social cognitive theory, advanced by Bandura (1986, 1997), human achievement depends on interaction between an individual's behaviors, personal factors, and environmental conditions. Possibly more important are three basic principles of theory of self-efficacy, which are significant as they apply to the urban school student and academic achievement. Those three basic premises are: a) that individuals hold self-efficacy beliefs that enable them to exert control over their thoughts, feelings, and actions; b) these beliefs affect cognitive, motivational affective decisional processes; and c) these processes will determine whether or not they are motivated to persevere in the face of hardship, life stress, and barriers. Taking the current rate of college-going activities such as applying to college, enrolling, retaining enrollment past their second year, and completing a degree into account, it is an important area of research to explore how the characteristics of students from an urban school environment contribute to their self-efficacy and therefore to their college-going behavior.

Rationale

The rationale for this study centered on two key questions. The first is "Do African American urban high school students believe that they have the power and ability to get into college?" This question is of key importance because according to the theory of self-efficacy (Bandura, 1997), this belief influences

- the course of action people choose to pursue,
- how much effort they put forth,
- how long they will persevere in the face of obstacles and failures,
- their resilience to adversity,
- whether their thought patterns are self-hindering or self-aiding,

- how much stress and depression they experience in coping with taxing environmental demands, and
- the level of accomplishments they realize.

Literature in the field of education over the past 30 years has shown a clear relationship between a student's belief in their ability to accomplish an academic task and their achievement (Bandura & Schunk, 1981; Parajes, Urdan, & Dixon, 1995; Zajacova, Lynch, & Espenshade, 2005). Three distinct findings in the literature point to the need for further research. First, Bandura and Schunk (1981) found that levels of self-efficacy have important effects on academic persistence. When successes are difficult to come by, students with high efficacy persist, while those with low efficacy give up or quit more easily. Further studies found that raising efficacy increased persistent behavior (Schwarzer & Fuchs, 1995; Zhang & RiCharde, 1998; Lent, Brown, & Larkin, 1984). Bandura (1993) also found that self-efficacy beliefs specifically affected college outcomes by increasing students' motivation and persistence by mastering challenging academic tasks and fostering the efficient use of acquired knowledge and skills. Quantitative studies in self-efficacy, however, show a need for specificity in domain related measures.

The theory of self-efficacy outlines that it is necessary to have clear domain specific self-efficacy measures of people in order to get an accurate measure of their belief in their capability to accomplish a particular task. Research has yet to explore the specific domain of college-going self-efficacy as it relates to African American urban high school students. Furthermore, while research has shown relationships between constructs of achievement goal orientation (Sungur & Senler, 2010), vocational identity

(Alvi, Khan, & Kirkwood, 1990; Iannucilli, 1989), occupational awareness (Brown, 2002; Grier-Reed & Ganuza, 2011) and barriers to occupational goals (Lindley, 2005; Diaz, 2010), there has yet to be a relational exploration into the predictability of these constructs' effects on the self-efficacy of students attempting to accomplish college-going tasks in the urban school environment.

The second key question is “What part do achievement goals orientations and career related factors play in predicting African American urban high school students’ beliefs in their ability to successfully complete college-going related activities?” This question is of particular interest as it is the next step in the research. Once relationships are explored, predictability of those factors on the variable of interest, college-going self-efficacy, can then be the focus. This will help lay the groundwork for creating intervention programs for students who share those potential predictive factors.

Purpose of the Study

The purpose of this study was to investigate factors related to college-going self-efficacy among urban African American high school students. The study was also interested in exploring the extent to which students’ perceived levels of achievement goal orientations (mastery-approach, performance-approach, performance-avoidance), vocational identity, need for occupational information, and barriers to occupational goals help predict each subscale of college-going self-efficacy (see Figure 1) in a convenience sample of urban African American high school students within one DC public charter school.

Research Questions

1. Is there a relationship between students’ perceived achievement goal orientation and their college-going self-efficacy?

2. Is there a relationship between students' perceived degree of vocational identity and their college-going self-efficacy?
3. Is there a relationship between students' perceived need for occupational information and college-going self-efficacy?
4. Is there a relationship between students' perceived barriers to occupational goals and college-going self-efficacy?
5. When considering the impact of achievement goal orientations (mastery-approach, performance-approach, performance-avoidance) and career related factors (vocational identity, need for occupational information, and perceived barriers to occupational goals), to what degree will each contribute unique and shared variance in the prediction of college-going self-efficacy?

Hypotheses

The five hypotheses are:

1. All three subscales of achievement goals orientation (mastery-approach, performance-approach; and performance-avoidance) will have a positive relationship with the four subscales of the college-going self-efficacy scale.
2. Perceived vocational identity will have a positive relationship with the four subscales of the college-going self-efficacy scale.
3. Perceived need for occupational information will have a positive relationship with the four subscales of the college-going self-efficacy scale.

4. Perceived barriers to occupational goals will have a negative relationship with the four subscales of the college-going self-efficacy scale.
5. All three subscales of achievement goal orientation would account for a significant amount of variance in each of the four subscales of the self-reported college-going self-efficacy scale. Moreover, respondents' career related factors (vocational identity, need for occupational information, and perceived barriers to occupational goals) would account for a significant amount of variance in each of the four subscales of the self-reported college-going self-efficacy over and above that accounted for by achievement goal orientation. Overall, all factors will contribute both unique and shared variance in the prediction of college-going self-efficacy.

Figure 1: Hierarchical Regression Analysis Predicting College-Going Self-efficacy



Significance of the Study

These relationships are important to examine as students and schools are faced with stalled or still-dropping college-going and retention rates across the country, especially for African American students in urban school districts. School counselors working within these systems will encounter a variety of levels of efficacy that dictate the students' course of action, the effort they put into the tasks, their ability to handle adversity, how long they will persevere, and an assortment of other behaviors. The more information a school counselor has about the students' belief in their capacity to accomplish the tasks, the way in which they are motivated to learn, where they are in their career development, and how all these factors relate, the more targeted they can be in applying curriculum, programs, and interventions. More specifically, if school counselors working with urban high school students can further understand the level of confidence students feel in their ability to engage in the tasks of applying to college and

what factors relate to this confidence, they will be in the best position to contribute to the success of the student and the community. A review of the literature suggests that students' academic achievement is indeed highly related to factors that this study investigated, such as goal orientation (Broussard & Garrison, 2004; Patrick, Ryan & Kaplan, 2007) and its relationship to self-efficacy. Although this relationship and predictability has not yet been explored for the specific domain of college-going self-efficacy, this study expected to see similar positive correlations that was the analysis for the final research question.

Furthermore, if constructs related to career, goal orientation, and life barriers are taken into consideration when working with these students and they are found to help predict students' college-going self-efficacy, school counselors will have key information not only to target their efforts but also in developing appropriate interventions (Osipow, 1999).

Operational Definitions

Achievement goal orientation. “A set of behavioral intentions that determine how students approach and engage in learning activities” (Murphy & Alexander, 2000, p. 28). For the purposes of this study, goal orientation included specific beliefs about academic success, ability, effort, and purposes, and was measured through a modified version of the Achievement Goal Questionnaire – Revised (Elliot & Murayama, 2008; AGQ-R).

Occupational information. Defined as the degree to which a student needs information, training, opportunities, and individual assistance in finding the job or career they have chosen. This is measured through the Occupational Information Scale (OI; Holland, Daiger, & Power, 1980), a subscale of the My Vocational Situation Scale.

Barriers to occupational goals. This is defined as the students' perceived barriers to attaining their first-choice career or occupational goals. The measurement of this construct is with the Barriers Scale (BS; Holland, Daiger, & Power, 1980), a subscale of the My Vocational Situation Scale. The scale is measured by tallying up the number of "false" responses.

College-going behaviors. Behaviors identified through conceptual analysis that are indicative to the college going process, including speaking to a school counselor about college, visiting campuses of interest, applying for financial aid, completing the college application, researching college options, and various other tasks identified as being significant to this process (Gore, 2006; K. O'Brien, D. Kivlighan, R. Jones, N. Bryan, I. Gonzalez, personal communication, September 15, 2009; Sokatch, 2006; Tierney, 2009).

College-going self-efficacy. Ones' belief in or judgment of his or her capability to organize and successfully complete college going related activities (Gibbons, 2005).

College. Any post-secondary education leading to a degree (i.e., associate's or bachelor's degree) (National Center for Educational Statistics, 2004a).

Self-efficacy. Ones' belief in or judgment of his or her capability to organize and successfully complete a specific task (Bandura, 1997).

Urban. According to the U.S. Census Bureau report (2010), the word "urban" is defined as "a densely developed territory, encompassing residential, commercial, and other non-residential urban land uses within which social and economic interactions occur" (p. 52184).

Vocational Identity. Defined as the degree to which the student has a clear and stable picture of his or her goals, interests, personality, and talents as they relate to the student's ability, confidence, and comfort with decisions of career choice or occupation, despite obstacles and ambiguities (Holland, Daiger, & Power, 1980; Savickas, Carden, Toman, & Jarhoura, 1992). For the purposes of this study, vocational identity included specific beliefs about certainty to perform well, that the job will be financially beneficial, and the degree to which the student is certain it is the career for them, and was measured through the Vocational Identity Scale (VIS; Holland, Daiger, & Power, 1980), a subscale of the My Vocational Situation Scale.

CHAPTER 2

Literature Review

Chapter two presents a review of the literature in four main areas. The first is a discussion of Bandura's self-efficacy theory, with a presentation of an outline of the conceptual framework of this study. Secondly, previous research in the area of academic self-efficacy is examined. Third, college-going self-efficacy is presented as it relates to academic success and research within the field of education. And fourth, an assessment of contributions within the literature in the areas of achievement goal orientation, vocational identity, occupational information, and barriers to occupational goals in the prediction of self-efficacy will be reviewed.

Theory of Self-Efficacy

The conceptual framework of the study was based on the theory of self-efficacy that is defined as ones' beliefs in his or her capabilities to successfully complete a specific task. This concept of self-efficacy as defined by Bandura (1982) is both multidimensional and multifaceted. It is not just simply a matter of knowing what to do but rather involves organizing social, cognitive, and behavioral skill components that must then be integrated into action. Bandura's early research involved working with individuals who were overcoming phobias. Despite having the same target outcome for all the individuals and all eventually meeting target goals, each had varying beliefs in their capabilities to use the techniques outside the therapeutic setting. Applied to an educational context, this suggests that each student may be bringing to school a wide variety of previous experiences, personal and social barriers, and beliefs about their capabilities. Bandura (1986) labeled those individual differences in perceived capabilities

as self-efficacy. Those differences determined in his clients who would be most successful once they left the therapeutic environment, and it was up to them to believe in what they had learned strongly enough to apply it in the real world setting. Bandura believed that measuring these differences would help in developing appropriate interventions, and the measuring would require task-specific scales. Bandura expected that self-efficacy would play a larger role in outcome than motivation, because “the types of outcomes people anticipate depend largely on their judgments of how well they will be able to perform in given situations” (Bandura, 1986, p. 392).

This study addressed student’s self-efficacy. Perceived self-efficacy is concerned with ones’ judgment of how well he or she can execute a course of action required to deal with a prospective situation (Bandura, 1982). According to Bandura, it is important to clearly define self-efficacy and pinpoint the domain in which the efficacious belief applies. For the purposes of this study, this is how well a student can execute a course of action required to deal with college-going behavior.

The consequences of these judgments are of particular interest. According to the theory of self-efficacy, perceptions, either faulty or accurate, determine how people behave, their thought patterns, choice of activity, choice of environment, and emotional reactions in difficult situations. For example, when individuals believe they have no power to produce results, they make little attempt to make things happen (Bandura, 1997). Alternatively, efficacious people may find ways to transcend challenges to reach their goals based on their belief that they can ultimately be successful. Burns and Dietz (2000) studied the role in which social structures play in that efficacy and determined that rules within the systems produced variations in their interpretation, enforcement,

adoption, and active opposition, thus effecting outcomes and further strengthening the case for efficacy being a multifaceted concept.

The concept of multidimensionality in self-efficacy dictates that our beliefs about our capabilities are not global to all tasks and “differ on the basis of the domain of functioning” (Zimmerman, 2000, p. 83). Measuring an individuals’ global academic self-efficacy and obtaining a high or low score on this scale would likely be a weak predictor of his or her mathematical or linguistic ability, despite both falling into the category of academic skill. A measure of efficacy that is tailored to a specific domain is a better predictor of the choices he or she will make based on that domain, how much effort the student will put into it, and his or her achievement. Honing in on the essential skills necessary to achieve the desired outcome is key. In fact, studies have shown that general measures of self-efficacy have little or no relation either to efficacy beliefs related to particular activity domains or to behavior (Earley & Lituchy, 1991; Eden & Zuk, 1995). As the theory suggests, an appropriate measure of self-efficacy takes into account judgment of capabilities for a particular realm of activity under different levels of task demands within that activity, and under different situational circumstances (Bandura, 1997). As Bandura proposes, in order “to achieve explanatory and predictive power” (p.42) a self-efficacy scale must be tailored to domain functioning and represent the process of task demands in that domain. In order to do this, a clear definition of the activity domain is required and there must be an understanding of the components of the activity, the capabilities it requires, and the situations in which the capabilities might be applied (Bandura, 1997).

Social cognitive theory, on which self-efficacy theory is based, postulates that a belief system operates selectively across varying domains and under differing circumstances. Bandura clearly outlines that as a component of measuring self-efficacy, the situational circumstances in the context of the particular task being studied is an essential part of the measurement. In the case of college going self-efficacy, while research has been done in the past exploring this particular domain with middle school and college students, research has not yet focused on students at the high school level in relationship to their college going self-efficacy, especially for those students in an urban school context.

Connections between self-efficacy and academic achievement have been examined extensively in the research. Specifically in the domains of math and reading, the research has suggested that students with higher self-efficacy perform better in each of those domains than students who have lower levels of self-efficacy (Betz & Hackett, 1983; Pajares, 1992, 2003; Pajares & Miller, 1994, 1995). Research in the area of self-efficacy and domain specific tasks has also shown connections with college achievement (Gore, 2006) and successful learning outcomes (Zimmerman, 2000).

Academic Self-Efficacy

According to the theory of self-efficacy, the educational system plays a large role in the development of children's cognitive efficacy (Bandura, 1997). Developing a strong sense of efficacy can foster high levels of motivation, academic accomplishment, and intrinsic interest in academic subjects (Bandura & Schunk, 1981; Schunk, 1984). Educational practices, according to Bandura (1997), should not only be focused on imparting knowledge and skills for present use, but should also aim to cement children's beliefs about their capabilities. It is these beliefs that will affect future academic

outcomes and how the students are equipped to educate themselves on their own initiative. Also, these beliefs in one's abilities, the interpersonal and self-development effects, will endure after the content of the classroom has gone.

Generally, research has shown a positive relationship between higher levels of self-efficacy and increased levels of academic success measured in specific domains (Mattern & Shaw, 2010; Chemers, Hu, & Garcia, 2001). Zajacova, Lynch, and Espenshade (2005) conducted a meta-analysis of studies of self-efficacy in academic environments. The findings of the analysis supported the need for specific domains when measuring self-efficacy. The strongest relationships and effects on academic outcomes were based on specific academic self-efficacy indices, while the more generalized measures of self-efficacy were less closely associated (Multon, Brown, & Lent, 1991).

Recent studies, driven by a need to understand achievement gaps in the college success rate of racial/ethnic groups, have shown that self-efficacy beliefs can, in some circumstances, explain approximately one quarter of the variance in the prediction of academic performance between African American students and their White counterparts (Parajes, 2006). Academic self-efficacy also has been shown to have relationships with increased levels of in-class seatwork and homework, exams and quizzes, and essays and reports (Parajes, 1997). Specifically, in examining the relationship between self-efficacy and achievement in the domains of math and reading, studies have found that students with higher levels of perceived self-efficacy perform better across both of those domains than do students with lower levels of perceived self-efficacy (Parajes, Britner, & Valiante, 2000; Parajes & Miller, 1994, 1995).

Mattern and Shaw (2010) recently conducted a study looking at cognitive predictors of academic self-efficacy and degree aspirations with various academic outcomes such as SAT scores, grades, and second-year college retention rates. The sample was compiled by contacting colleges and universities across the country and requesting first-year performance data for the fall cohort that met the criteria of first time freshmen students. This information was then matched to College Board databases that included self-report questionnaires and other demographic information for these students. The final sample size was 107,453 students from approximately 110 different colleges and universities and was diverse in terms of region and students. Researchers compared students' reported self-belief in writing and math ability, degree goals, High School GPA, help-seeking, first year college GPA, and college retention by gender, race/ethnicity, and language spoken at home.

Results showed that students' self-beliefs are positively related to academic outcomes. Most interesting, in regard to the self-belief in math and writing ability, gender and race variance did seem to make a difference. Students in the reported self-belief level of the highest 10% in math ability were less likely to be female, African American, or Hispanic, as compared to the total group. In writing ability, those who reported having the highest self-belief were less likely to be African American, Asian, and Hispanic (Mattern & Shaw, 2010). In the discussion of the results, Mattern and Shaw (2010) concluded that these results highlighted that “despite the fact that there appears to be a strong link between efficacy measures and academic outcomes, students who may be disadvantaged by traditional measures tend to hold lower self-efficacy beliefs” (p. 675).

College-Going Self-Efficacy

“College readiness,” “college success,” and “college-going culture” have all become key phrases in the media, education literature, and government, as the push for an increase in high school graduation leading to college admissions, enrollment, and degree attainment continues to be on the federal agenda (Boser & Burd, 2009; Losen, Orfield, & Balfanz, 2006; Choy, Horn, Nuñez, & Chen, 2000; National Center for Education Statistics, 2008). As a result, exploration into the state of urban school education and college success has indeed been at the forefront of academic inquiry and has highlighted the need for further research into the possible precipitating or mitigating factors behind the changing trends. The review of the literature in the domain specific area of college-going self-efficacy revealed specific inclinations. For instance, the majority of the research on self-efficacy, specifically related to college-going success, was conducted with college students and explored factors related to staying in college.

Gibbons and Borders (2010) recently created a measure of college-going self-efficacy specifically for middle school students. Citing the need to understand the factors leading to the gap in college aspiration and college enrollment that occurs between early adolescents and high school graduation, the authors of the measure sought to create a valid and reliable measure of self-efficacy beliefs related to college going. The basis for the measure was grounded in self-efficacy theory and focused on the domain specific behavior of college going and related to career development (Pajares & Miller, 1995). Through a review of the literature, Gibbons and Borders (2010) found several elements related to self-efficacy beliefs that showed possible predictive factors for college going. For example, a positive link for a sample of middle and high school students from low-income and low-education households was found between positive social self-efficacy

and more positive beliefs about future education and heightened future orientation (Kerpelman & Mosher, 2004). In terms of career decision-making, Gushue (2006) found relationships between higher levels of ethnic group identity and higher career decision-making self-efficacy in ninth graders from low-income households.

After reviewing the applicability of self-efficacy scales already developed, such as the College Self-Efficacy Instrument (Solberg, O'Brien, Villareal, Kennel, & Davis, 1993), the Middle School Career Decision-Making Scale (Fouad & Smith, 1996), the Educational Degree Behaviors Self-Efficacy Scale (Gloria, Robinson-Kurpius, Hamilton, & Wilson, 1999), and the Academic Milestones Scale (Nauta, Epperson, & Kahn, 1998), Gibbons and Borders (2010) decided that these scales were not designed to measure the domain specific self-efficacy of interest nor were they designed for the population of middle school students, so it was necessary to create a new scale.

According to Gibbons and Borders (2010), part one of the study was to create the constructs that consisted of 15 items related to college attendance and 16 items related to college persistence. The wording of each item followed Bandura's (1997) guidelines for scale construction of self-efficacy. College attendance items included topics on financial issues, family related issues, academic ability, and decision-making skills. College persistence items reflected financial questions, family items, and life skills. Overall items for both categories were also included. Initial reliability, readability, and clarity of items were tested with a sample of 22 sixth and eighth graders who were involved in Boy Scouts and Girls Scouts. All planned to graduate from high school and 91% indicated they planned to enter a 2- or 4-year college. Scores for the attendance subscale had a possible range of 15 to 60; the mean was 45.77 and had a standard deviation of 5.81. The

persistence subscale had a possible score range of 16–64, the mean score was the 50.82, and the standard deviation of was 7.66. Overall, the mean scores of the respondents were fairly high in college-going self-efficacy belief, and respondents also indicated clarity of questions and directions and adequate readability. It took participants approximately 5 minutes to complete the 31 questions. Gibbons and Borders reported good internal consistency. One item on the attendance scale was dropped based on the Cronbach's alpha and because it poorly correlated with other items.

Part 2 of the study tested the revised version of the measure, with the 30 remaining items, on a larger sample of just seventh grade students (Gibbons & Borders, 2010), and based on the suggestion of Gibbons (2005) previous research, the goal of getting prospective first-generation college students was included in sample procedures. Including prospective first-generation college students would increase the likelihood of including ethnic minorities and students who come from low-income households (Horn & Nunez, 2000). The total sample size was 272 seventh grade students at four traditional middle schools located in urban, suburban, and suburban-rural areas. The average age was 12.65, 93 self-reported as White, 83 as African American, and 65 as Hispanic. Of the total, 58 of the Hispanic students, 24 of the African American students, and only 15 of the White students reported as prospective first-generation college students.

An exploratory factor analysis was conducted to assess construct validity. A two-factor solution appeared to be a good fit to explain college-going self-efficacy as it accounted for 42.2% of variance, with attendance representing 21.3% and persistence representing 20.9% of variance. The mean scores for first-generation students and non-first generation students were compared. A significant difference in total mean scores

was found between the two groups, showing that first-generation students had lower college-going self-efficacy beliefs. Test-retest reliability was conducted for the college-going self-efficacy measure in part 3 of the study and results showed a high level of consistency over time.

Gibbons and Borders' (2010) study emphasizes the need for domain specific measures of self-efficacy for the intended population. While this study did shed light on the differences between prospective first-generation college students and non-first generation students and their college-going self-efficacy scores, more research is needed to look into the factors that relate to these differences.

Recently, in an effort to gain insight into the factors leading to college student dropout, Davidson, Beck, and Milligan (2009) developed a 53-item questionnaire, the College Persistence Questionnaire (CPQ), aimed at assessing "the diverse array of variables that have been associated with retention" (p. 374) issues at the college level. The authors hoped to identify students at risk of dropping out, discover why they may be likely to discontinue their education, and specify the variables that distinguish those undergraduates who will persist from those who will not. Two studies were conducted in the construction process of the CPQ. The first study created a pool of items based on data collected at four colleges. A factor analysis of responses was conducted to identify a cluster of items. Academic performance, institutional and degree commitments, academic and social integration, support services satisfaction, finances, social support, and personality and psychological adjustment were the seven themes that emerged. Davidson, Beck and Milligan (2009) then carefully reviewed each theme against previous retention research, existing literature, and statistical analysis of whether one theme cross loaded on

another, to determine if each theme warranted inclusion in the final questionnaire. The final six factors included: academic integration, social integration, support services satisfaction, degree commitment, institutional commitment, and academic conscientiousness. This final factor was formed from three items that dealt specifically with the students' persistence in completing course work.

The second study Davidson, Beck, and Milligan (2009) conducted was to test the instrument's ability to actually predict whether freshmen students would return to college for their second year. The researchers stated that for institutions to adopt this questionnaire as a tool for identifying at-risk students, both the predictive validity and incremental predictive validity are of central importance. Participants included 283 students enrolled at Angelo State University during the fall semester of 2004. Seventy percent identified as White, 18% Hispanic, and 12% African American. Students were asked to respond to the CPQ between their 7th and 11th weeks of their first semester through an online administration. They also granted the researchers permission to obtain standardized test scores and high school ranks. Researchers were also given permission to access information on each student to determine if they enrolled in school the following fall semester.

Two hundred and fifty nine students completed the questionnaire. Two scores were identified as outliers with individual items revealing an improbable sequence of answers so they were removed from the data set, leaving 257 respondents in the final data set. Of the 257 freshmen, 146 (57%) returned for their sophomore year and 43% did not return. Retention was the outcome variable and scores on the six CPQ factors were the predictors. Results showed that CPQ factors reliably distinguished between freshman that

did not return and those that did. Using direct logistic regression, 66% of students were successfully classified using .43 as the cutoff point. In testing the incremental predictive validity of CPQ, the researchers used sequential logistic regression. High school rank and standardized test scores were entered as a block into the equation. Fifty-nine percent of students were correctly classified on these bases. Block 2 included the six CPQ factors. The overall correct classification rate improved to 68% with institutional commitment being the single most reliable predictor of retention. Results showed that social integration, support services satisfaction, and degree commitment did not improve prediction. However, in the discussion, Davidson, Beck, and Milligan (2009) noted that there was substantial evidence that these variables are associated with persistence at other institutions. This strengthens the argument that there is no “one tool fixes all” approach, and the need for questionnaires and instruments that can be used by institutions to tailor their interventions for the students’ need is very important. The issues of retention and persistence may vary from school to school therefore measuring devices to help identify at-risk students are valuable strategies to design preventive measures.

Although the research conducted by Davidson, Beck, and Milligan (2009) focused on retention for those students already attending college, the significance this current study contributes to college-going research for urban high school students is the research’s attention on predicting factors related to at-risk students and finding the means of identifying these students so that schools can intervene. Finding the factors that will be significant in predicting the outcome of college-going behaviors of high school students should be based on a review of the literature and the theoretical framework for which the study is based, in this case the theory of self-efficacy. According to the review of the

literature in the area of self-efficacy and Bandura's theory, four factors of interest were chosen for this present study: achievement goal orientation, vocational identity, occupational information, and perceived barriers to occupational goals. The following is a presentation of quantitative research in each area that will help clarify the potential predictive significance of each theorized factor and justify its inclusion in the study.

Achievement goal orientation

Goal orientation is another important aspect in the study of self-efficacy within the academic realm. Achievement goal orientation is described as one of the integrated patterns of beliefs that help students engage in and respond to learning (Elliot & McGregor, 2001). According to the literature, goals help students develop sustained involvement in a particular activity and also relate to self-efficacy given that students with higher levels of self-efficacy tend to spend more time and effort working toward fulfilling identified goals and persist longer in the face of difficulties (Bandura, 1997; Pajares, 2003). For the purposes of this study, the construct of goal orientation can be defined as "a set of behavioral intentions that determine how students approach and engage in learning activities" (Murphy & Alexander, 2000, p. 28). In reviewing the literature, goal orientation emerged as a clear factor of interest as study after study revealed relationships between goal orientation and motivation as it relates to academic, athletic, and career related success in students, athletes, and employees (Duda, 2005; Elliot, 2005; Meece, Anderman, & Anderman, 2006; Payne, Youngcourt, & Beaubien, 2007; Ryan, Ryan, Arbuthnot, & Samuels, 2007).

Over the past decade, research in the area of goal orientation helped to clearly define the constructs related to academic application and achievement. Understanding these distinctions has helped researchers conduct studies to investigate relationships

between these two constructs. Specifically, mastery of goals “represent a person’s concern with mastering material and concepts, challenge-seeking, and viewing learning as an end in itself” (Parajes, 2006, p. 360). Students’ motives for completing their academic tasks are generally in developing and improving abilities. Performance goals, in contrast, represent a student’s “concern with doing better than others, appearing smart, or avoiding appearing incompetent” (Parajes, 2006, p. 360). Demonstrating abilities to others motivates these students. Elliot and McGregor refined mastery and performance type even more by describing those who endorsed an approach or avoidance style. Those with a performance-approach goal orientation are concerned with appearing competent, while those who support a performance-avoidance goal orientation are concerned more with evading appearing incompetent. This distinction in style can also be applied to mastery goal orientations (Elliot 1999; Elliot and McGregor 2001; Pintrich, 2000).

The research has been consistent in concluding that patterns exist within the data for both types of goal orientations, however, it is inconsistent on their positive or negative impact on student learning. Mastery goals are most often associated with positive patterns of learning, achievement, and self-efficacy (Anderman & Young, 1994; Middleton & Midgley, 1997; Parajes et al., 2000), while less adaptive outcomes are associated with performance goals (Pintrich & Schunk, 1996). However, in research utilizing the more common self-report questionnaire to measure achievement goal, known as the Achievement Goal Questionnaire (AGQ, Elliot & McGregor, 2001), and the Achievement Goal Questionnaire-Revised (Elliot & Murayama, 2008), the debate continues as performance-approach goals were found to have positive impacts on students’ learning, especially on those outcomes closely related to achievement, such as

academic self-efficacy, cognitive engagement, and course grade (Barron & Harackiewicz, 2001, 2003). The following are two studies with varying relationships between goal orientation that highlights the need for further study as it relates to college-going self-efficacy and academic outcomes.

Hsieh, Sullivan, and Guerra (2007) conducted a study that examined two areas of interest. The first was to investigate possible interactions between college students' self-efficacy and goal orientation. The second was to explore students' abilities to adopt academic goals and levels of college achievement based on varying levels of self-efficacy and academic standings. The sample for this study consisted of 112 undergraduate students from a large metropolitan institution in the Southwest. In order to get a varying degree of academic success within the sample, they recruited students both on academic probation and in good academic standing, and ultimately had 60 and 52 students respectively represented in the sample. The Achievement Goal Orientation Inventory (Elliot & Church, 1997) was used to measure goal orientation and six items adopted from the Patterns of Adaptive Learning Survey (PALS: Midgley, Maehr, & Urdan, 1993) were used to measure perceived academic efficacy.

Results of the first area of focus, the interactions between self-efficacy and goal orientation, showed that GPA was positively correlated with both self-efficacy and mastery goal orientation, but negatively related to performance-avoidance goal orientation. Furthermore, there was no significant relationship between GPA and performance-approach goals. Finally, findings comparing performance-approach and performance-avoidance goals were consistent with previous research (Church, Elliot, & Gable, 2001) that indicated a strong positive correlation. As part of the exploration of

these interactions, a hierarchical regression analysis was conducted looking at how well self-efficacy and different goal orientations could predict a student's GPA. Results showed that self-efficacy alone was a good predictor of GPA and when goal orientations (mastery goals, performance-avoidance, and performance-approach) were added to the model, significant predictive patterns emerged. The lower levels of performance-avoidance goals and the higher identified adopted mastery orientation, the higher the GPA. Performance-approach orientation was not a significant predictor of GPA.

The second study of interest, conducted by Lau and Lee (2008), looked specifically at the achievement goal orientation questionnaire and its application to other ethnic and cultural groups. Although their sample and population focused on Chinese students in Hong Kong, the evidence and the structure of their study may lend itself to applicability in African American culture, especially in the urban school context. As stated in the article, Chinese learners may see learning differently than Western learners who are intrinsically motivated. Rather they may be motivated by a variety of more pragmatic stimuli such as personal ambition, family face, peer support, material reward, and personal interest. Lau and Lee (2008) postulate that it is possible that performance goals play a more positive role in learning if cultural differences are taken into account.

The results of their study found that the Hong Kong students' goal orientation had different relationships to their motivation. Mastery goals were found to be positively related to students' perceived mastery-oriented classroom environment and self-efficacy. This was consistent with findings that suggested mastery goals as being adaptive to student learning. Unlike previous findings however, performance-approach goals were found to be positively related to students' perceived classroom environment and self-

efficacy. In fact, when all variables were examined in SEM (structural equation modeling), performance-approach goals showed a stronger positive relationship to self-efficacy than the mastery goals did to self-efficacy. The performance-avoidance goals were found to have a strong negative relationship with students' self-efficacy.

The results of this research make a strong argument for including achievement goal orientation as a construct for the present study. It is of great interest, especially when the relationship between goal orientation and self-efficacy, specifically college-going self-efficacy at the high school level, has yet to be explored. The results of Lau and Lee's (2008) research also offered new evidence for further exploration into the cultural implications and unique learning challenges African American students may face, which will have implications when applied to college going. Based on this review of the literature, this present study hypothesized similar strong positive relationships between achievement goal orientation and college-going self-efficacy, thus offering support for further investigation of the predictability of career related factors over and above what achievement goal orientation already contributes to that prediction.

Vocational Identity

Vocational identity and decidedness about future career has been recognized as an important aspect of academic success for almost a century, beginning with Frank Parsons' career development theories of occupational choice (Holland, 1985; Peterson, Sampson, & Reardon, 1991; Rounds & Tracey, 1990; Williamson & Biggs, 1979). Most recently, connections are being drawn to self-efficacy as it relates to career choice and vocational decidedness (Bandura, Barbaranelli, Caprara, & Pastorelli, 2001; Brown, 2002). Recent studies have shown an interest in the possible connections between career decision-making and self-efficacy as it relates to student outcomes in high school.

A report written by the Commission on Reorganization of Secondary Education in 1918, and influenced by the work of Parsons', stated that "Vocational Guidance, properly conceived, organizes school work so that the pupil may be helped to discover his own capacities, aptitudes and interests, may himself learn about character and conditions of occupational life and may himself arrive at an intelligent vocational decision" (National Education Association of the United States, 1918, p. 10). The belief was that students need options. If they could learn different ways to pursue their interests, that in turn can lead to a learned value in education. Students would see education's value in helping them reach their goals and thus dropout would decrease (Iannucilli, 1989). Nearly a century later, dropout prevention, combined with college preparation, enrollment, and retention, continues to see vocational decision as a key element to academic success. Under the umbrella of vocational decision, career decision-making and the possible relationships of various factors for high school students are of particular interest within educational research.

Lent, Brown, and Hackett (2000), in support of their Social Cognitive Career Theory (SCCT), found empirical evidence that presents relationships between individuals' faulty self-efficacy beliefs, their exposure to vocational options, and outcome expectations (Brown & Lent, 1996). Derived from Bandura's social cognitive theory, SCCT is based on several key constructs that include, (a) individuals are attracted to activities and careers that they are familiar with and feel they will be competent and successful at, (b) attitudes and values are tied to self-efficacy and outcome expectations, (c) gender and race/ethnicity shape experiences which influence self-efficacy, (d) and individuals make career goals, take action, and reevaluate future goals based on those

outcomes (Brown & Lent, 1996). Lent and Hackett (1987) also argued that career interventions could be designed specifically to increase self-efficacy.

In relation to urban African American high school students, Speight, Rosenthal, Jones, and Gastenveld (1995) found that women and minorities have fewer opportunities to develop career specific self-efficacy. Furthermore, beliefs in one's ability and competence to pursue specific career options, in their study those career options focused in the medical field, and initial stages of commitment had to be made early on in life. The importance of this being that for those in the urban school setting, these stages in life often coincided with many personality and confidence crises, as seen in the statistics of studies on living in urban environments. Further investigation is needed to explore the relationships between how these students feel about their realities—which may include fewer opportunities to develop self-efficacy for careers that require long-term education, are more financially rewarding, and are of higher social status—and how they can help us predict future success in attaining college and career success.

Studies like the one conducted by Gushue and Whitson (2006) explore the possible relationship between gender roles, ethnic identity, and the two dimensions identified by social-cognitive career theory (SCCT); career decision-making self-efficacy (CDSE) and career outcome expectations. The Gushue and Whitson study posited two hypotheses based in social learning theory and social-cognitive career theory with a sample of 102 ninth grade Black (51.9%), Latina (46.2%), and biracial (1.9%) students in a large urban area. First, it is expected that higher levels of the students' ethnic identity and egalitarian gender roles would predict higher career decision-making self-efficacy and that higher levels of career decision-making self-efficacy would be negatively

correlated with gender-traditional career goals. Second, that career decision-making self-efficacy and gender role attitudes would be related positively to outcome expectations and mediate the relationship between ethnic identity and career outcome expectations. The measures used in the research were the Multigroup Ethnic Identity Measure (MEIM; Phinney, 1992), Attitudes Toward Women Scale (ATWS: Spence & Helmreich, 1972), the Career Decision-Making Self-Efficacy Scale-Short Form (CDMSES-SF; Betz, Klein, & Taylor, 1996), Career choice goal traditionality (O'Brien, Friedman, Tipton, & Linn, 2000), and a demographic questionnaire.

According to Gushue and Whitson (2006), a path analysis was conducted to test for the potential relationships among gender role attitude, ethnic identity, CDSE, and gender traditionality of career goals. The first model tested was a direct path from both ethnic identity and gender role attitude to self-efficacy, and a path from self-efficacy to gender traditionality of career goals. It was found to be a good fit for the data. Both ethnic identity and egalitarian gender role attitudes were significant predictors of CDSE. Moreover, self-efficacy was shown to negatively predict gender traditionality of career goals.

A second model tested the possibility that gender role attitude and ethnic identity were only partially mediated by self-efficacy. This model was found to be a better fit for the data if ethnic identity and gender role attitudes were both directly and indirectly related to gender traditionality. Results of the study suggest that for this sample, a girl of color who successfully integrates “race, ethnicity, and egalitarian gender role attitudes as a part of her self-understanding...may also demonstrate a stronger belief in her ability to negotiate the tasks associated with career decision making” (Gushue & Whitson, 2006, p.

383). For example, girls of color may be more successful in accurately appraising their skills and abilities in a specific academic task, gathering information necessary for success, selecting appropriate goals, planning for the future, and problem solving (Betz & Taylor, 2001). Gushue and Whitson's results draw important implications for the present. Their study shows that, at least for female students of color, their self-efficacy associated with career decision-making predicted an increased confidence in their ability to pursue nontraditional careers, which may include those of higher status and income (Miller, Neathey, Pollard, & Hill, 2004). It is reasonable to then continue the exploration and to ask if those nontraditional careers possibly include careers requiring college and if their self-efficacy for college related tasks also increase with career related factors.

Gushue and Whitson's (2006) results show how ethnicity and gender play a significant role in the career development of students of color in the sample. Gushue and Whitson (2006) conclude by exploring the limitations of the study and warn the reader "the current study does not address the impact of real world barriers, such as sexism and racism, in the career development of girls of color" (p.384). Although the present study did not explore gender specifically, Gushue and Whitson's findings draw connections between domain specific self-efficacy and its impact on career decision-making and identity. The authors also suggest that future research should include a large enough sample size so that the group could be investigated separately. The present study attempted to do so by focusing specifically on African American urban high school students.

Occupational Information

Occupational information or identifying career options, is also considered a key component of career development theories, including Parson's trait and factor theory, Holland's vocational typology theory, and Super's theory of career development. Within the context of the theory of self-efficacy, a review of the literature reveals consistent reference to social cognitive career theory (Lent, Brown & Hackett, 2000) and its application of Bandura's general social cognitive theory within the scope of career development. The theory postulates that the career choice-related processes that individuals participate in ultimately affect their path through life and are an example of self-efficacy beliefs. The higher the level of perceived self-efficacy, the wider the range of career options they ultimately have to choose from and consider. Higher levels of self-efficacy are also associated with higher interest levels and increased effort put into preparing themselves for that occupation, leading to greater success. Brown (2002) added to this point by including future planning of occupations and goals into the concept, stating that having a plan may lead to more successful outcomes. However, his findings also suggested that both African American and Asian American students may be at a disadvantage when it comes to accessing occupational information and could be classified as having more of a circular or present-oriented time perspective (Brown, 2002). In studies that included race and ethnic identity as a factor in the prediction of career self-efficacy and occupational information, similar results were found.

Grier-Reed and Ganuza's (2011) research explored the effectiveness of career course intervention on improving career decision self-efficacy for Asian American and African American college students. The career course used as the intervention was based

on constructivist theory, and the four tools of narrative, action, construction, and interpretation were used as the framework for the curriculum. The activities within the curriculum were chosen based on what the literature pointed to as being especially relevant based on the susceptibility of each racial ethnic group. According to Grier-Reed and Ganuza's (2011) research, perceiving a limited range of available career options was found to be a characteristic of both groups (Fouad, Kantamneni, Smothers, Chen, Fitzpatrick, & Terry, 2008).

According to Grier-Reed and Ganuza (2011), participants included 81 students enrolled in a 15 week constructivist career course at an urban research university. Forty-four percent were African American and 56% were Asian American. The Career Decision Self-Efficacy Scale-Short Form (CDSE-SF; Betz & Taylor, 2001) was used to assess intervention effectiveness. The CDSE-SF consists of five subscales, including Self-Appraisal, Occupational Information, Goal Selection, Planning, and Problem Solving. The research hypothesis was that enrollment in the constructivist career course would result in significant changes in students' career decision self-efficacy. There was only one level of independent variable, taking or not taking the constructivist career course. The dependent variable, career decision self-efficacy, however, had five components operationalized by the five CDSE-SF subscales (Grier-Reed & Ganuza, 2011).

The results of the study suggest that the intervention—the constructivist career course—did increase the career decision self-efficacy of both groups (i.e., Asian American and African American college students). Statistically significant increases were found in all five variables; self-appraisal, occupational information, goal selection,

planning, and problem solving. In reviewing the proportion of variance for each variable, changes in students' self-efficacy regarding their ability to obtain occupational information and their ability to engage in self-appraisal accounted for an equal proportion of the variance, while goal selection and planning accounted for the greatest proportion and problem solving accounted for the smallest proportion. Grier-Reed and Ganuza (2011) suggest in their implications and conclusions that the results show a need to address the career related process disadvantages faced by African American and Asian American students, which include increasing exposure to career options and access to occupational information. Pointing to social learning theory (Bandura, 1982), increasing exposure, modeling, and vicarious learning are essential blocks to building self-efficacy.

Students may be basing future career decisions on inaccurate occupational information—what researchers label *career myths* or incorrect beliefs and attitudes about the career process (Dorn & Welch, 1985; Lewis & Gilhousen, 1981; Petitpas, 1978; Rosenberg, 1977; Thompson, 1976). Their research shows that high school students especially have an inclination to believe these myths and are therefore led to premature foreclosure of career choice or limited options. Couple this with the findings that show students of color may not have the same access to occupational information as others and thus, this present study was especially interested in the role occupational information plays in college-going self-efficacy.

Barriers to Occupational Goals

According to Lent, Brown, and Hackett (1987), perception of barriers to career significantly influences career choice and ultimately impacts self-efficacy. If an individual perceives few barriers, the likelihood of success reinforces the career choice,

but if the barriers are viewed as significant there is weaker interest and choice actions (Savickas & Lent, 1994). Holland, Daiger, and Power (1980) included perceived lack of barriers as one of the components necessary for evaluating vocational identity and it is thus included as one of the subscales for the My Vocational Situation Scale. According to Holland, Daiger, and Power, scores on the scale would help counselors decide upon the level and type of need by the client. Clients with a clear sense of vocational identity would lead “to relatively untroubled decision-making and confidence in one’s ability to make good decisions in the face of inevitable environmental ambiguities” (Holland, Daiger, & Power, 1980, p. 1). However, uneven or low scores on one of the three scales would help point to where the precise areas of need lie, specifically in the area of barriers, possibly leading to more focused and/or systemic interventions.

Studies that have included barriers as a construct within the investigation have found that there are possible contributing factors between self-efficacy and perceived barriers among high school students within education.

Ladany, Melincoff, Constantine, and Love (1997) conducted a study with a sample of urban at-risk high school student who were predominantly African American. The focus of the study was to investigate the students’ commitment to career choices based on the same three career related factors as those used in the present study (vocational identity, need for occupational information, and perceived barriers to occupational goals). In a sample of 189 students, 54% were female, 45% male. The mean age of the sample was 16.04 years of age. Forty-four percent identified as African American, 36% as White, 9% as Asian American, 4% as Latino/a, and 9% did not specify their race/ethnicity. The researchers used the Commitment to Career Choice Scale

(CCCS; Blustein, Ellis, & Devenis, 1989), the MVS, the Survey of Career Attitudes (SCA; Woodrick, 1979) and the Vocational Preference Inventory (VPU; Holland, 1985) to measure their constructs of interest as well as a demographic questionnaire. Using a series of multivariate and univariate multiple regression analyses to examine the relationship between the predictor and criterion variables, Ladany and his colleagues (1997) found support for their hypotheses which predicted relationships between variables. In relation to barriers, they found that greater perceived career barriers were related to lower vocational exploration and commitment to career choices. At-risk urban high school students who had fewer intentions to pursue college were less likely to exhibit commitment to career choices and more likely to perceive career barriers.

Other studies conducted by McWhirter (1997) and McWhirter, Torres, Salgado, & Valdez (2007) also showed important implications for students of color in the areas of career development, career and academic success, and the impact of perceived barriers on those factors. Although both of these studies focus mainly on students of Mexican American heritage, and this study focused only on African American students, similarities can be drawn from both groups as discrimination and life barriers may be experienced by students of color across the country in urban areas and offer insight into the factors of interest.

McWhirter (1997) and McWhirter et al., (2007) conducted two studies of interest that are applicable and relevant to the construct as it relates to self-efficacy. The first study conducted in 1997, focused on 1,139 Mexican American and Euro-American high school juniors and seniors. The results of the study specific to career barriers showed significant differences for females, who perceived gender discrimination as a greater

barrier to career success than ethnic discrimination. For college success, more themes emerged. Both genders believed they could overcome barriers, however, among ethnic differences Mexican American participants were more likely to anticipate both gender and ethnic discrimination in their future jobs than their White counterparts. When asked about probable barriers to college, Mexican American participants were more likely than White participants to cite family problems, family attitude, not smart enough, not getting in, or not fitting in, as barriers. McWhirter (1997) suggested that the theme of these responses focused on family issues and lack of confidence in academic abilities. In the implications for future research, McWhirter (1997) also suggests that the influence of perceived barriers could be mediated by self-efficacy expectation.

In the second study conducted by McWhirter, Torres, Salgado, and Valdez (2007), researchers again explored the perceived barriers to college and career success between Mexican American and White high school students, however for this study, researchers differentiated between internal and external contextual barriers. Specifically, the study assessed “the likelihood of encountering specific barriers and the estimated difficulty of overcoming those barriers” (McWhirter et al., 2007, p. 122). The sample included 140 Mexican American and 296 White juniors and seniors from one Midwest and one Southwest high school. In terms of educational plans and parental education, results found no differences in anticipated barriers or difficulty overcoming barriers to postsecondary education as a function of these two areas for the high school students sampled. There were also no differences between gender or ethnic group membership in those results. Researchers suggest that a possible explanation is that students may not be considering this barrier at this point in the planning process. These results were

surprising, given research showing that parental attainment is a strong predictor of education attainment (NCES, 2001).

Summary of the Literature

As suggested by the review of the literature in this chapter, there is a lack of research in the area of college-going self-efficacy among urban high school youth. Although studies have successfully described the college progression or lack of progression in this population once they have left high school, the literature and theory of self-efficacy supports the suggestion that a belief in one's ability, perceived barriers, outcome expectations, career development, and goal orientation may have both negative and positive effects on eventual college attainment. It seems imperative, given our national statistics and proposed legislation, that this research be explored so that school counselors can develop interventions and programs to appropriately foster beneficial college-going behaviors and beliefs. This present study contributes significantly to the study of self-efficacy, specifically as it relates to identifying factors most highly related to college-going self-efficacy and those that help school counselors better predict students who are more likely to need focused interventions based on goal orientation, vocational identity, need for occupational information, and perceived barriers to occupational information.

In chapter three, the methodology used in this study is explained, including research questions and corresponding hypotheses, participants, instrumentation, procedures, and data analyses results.

CHAPTER 3

Methodology

This study investigated the relationship between students' sense of college-going self-efficacy and four constructs. These relationships were investigated using a correlational design. Specifically, the following research questions were explored:

1. Is there a relationship between students' perceived achievement goal orientation and their college-going self-efficacy?
2. Is there a relationship between students' perceived degree of vocational identity and their college-going self-efficacy?
3. Is there a relationship between students' perceived need for occupational information and college-going self-efficacy?
4. Is there a relationship between students' perceived barriers to occupational goals and college-going self-efficacy?
5. When considering the impact of achievement goal orientations (mastery-approach, performance-approach, performance-avoidance) and career related factors (vocational identity, need for occupational information, and perceived barriers to occupational goals), to what degree will each contribute unique and shared variance in the prediction of college-going self-efficacy?

Hypotheses

The five hypotheses are:

1. All three subscales of achievement goals orientation (mastery-approach, performance-approach; and performance-avoidance) will have a positive

relationship with the four subscales of the college-going self-efficacy scale.

2. Perceived vocational identity will have a positive relationship with the four subscales of the college-going self-efficacy scale.
3. Perceived need for occupational information will have a positive relationship with the four subscales of the college-going self-efficacy scale.
4. Perceived barriers to occupational goals will have a negative relationship with the four subscales of the college-going self-efficacy scale.
5. All three subscales of achievement goal orientation would account for a significant amount of variance in each of the four subscales of the self-reported college-going self-efficacy scale. Moreover, respondents' career related factors (vocational identity, need for occupational information, and perceived barriers to occupational goals) would account for a significant amount of variance in each of the four subscales of the self-reported college-going self-efficacy over and above that accounted for by achievement goal orientation. Overall, all factors will contribute unique and shared variance in the prediction of college-going self-efficacy.

Participants and Setting

The pool of participants for this study were students from a public charter school located in a city in the Eastern United States. The following is a breakdown of neighborhood statistics in the neighborhood where the school is located. Due to the nature of charter schools, students may be traveling from other neighborhoods to attend. Although

this information is available to the school it was unavailable to the research team and therefore it is unknown how many of the students reside specifically within this school's neighborhood. However, it is reported as a neighborhood profile to understand the context of the school's physical location, which consists of 96% African American, 1.4% White, 2.3% Latino, and 0.2% Asian. Furthermore, according to city statistics for 2005–2009, there was a reported poverty rate of 26%, an unemployment rate of 19%, and 20% of the population was over the age of 18 without a high school diploma. Compared to national statistics, percentages for neighborhoods in this city are slightly over the national average for African Americans below poverty at 25.8%, over the national average for African American's who are unemployed at 16.0%, and over the national average for African American's without a high school diploma at 15.8%. Neighborhood statistics show that 77% of families were female-headed households with children, and 40% of children lived in poverty. According to the U.S. Census Bureau in 2008, nationally, Black women were most likely to be single heads of households with family members present with a percentage of 28.1%. Nationally there are 35.3% of children living in poverty compared to the ward's 40%. Still this number is less than half that amount of those families living in the sample ward. And for 2010, the ward's reported violent crime rate was 18% and property crime rate was 42%.

The participating school was one of four public charter schools which stipulate that, as part of their high school graduation requirement, students must take a college entrance exam, apply, and get accepted into a college. The student demographics of the school were 99.6 % African American, .2% Hispanic/Latino and .2% other. Of the 1,060 enrolled students, 65.6% came from low-income families and 9% were in special

education. The school was classified as a Tier 2 school within the district, meaning that it fell short of high performance standards, but met minimum overall performance standards. In 2010, the school agreed to participate in this study as a part of its efforts to increase the rate of students accepted into selective colleges and universities. All students in the ninth and eleventh grades were invited to participate in the study. According to enrollment records, there were 313 students enrolled in the ninth grade at the time of administration of the instrument and 303 students enrolled in the eleventh grade. Thus, 616 students had the opportunity to participate in this study.

Procedures

Once Institutional Review Board (IRB) permission was obtained for the instrument development and from the school charter board, the school administration, and parents, four days were chosen for instrument administration. Procedures for parental consent notification and student assent were outlined and cleared with school administration and agreed upon with the research team. All parents were notified of the study through a letter sent home with students (Appendix B). Attached to the cover letter was the informed consent form that contained the IRB stamp and contact information of the research team (see Appendix A). All students whose parents' gave permission were invited to participate in the study by a teacher or researcher. Each survey Scantron was stamped with a three-digit code. This same three-digit code was also stamped on each student's assent form. No personal identifying information was asked for on the instrument. In some cases, if a three-digit code was not stamped on a survey, students were asked to use their five to six digit student ID. The three-digit code or student ID was used as the identifier and could later be matched to the assent forms for the purposes of matching to achievement data gathered from the school on a later date for further

research. However, the assent forms and instrument were kept separately in a locked facility to protect the identity of the students.

On the day of the survey administration, packets were delivered to each advisory teacher's classroom that contained all the necessary material for survey administration. This material included pencils, survey booklet, Scantron answer sheets, assent forms, instruction sheet, and teacher scripts. The teacher or researcher administering the instrument read the script (Appendix B) to the students during their ninth and eleventh grade advisory periods. Students were then given the opportunity to read and sign the assent form prior to completing the instrument. Instruments were administered in two waves. The first wave consisted of mainly ninth graders and the second wave, the remaining ninth graders and the eleventh graders.

Survey completion took between 20 and 40 minutes. Upon completion of the survey, students were entered into a drawing for one of three \$100 gift certificates. In addition to survey data, student's academic GPA, PSAT, SAT, and college information were requested on the parental consent and student assent forms so data could be collected on a future date. That information would be gathered by accessing the school's online data system.

Instrumentation

All participants were asked to complete the study instrument, which contained the five measures broken up into seven sections in the following order: The College-Going Self-Efficacy Scale (Appendix C, Section 1), the My Vocational Situation Scale (Appendix C, Section 2-4), the Achievement Goal Questionnaire-Revised (Appendix C, Section 5), the Satisfaction with Life Scale (Appendix C, Section 6; Diener, Emmons, Larsen & Griffin, 1985), and a Demographic Questionnaire (Appendix C, Section 7).

Although the Satisfaction with Life Scale (Diener, Emmons, Larsen & Griffin, 1985) was administered in the original survey, it was not included in the analysis for this study. The College-Going Self-Efficacy Scale in its initial construct form is 60 items. It was decided to put the College-Going Self-Efficacy Scale items first, followed by the three subscales that form the My Vocational Situation Scale (the Vocational Identity Scale, the Occupational Information Scale, and the Barriers Scale). The order of the next two sections was chosen at random and the final items in the 112-item survey packet were the demographic questions.

The data used for this study were collected as part of an initial pilot study for instrument construction of the College-Going Self-Efficacy Scale. During the Institutional Review Board process, permission was obtained to collect data for both the initial instrument construction study and the present study.

College Going Self-Efficacy Scale (CGSES). Researchers (O'Brien, Kivlighan, Jones, & McKechnie, 2012) created this instrument to assess a student's ability to complete the tasks necessary to gain admission to college. A review of the literature revealed that there hadn't previously been an outcome measure designed specifically for use with high school students or specifically in the urban school context.

Participants responded to 60 items on a Likert scale from "Not at all confident" (0) to "Moderately confident" (5) to "Extremely confident" (9). During initial development of the 60 items, researchers hypothesized seven factors as subscales on the measure, which included the following: Knowledge about oneself, Knowledge about colleges, Exploration about college, College application tasks, Financial aid/scholarship monies, Support from adults (teachers, counselors, parents), and Potential barriers to

completing the college application process. Although still in the final process of instrument construction, preliminary exploratory factor analysis of the instrument revealed four factors within the initial College-Going Self-Efficacy Scale that were used for the final multiple regression analysis (O'Brien, Kivlighan, Jones & McKechnie, 2012). Those four factors are: Pre-Application (deciding whether college is right for me), Application (application-tasks), Support (taking supportive action, creating supports), and Choice (making final college decisions). For this present study, the reliability analysis revealed high reliability for each of the four factors contained in the scale. Table 1 shows the 28 item College-Going Self-Efficacy Scale items after the preliminary exploratory factor analysis was completed and the research team decided on four factors (O'Brien, Kivlighan, Jones, & McKechnie, 2012). These four factors were used in further analysis of the College-Going Self-Efficacy Scale.

Table 1

Items for the College Going Self-Efficacy Scale (CGSE) by Identified Preliminary Factor

Item	Item Content
Pre-Application items	
39	– Receive encouragement from adults to go to college
49	– State why going to college is important to me
26	– Know how college will affect my future
30	– Know my academic weakness
32	– Obtain emotional support from my parents/guardians to go to college
38	– Talk to a teacher about possible college options
34	– Identify several career goals
14	– Find an adult who will read my college essays and give feedback
Application items	
6	– Complete a test preparation course
15	– Describe the characteristics of three colleges
10	– Develop test taking strategies to improve my test scores
24	– Identify some of the classes that make up a major
9	– Describe what a college major is
4	– Complete three college applications
3	– Complete the Free Application for Federal Student Aid form
23	– Know my academic strengths

Support items		
60	–	Talk to my counselor about applying to college
56	–	Write an excellent personal statement/essay for college applications
49	–	Talk to an admissions counselor at a college
52	–	Talk to my family about how much money they can contribute to my college education
59	–	Talk to someone at a college about obtaining financial aid for college
51	–	Receive support from my counselor to complete the college application
46	–	Save enough money for college
54	–	Use resources like the College Source Book to learn about colleges
Choice items		
18	–	Identify colleges that match my abilities
17	–	Identify college majors that match my interests
12	–	Identify colleges that I have a good chance of being accepted to
19	–	Develop an alternative plan if none of my top choices accept me

Achievement goals. Achievement goals orientations were measured using the Achievement Goal Questionnaire-Revised (AGQ-R) developed by Elliot and Murayama (2008). The AGQ-R is a 5-point Likert-type instrument developed to assess students' adoption of four achievement goals, namely; mastery approach, performance approach, mastery avoidance, and performance avoidance goals. During the initial instrument construction study, data was only collected using three of the four subscales, mastery-approach, performance-approach, and performance-avoidance. No data was available for the subscale of mastery-avoidance for use in this study. According to Elliot and Murayama's study information, good reliability was found for all four subscales with all Cronbach's α found to be above .83. The four subscales were also found to represent "empirically separable and internally consistent achievement goal constructs" (Elliot & McGregor, 2001, p. 504.). The AGQ-R was originally targeted for use with university students.

The mastery-approach goal centers on the extent to which students' focus on engaging in their academic tasks is largely on learning new, challenging, and interesting

things. This subscale contains three items and includes “My aim is to completely master the material presented in my classes;” and “I am striving to understand the content of my classes as thoroughly as possible.” Performance-approach goal is a three item subscale that measures the extent to which students’ focus on learning by demonstrating that they are more capable than others students. Items on this subscale include “My aim is to perform well compared to other students;” and “My goal is to perform better than other students.” Performance-avoidance goal is a three-item subscale seeking to measure the extent to which students’ emphasis in studying is to evade appearing incompetent. A sample item for this scale is “My aim is to avoid doing worse than other students;” and “I am striving to avoid performing worse than others.” In this study we calculated a Cronbach’s α of .884 for mastery-approach, .882 for performance-approach, and .825 for performance-avoidance showing strong reliability.

My Vocational Situation (MVS). The MVS was chosen to identify certain difficulties that students may encounter during the career decision-making process. According to Holland, Daiger, and Power (1980), the MVS was developed to assess three aspects of career decision-making. Holland, Gottfredson, and Power (1980) expected the MVS to help determine the type of vocational assistance needed by respondents, allowing differential assignment of clients to interventions. The initial phase of the College-Going Self-Efficacy instrument construction included all three subscales from the MVS in the pilot administration of the scale. The data from the pilot study, as detailed in the IRB, were used for this portion—phase II—of the study.

The MVS consists of three subscales. The first, the Vocational Identity Scale was used to measure the construct of vocational identity. The first 18 items of the MVS make

up the Vocational Identity scale (e.g., “I need reassurance that I have made the right choice of occupation;” and “Making up my mind about a career has been a long and difficult problem for me”), which “measures the clarity of a person’s vocational goals and self-perceptions” (Holland, 1985, p. 28). Low scores on the Vocational Identity scale indicate confusion about a respondent’s identity and a lack of self-satisfaction. Holland, Gottfredson, and Power (1980) reported an internal consistency of .86, using the K-R 20 formula, for a sample of 185 male high school students and 311 female high school students. In a study conducted by Leong and Morris (1989), the internal consistency coefficient was .81 and showed a negative relationship to social avoidance, distress and intolerance of ambiguity, and a relationship to higher levels of career maturity and tendency to use a rational decision-making style. Specifically, the Vocational Identity subscale was found to be positively correlated to age and negatively correlated to quantity and variety of vocational aspirations. This suggests that as an individual ages and matures, a more defined vocational identity emerges, which reduces the number and variety of career choices and aspirations (Holland, Daiger, & Power, 1980). For this study, the Cronbach’s α was .721 for Vocational Identity.

The Occupational Information Scale, the second subscale to the MVS scale, consists of four yes or no questions that examine the amount of occupational information the respondent needs to make a career decision (e.g., “More information about employment opportunities;” and “What kind of people enter different occupations”). Low scores on this scale indicate significant obstacles to career choice.

The Barriers Scale, part three of the MVS, is composed of four yes or no items. It is intended to measure the respondents’ perceived external obstacles to occupational

goals. Higher scores on the Barriers subscale indicate more perceived barriers. Items on the subscale include: “I don’t have the money to follow the career I want most;” and “I lack the special talents to follow my first choice.”

Research conducted by Holland, Gottfredson, and Power (1980) in investigating the internal consistency of all three scales, reported using Kuder-Richardson 20 values for samples used to devise the scales. Results found values for the Vocational Identity Scale ranging from .86 to .89, for the Occupational Information Scale values ranged from .39 to .79, and for the Barriers Scale values ranged from .23 to .65. The manual for the MVS states that the Vocational Identity Scale seems internally consistent while the other two scales are not and resemble checklists rather than scales (Holland, Daiger, & Power, 1980). The present study found a Cronbach’s α of .721 for the Vocational Identity Scale, .668 for the Occupational Information Scale, and .564 for the Barriers Scale. These internal consistency findings are consistent with Holland, Daiger, and Power’s suggestion that the last two scales maybe be more in line with a checklist. The lower reliability results for Occupational Information Scale and the Barriers Scale may also affect the likelihood of finding significance—in other words it may diminish the chances of seeing a significant result even if it does exist. Table 2 reports the reliability, mean, and standard deviations for each scale used in the study.

Table 2.

Reliability, Mean, Range, and Standard Deviations for College-Going Self-Efficacy Scale by Factor, Achievement Goal Orientation by subscale, and My Vocational Situation by scale (N=200)

Variable	Cronbach’s α ,	Mean	Range	SD
College-Going Self-Efficacy Scale				
Pre-Application	.862	58.35	57.00	12.984
Application	.863	51.13	64.77	13.931

Support	.870	53.21	63.14	14.429
Choice	.800	27.50	32.00	7.332
Achievement Goal Orientation				
Mastery-Approach	.884	12.85	12.25	2.869
Performance-Approach	.882	12.42	12.75	3.186
Performance-Avoidance	.825	12.49	13.81	3.106
My Vocational Situation				
Vocational Identity	.721	10.11	23.00	3.897
Occupational Information	.668	2.44	4.00	1.374
Barriers Scale	.564	1.42	4.00	1.244

Demographic Form. A demographic form was developed by the researchers to collect data regarding the following: age, gender, year in school, race/ethnicity, parents' level of education, participation in free/reduced fee lunch program, PSAT and SAT courses, GPA, and enrollment in advanced placement courses. The demographic questionnaire was attached to the end of the survey and consisted of 12 questions. Because the entire survey was Scantron, paper and pen, and voluntary, students were not required to fully complete the survey prior to turning it in. Therefore, a percentage of surveys revealed participant fatigue where the demographic portion of the survey was left uncompleted. Although some demographic information was available, it was all self-report and the research team was unable to access actual student data for verification of reported information. Therefore, demographic information was used to help understand the sample population by self-report means but wasn't included in further analysis.

Analyses

In order to begin analysis of the sample, the data was sorted and a missing values analysis was conducted. First, this procedure was begun by each researcher physically reviewing all surveys (n=387) and removing those that meet the criteria determined by the researchers to be problematic (i.e., showing obvious patterns in the data or having more than 30% of the responses in the first 60 items all the same answer despite content

of the question). Each researcher's problematic survey pile was then noted and the process was repeated until a clear list of problematic surveys was compiled and removed from the sample. The remaining surveys were entered into the statistical software program for analysis. The second step in the process was to have the statistical software sort the data set in ascending order by number of missing items. Participants missing more than 15% of the items on the survey were removed from the data set. Then an analysis of frequencies for all demographic information was conducted. All students who self-identified as a race other than African American or who failed to report a race/ethnicity was removed from the data set. Further analysis was only conducted with the remaining sample of African American students who completed at least 85% of the survey (See Table 3, n=200).

Table 3

Path to Final Sample (N=200)

Surveys	N	%
Total surveys returned	387	100%
Problematic surveys (patterns on survey)	72	18.6%
Missing 15% or more of responses on survey	64	16.5%
Race other than African American or did not report race	51	13.0%
Final sample of only African American students	200	51.7%

The final step in this analysis was to replace the missing values in the remaining 200 participants. For the purposes of this study, Expectation-Maximization (EM) approach was used to obtain maximum likelihood estimators for the missing values in the data set. This process also helped in meeting the assumption of normal distribution of variables.

In order to gain a better understanding of the sample, a descriptive analysis was run of the demographic information provided by the participants in the original survey. To test research questions one through four, bivariate correlations was used to examine the relationships among the variables of interest in this study. To test the last of the research questions (question five), a regression was calculated to determine the variance accounted for in college-going self-efficacy. Upon reviewing the results of the bivariate analysis, because several hypotheses were supported and relationships were found as posited in previous literature, there was further justification for running a series of hierarchical multiple regression analysis to explore how much more predictive power the career related factors add to the predictive power of the achievement goal orientation factors in the model. Based on bivariate results, a two-block analysis was conducted. In the first block, achievement goals was entered (i.e., mastery-approach, performance-approach, performance-avoidance). In the second block, all career related factors (vocational identity, need for occupational information, and barriers to occupational goals) were entered.

CHAPTER 4

The main purposes of the study were to (a) investigate if the dependent variable, college-going self-efficacy was related to the independent variables (achievement goal orientation, vocational identity, need for occupational information, and barriers to occupational goals) and (b) to study the degree to which the independent variables were predictive of the dependent variable for the sample of African American urban high school students. The hypotheses for the first set of research questions (1-4) stated that there would be a positive relationship found among African American urban high school students' achievement goal orientation (mastery-approach, performance-approach, performance-avoidance), vocational identity, need for occupational information, and their perceived barriers to occupational goals and their college-going self-efficacy. The hypothesis for the fifth and final research question stated that all three subscales of achievement goal orientation would account for variance in self-reported college-going self-efficacy. Moreover, respondents' career related factors (vocational identity, need for occupational information, and perceived barriers to occupational goals) would account for variance in self-reported college-going self-efficacy over and above that accounted for by achievement goal orientation. Overall, all factors will contribute unique and shared variance in the prediction of college-going self-efficacy.

This chapter reports the results found from the statistical analyses that were described in Chapter 3. It will briefly review the characteristics of the students who participated in the study and those included in the final analysis. It will outline the relationships between the independent variables and the dependent variable by presenting the results of the bivariate correlation, mean, and standard deviations and addressing each

of the first four research questions. Finally, a detailed review of the four separate hierarchical multiple regression analyses will address hypothesis five.

Sample

The total number of surveys handed out was approximately 628 and a total of 387 were finally collected from the sample school. Although there was a plan in place to administer the survey to the entire school's high school students during their advisory period, first ninth and eleventh graders followed by tenth and twelfth graders, due to time constraints only the first round of surveys was administered. It was discovered later during the preliminary analysis of the collected survey, that some students from grades tenth and twelfth were present during the first round of survey administration.

In order to work with the most reliable data prior to beginning statistical analysis, a screening process was implemented and graduate assistants narrowed down the pool of surveys in a three-step process. Step one required each graduate assistant to visually inspect each individual survey for problematic data, making note of the survey number. Problematic data was defined as more than 20 of the same responses of the same answer in the first 60 questions as well as patterned data (i.e., arrows or Christmas tree patterns on the answer sheet). Each graduate assistant repeated the process with the entire stack of surveys and the lists of problematic data would be compared, discussing inconsistencies with the a group to decide if those surveys should be removed as problematic data. A final list was presented to the principal investigators and reviewed again for consistency. The final count, after problematic data were removed from the sample, was 315 surveys. Those surveys were then entered into the database using Scantron software. Each

individual survey was double checked for accuracy by undergraduate and graduate assistants by hand.

Step two consisted of narrowing down the field by eliminating those surveys with less than 85% of responses completed. This was accomplished by asking statistical software to count missing responses and sort in ascending order. Those with counts representing more than 15% missing were deleted from the data set, which left a sample of 251. The final step eliminated respondents who self identified as a race/ethnicity other than Black/African American or those who left the race/ethnicity question blank on the survey. This step further eliminated 51 respondents from the sample bringing the final number (N) to 200.

Therefore, based on self-report information on the demographic section of the survey, statistical software, and visual inspection, the sample was narrowed down from 387 complete and incomplete surveys of general urban high school students to 200 surveys of African American students who completed at least 85% of the survey instrument (See Table 4). Among the final sample, slightly more than half were female, with the majority of the entire sample comprising either ninth or eleventh graders with a mean age of 16. In the category of parents' highest level of completed education level, student's reported that the most common degree completed for mothers and fathers was high school or GED at 38% and 34.5% respectively. Consistent with state statistics, students reported, "not knowing" the highest level of education at a higher rate for fathers at 30% than for mothers, 17%. Although 35% of the sample reported that they were enrolled in the Free and Reduced Meals program, nearly the same percentage of students reported, "not knowing" if they were participating in the program.

Table 4

Demographic characteristics of the students (N = 200)

Variable	N	%
Race		
African American/Black	200	100%
Gender		
Female	104	52.0%
Male	95	47.5%
No answer	1	0.5%
Year in school		
Ninth grade	72	36.0%
Tenth grade	40	20.0%
Eleventh grade	77	38.5%
Twelfth grade	9	4.5%
No answer	2	1.0%
Age		
Thirteen	6	3.0%
Fourteen	48	24.0%
Fifteen	38	19.0%
Sixteen	79	39.5%
Seventeen	25	12.5%
Eighteen	4	2.0%
Mother's Educational level		
Did not complete high school	5	2.5%
High school diploma or GED	76	38.0%
Some college	50	25.0%
College graduate	21	10.5%
Graduate School	12	6.0%
Do not know	34	17.0%
No answer	2	1.0%
Father's Educational level		
Did not complete high school	10	5.0%
High school diploma or GED	69	34.5%
Some college	24	12.0%
College graduate	16	8.0%
Graduate School	13	6.5%
Do not know	66	33.0%
No answer	2	1.0%
Free and Reduced Meals Program		
Yes	70	35.0%
No	48	24.0%
Do not know	72	36.0%
No answer	10	5.0%

Correlational Analyses

The third purpose of the study was to learn about the relationships among the key variables in this sample of African American urban high school students (see Table 5).

To address this purpose, Pearson's correlations were conducted among the variables of interest.

Table 5

Correlations among key variables (N=200)

Variable	College-Going Self-Efficacy Scale			
	Pre-Application	Application	Support	Choice
Achievement Goal Orientation				
1. Mastery-Approach	.46**	.39**	.27**	.36**
2. Performance-Approach	.44**	.38**	.22**	.34**
3. Performance-Avoidance	.31**	.22**	.18*	.23**
My Vocational Situational				
4. Vocational Identity	.29**	.23*	.15*	.29*
5. Occupational Information	.15*	.09	.14	.12
6. Barriers Scale	-.12	-.11	-.02	-.10
Note. **p<.01, *p<.05				

Consistent with expectations, the overall achievement goal orientation scales were related positively to all four college-going self-efficacy subscales. Looked at individually, mastery-approach had positive correlation to all four subscales ($p=.001$). Both performance-approach and performance-avoidance goal orientations were also significantly correlated in a positive direction to the four subscales, with pre-application, application, and choice subscales showing significance ($p<.01$) and the support subscale showing significance at the $p<.05$ level. These findings support the first hypothesis stating that there would be a positive relationship between achievement goal orientation (mastery-approach, performance-approach, and performance-avoidance) and the subscales of college-going self-efficacy scale.

The career related factors show some unexpected results. Consistent with previous findings, vocational identity was found to be positively correlated to all four college-going self-efficacy subscales. This result supported our second hypothesis that

states there will be a positive relationship between vocational identity and all four subscales of college-going self-efficacy. The occupational information scale only showed correlation to the pre-application subscale, and the barriers scale was not correlated to any of the college-going self-efficacy subscales. Although these results did not support our third and fourth hypotheses, results from the reliability tests did shed some light on the results. Both the occupational information and barriers scale had a low α at .668 and .564 respectively. The lack of correlation may be due to the low reliability and further investigation is warranted. According to Holland (1985), both of these scales can be described as more of a checklist style and lower reliabilities are to be expected.

Hierarchical Multiple Regression

Based on the bivariate correlation results and previous research, there were several justifications for using hierarchical regression analysis to investigate the predictive power of the independent variables on college-going self-efficacy. First, previous research shows statistically significant relationships between goal orientation and general self-efficacy for students, athletes, and employees. Research also shows, in studies conducted with children, that goal orientation begins to develop in early childhood. Results for our sample showed statistically significant correlations for all subscales of the achievement goal orientation. Therefore, hierarchical regression analysis would not only help answer the research question in regard to variance in predictive power but would also point out how much more predictive power the career related factors add to the predictive power of achievement goal orientation in explaining the variance in the dependent variable. In other words, are the career related factors strong enough predictors in the model to be significant?

To test the fifth hypothesis, that all three subscales of achievement goal orientation would account for variance in self-reported college-going self-efficacy and that career related factors (vocational identity, need for occupational information, and perceived barriers to occupational goals) would account for variance over and above that accounted for by achievement goal orientation, four hierarchical multiple regression analyses were performed for each of the four college-going self-efficacy subscales. As part of the regression analysis, there was no evidence of a violation of the multicollinearity assumption based on the tolerance, which ranged from .322 to .938, and VIF, which ranged from 1.065 to 3.155. According to Allison (1999), based on the sample size, these tolerance and VIF levels are acceptable, as tolerances that are $<.10$ and VIFs >10 would be cause for concern.

In the first of the four regression analyses, the first factor of the college-going self-efficacy scale, pre-application was the dependent variable and all three achievement goal orientations were entered in the first block. In the second block, all career related factors were entered into the analysis. This process was repeated three additional times, with the application, support and choice subscales of the college-going self-efficacy scale being the dependent variables respectively. See Table 6 for a summary of the ΔR^2 results.

Results of the regression analysis provided partial confirmation for the fifth research hypothesis. Beta coefficients and t statistics for the six predictors on each of the four college-going self-efficacy subscales can be seen in Table 7.

The fifth research hypothesis was concerned with two main questions. The first can be answered by referring to Table 6, “Will the three subscales of achievement goal orientation account for a significant amount of variance in the four subscales college-

going self-efficacy?” And moreover, will the respondents’ career related factors (vocational identity, need for occupational information, and perceived barriers to occupational goals) account for a significant amount of variance in self-reported college-going self-efficacy over and above that accounted for by achievement goal orientation? The second question can be answered by referring to Table 7 and is concerned with all factors; “Will all factors contribute unique and shared variance in the prediction of college-going self-efficacy?”

Table 6.

Summary of R square and R square change statistics for four College-Going Self-Efficacy subscale hierarchical regression analysis.

Model and Predictor Variables	Pre-Application		Application		Support		Choice	
	R^2	ΔR^2	R^2	ΔR^2	R^2	ΔR^2	R^2	ΔR^2
Block 1	.222	.222**	.170	.170**	.075	.075**	.137	.137**
Mastery-Approach								
Performance-Approach								
Performance-Avoidance								
Block 2	.272	.050*	.194	.023	.096	.021	.195	.058*
Vocational Identity								
Occupational Information								
Barriers Scale								

Note. ** $p < .01$, * $p < .05$

Looking at the R^2 first block of independent variables (achievement goal orientation) across all four College-Going Self-Efficacy subscales, the ΔR^2 is .222, .170, .075, and .137 and this is significant at the 0.1% level ($p = .000$). The addition of the second block (career related factors) revealed mixed results by the College-Going Self-efficacy subscales. For the Pre-application subscale with the addition of the second block, results show a significant increase with an ΔR^2 of .050, that is, an additional .05% of

variance in Pre-application college-going self-efficacy is explained for by adding career related factors to the model over and above the 22% already explained by achievement goal orientation. Although an additional .05% may seem small it is still statistically significant. The other statistically significant finding in the second block of the hierarchical regression analysis was in the choice subscale. Results show a significant increase with an ΔR^2 of .058. Therefore, career related factors explain an additional 6% of variance in the Choice subscale of College-Going Self-efficacy on top of the 13.7% already explained by achievement goal orientation. The remaining two college-going self-efficacy subscales, Application and Support, did not result in a significant ΔR^2 and therefore adding them to the model did not contribute significant variance to the prediction of the College-Going Self-efficacy scale.

In order to explore the second part of the fifth research question, we refer to Table 7, and are able to look at each factor separately to see how they individually contributed to the model. Across all four variables and regression analyses, performance-avoidance, occupational information, and barriers scale contributed no statistically significant variance to the model individually. Vocational identity contributes significantly across three subscales (Pre-application, $\beta=.210$, $t=3.293$, $p<.05$; Application, $\beta=.148$, $t=2.211$, $p<.05$; Choice, $\beta=.236$, $t=3.528$, $p<.05$). Performance-Approach contributes significantly only for the subscale of Pre-application ($\beta=.219$, $t=2.010$, $p<.05$). And Mastery-Approach contributes significantly only for the subscale of Application ($\beta=.232$, $t=2.048$, $p<.05$).

Table 7.

Summary of predictor standardized beta coefficients and t scores from the four hierarchical regression analyses for the subscales of the College-Going Self-efficacy Scale.

CHAPTER 5

Discussion

This study sought to further understand the relationship of the factors that are already known in the literature to play a significant role in the current and future academic success of students and their college-going self-efficacy. Furthermore, this research investigated the predictability of those factors on college-going self-efficacy for a sample of African American students in an urban school setting. Over the past several decades theorists such as Bandura, Holland, and Lent, postulated the importance of self-efficacy, choice, career exploration, and motivation on the development of children into adulthood. Researchers have also been conducting studies showing support for and challenge to these theories, an important role for counselors, educators, and practitioners alike. The present study offered an additional perspective in the practice of school counseling and counselor education by filling both a gap in the research and a need for information based on the economic times.

The research team that constructed the preliminary College-Going Self-Efficacy Scale found four relevant factors that highlighted different phases of the college going process reflected in the subscales. Those subscales were named Pre-Application, Application, Support, and Choice, and if a student scores high on a specific subscale this would reflect an individual who feels capable to successfully complete those activities associated with that phase of the college going process.

The first four research questions and hypotheses focused on the relationship that achievement goal orientation and career related factor had when compared against the

subscales of college-going self-efficacy. As discussed in the results section (Table 5) the first two hypotheses were supported based on the results of the correlation analyses. Hypothesis one stated that a positive relationship would exist between all achievement goal orientations and the subscales of College-Going Self-Efficacy. Meaning that as students' scores increased on the AGQ-R measure, scores on the College-Going Self-Efficacy Scale would also increase, thus revealing a positive relationship for Mastery-Approach and Performance-Approach and for Performance-Avoidance across the subscales. These results can be interpreted by conceptualizing what the AGQ-R is measuring—how students approach and engage in learning activities. Students' approach to learning activities should have some relationship on the college-going process and what these results showed were that students who scored high on any goal orientation type also scored higher on the College-Going Self-Efficacy Scale across all subscales, possibly due to their awareness of this learning approach.

Hypothesis two stated that there would also be a positive relationship between vocational identity and the subscales of College-Going Self-Efficacy and that was also supported. This result was not surprising as the literature also pointed to the relationship between vocational identity and college persistence for college students (Blinne & Johnston, 1998). However, no research has been done to provide evidence for college-going self-efficacy and vocational identity.

The fifth research question revealed the following results. Despite Table 6 showing all three achievement goal orientations as a set of variables contributing significant variance in the prediction of all four phases of college-going self-efficacy, Table 7 revealed distinct differences across phases for each goal orientation.

Achievement goal orientation is described as one of the integrated patterns of beliefs that help students engage in and respond to learning (Elliot & McGregor, 2001). These goals help students develop sustained involvement over time in a particular activity and also relate to self-efficacy, given that students with higher levels of self-efficacy tend to spend more time and effort working toward fulfilling identified goals and persist longer in the face of difficulties (Bandura, 1997; Pajares, 2003). If we review the operational definition for achievement goal orientation; “a set of behavioral intentions that determine how students approach and engage in learning activities” (Murphy & Alexander, 2000, p. 28), it is not surprising to see that goal orientation would play a statistically significant role across all phases of the college going process however it is important to investigate future how each contribute to the prediction reflected in their self-efficacy scores.

Reflecting on block two and the question of how much variance career related factors contribute to the model, above and beyond what is already accounted for by achievement goal orientation, we find unexpected but logical results. Based on the literature and research in the area of vocational identity and career decision-making, we see that both play a vital role throughout the high school process and the transition to life after high school. However, research has yet to be conducted on the role these factors play on the college going process leading to feelings of college-going self-efficacy and these results may offer some insight. The results in Table 6 showed that only vocational identity adds enough predictive power to the variance to be significant and only for two of the four phases or subscales of the College-Going Self-Efficacy Scale, that of Pre-application and Choice.

Reflecting on the role career related factors play in the college going process, these results seem to be logical in the sequence of what students need to feel competent in the ability to complete college related activities. If the subscales are again related to phases, it is during the Pre-application phase that vocational identity is of great importance. It is when decisions are being made about what a student might want to do in the future, which will help them decide if college is right for them, if they will choose a vocational school, or look for jobs that do not require college. This vocational identity comes into play again during the Choice or decision-making phase. Again, students are faced with deciding which college best matches their career choice or if college is their best option, and they may need to reevaluate their vocational identity. Although vocational identity does not disappear or become irrelevant during the Application or Support phases, it may not be actively involved in the process to affect college-going self-efficacy. Further exploration is needed to understand the role vocational identity plays during these phases of the process. Occupational information and barriers scale do not contribute unique variance to the prediction of college-going self-efficacy. As noted by Holland (1985), these two scales could be treated as checklists and used to help pinpoint need.

Another contribution of the study was to investigate the unique variance of each of the factors on the four subscales of college-going self-efficacy. This allowed us to see independently the contribution to the prediction of the subscales (Table 7). The β for each of the scales show significance for mastery-approach and Application, performance-approach and Pre-application and vocational identity and all three subscale except Support. The results of the achievement goal orientation factors were consistent with the

research that shows varying orientations (mastery versus performance and approach versus avoidance) yield both positive and no significant results depending on the task (Elliott & Murayama, 2008; Lau & Lee, 2008). However, previous research does show evidence of goal orientation predicting outcomes for self-efficacy (Sungur & Senler, 2010). The vocational identity factor findings add more power to the previous discussion of the role vocational identity plays in the process of college-self-efficacy. Again the findings show vocational identity as important during the beginning and final stages of the college going process. Moreover, the Application phase also shows significance. This lends strength to the argument for the need for further research.

Strengths of the Current Study

This study focused on predictors of college-going self-efficacy and factors related to it. Based on the literature review, two sets of factors stood out as valuable factors to explore and their relationships to the domain specific self-efficacy of college going had not yet been studied. A review of the achievement goal orientation literature cited the need for research that would “move more and more in the direction of linking goals to these other constructs in integrative fashion” (Elliott & Murayama, 2008, p. 626). This research did just that by creating a bridge between students’ learning drives and their level of competence to complete tasks associated with going to college. Furthermore, connections between vocational identity and college-going self-efficacy were found to give strength to the argument for keeping career education in schools, as well as college enrollment requirements.

Another strength of this study was its sample size. Even after narrowing the sample down to focus only on African American students, which most strongly reflects

the population of the school's urban district, the sample size remained sufficiently large at $N=200$. This strong sample size allowed for the confidence and prediction intervals to improve for the regression analysis.

Finally, this study was the first that used the College-Going Self-Efficacy instrument. Although still in a preliminary analysis phase of its construction, these findings have offered new insight into how this instrument can be used and draw new connections, especially for this particular population in this urban school context.

Limitations

There were also several limitations in the study. Although the study had a strong sample size ($N=200$), that sample was representative of just one school in one urban district in the country for one race/ethnic demographic. This study should be replicated with other populations in other urban school districts and cities to assess the study's applicability across other urban school contexts. Researchers are also encouraged to study several schools in a single area and measure environmental factors that may play a role in college-going self-efficacy. Unfortunately, this study did not include the demographic characteristics in the regression due to the unreliability of the data gathered, nor did it account for environmental factors such as parental and familial influences. Literature pointed to the importance of accounting for these "barriers" but there was no access to this information for the study.

There were also limitations in the measures used for the study, the MVS, the AGQ-R, and the CGSE Scale. All had their own limitations in terms of how they were measured and if they were the best instrument to use for the construct of interest. When the AGQ-R was included in the initial administration of the survey, not all four subscales

were given for students to complete as part of the measure. The absence of the mastery-avoidance subscale for the analysis still leaves some interesting questions unanswered and further investigation into the potential impact that subscale has on the prediction of college-going self-efficacy is needed.

As for the MVS, while the vocational identity scale was a good measure of its construct, other measures may have been better for investigating need for occupational information (OI) and barrier to occupational goals (B) rather than the scales included in the MVS for the purposes of this study. Practicing counselors would find both of those scales (OI and B) very helpful in pinpointing students needs, however, due to their low reliability and checklist form, they may cause difficulty when interpreting for predictability and may have some inherent issues when using them for correlational and regression analysis. Finally, the CGSE Scale still needs more research to ensure its construct validity.

An additional area of research unexplored here that may be considered a limitation to the study was the exploration of vocational foreclosure and its role versus vocational identity. Research in the area of vocational career exploration shows linkages and higher rates of vocational foreclosure or the premature foreclosure of occupational choice for adolescents who come from impoverished families (McWhirter, McWhirter, McWhirter, & McWhirter, 1995). Concerns about their family's ability to cover the cost of post-secondary education as well as day-to-day survival needs taking priority over vocational exploration may lead to vocational foreclosure (Loughead, Lui, & Middleton, 1995). Further exploration is needed to understand the impact of vocational foreclosure

on this particular population as it relates to college-going self-efficacy and vocational identity.

Another limitation of the study was inherent in the nature of gathering data through self-report instrumentation. Social desirability, bias when reporting their own beliefs and behaviors, and the possibility of an over or underestimation of ability is of concern for these types of measures. Although much insight could have been gained by having access to the students' actual academic and demographic data to compare to self-report data, the research team had limited access to this information. Further research could be done with this information, drawing connections between self-reported college-going self-efficacy and actual academic success by means of benchmark data. The length of the survey was also an issue as many of the surveys were eliminated from the sample due to a high percentage of incomplete items on the survey especially toward the end of the survey. The survey consisted of 112 questions, which may have contributed to survey fatigue.

Implications

The results of this study offer several implications for counselor educators. First and foremost is recognizing two of the roles counselor educators have in preparing school counselors to work in the field, (1) serving African American students and students of color in urban school settings and (2) in building bridges between the academic research counselor educator's conduct and the realities of counseling practice. Too often gaps exist between what is being taught in the school counseling masters programs and what the reality of serving underserved populations in school demand of their counselors. The results of this study offered an opportunity for academic research to play an integrative

role in driving school counseling program reform based on research in the face of politically driven mandates. Although still in its preliminary phases, the development and validation of instruments such as the College-Going Self-Efficacy scale should be used not only as a tool for academic research but also as a practical tool that counselor educators should be familiarizing school counselor with so they can be incorporated into proper practical use. Continued use of these types of instruments for practical purposes in the school setting can in turn offer more data for academic learning and research.

Counselor educators should also emphasize the importance of promoting collaboration with all key stakeholders, teachers, and administrators, in the use of evidence based practices, assessment tools, and regular professional development with local universities and community agencies to ensure the most up to date interventions and outcome strategies. Counselor educators should also promote school counselors' multicultural literacy and highlight the need to be well versed on academic challenges all students of color face and learn how to incorporate effective programming to promote college-going self-efficacy for these students.

Although this study focused on specifically African American urban high school students, implications also exist for professional school counselors. Given the lower rate of high school degree attainment among students of color, low college enrollment rate, high unemployment, high poverty, high college drop out rate, and other challenges associated with urban life, professional school counselors are likely to be the first and possibly the only mental health practitioner with which African American families have contact. As mandates are brought to the table that would require all public high school seniors to apply to post-secondary institutions, apply for financial aid, and take college

entrance exams prior to graduation, the implications of such mandates will affect students, families, schools, communities, and the school counselors who will be charged with implementing them.

School counselors can use this information gathered from the study as a tool to aid in developing appropriate programs based on those students' level of need in their school. As schools tailor their curricula to meet the new requirements, school counselors would do well to develop programs that promote not only college application task objectives but work to develop vocational identity, exploration of career interests and barriers, and an awareness of achievement goals. High school counselors could administer the College-Going Self-Efficacy Scale throughout a high school student's career not only to create a baseline or pretest prior to interventions taking place, but also to assess need. The Achievement Goal Questionnaire-Revised and the Vocational Identity Scale could also be administered as early as freshman year. The AGQ-R could be to assess what motivates their students to learn in the classroom. Teachers and counselors could use results to gain insight into students' learning motives. The MVS taken early in high school years can help uncover where students are in the career decision-making process. As the results of this study suggest, goal orientation and career identity can play a role in predicting a students' belief in or judgment of his or her capability to organize and successfully complete college going related activities. Furthermore, this study suggests that these predictors may play a more important role during different times within the college going process so continued monitoring throughout the college-going process may prove to be a worthwhile task to ensure students are receiving interventions when they are most needed.

Future Directions

Additional research is needed to validate the results of the study and to further investigate the predictability of the unexplored factors related to college-going self-efficacy. Factors that previous research found to be significant such as gender, race/ethnicity, parental influence, first-generation students, and socio economic factors in the predictability in academic success and college going would be the next logical step to include if this study was replicated. Access to reliable demographic information could be used to further explore confounding and mediating variables in predicting college-going self-efficacy. It would also be essential to explore the factors revealed in the preliminary factor analysis of the college-going self-efficacy scale. How accurate are they in measuring College-Going Self-Efficacy?

In reviewing the literature, achievement goal orientation had yet to be studied as it relates specifically to the prediction of college-going self-efficacy and based on the result of this study; a new line of research may be warranted. Can identifying the goal orientations of students help to tailor instruction and anticipate needs of students as they prepare for college and career exploration and college application? Research focused in this area could be directly applied to the practice of school counseling. Replicating many of the studies discussed in the literature review that explored general self-efficacy but using the College-Going Self-Efficacy scale would also provide a vast body of knowledge that could then be applied to intervention programs and used in practical application in terms of college attainment for African American students and students of color.

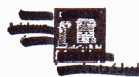
Other areas of research might include experimental design research conducted in urban school settings aimed at determining whether college-going programs or interventions had the intended causal effect on students (increased college-going self-efficacy scores). This type of research would ideally be conducted in several schools over an extended period of time with the ability of checking back in on the students' college enrollment, employment status, and degree attainment outcomes. This same research could also explore the natural increase in College-Going Self-Efficacy scores over time versus increase with intervention.

Conclusion

This study examined the relationship between college-going self-efficacy and high school students' perceived levels of achievement goal orientations (mastery-approach, performance-approach, performance-avoidance), vocational identity, need for occupational information, and barriers to occupational goals for a sample of African American urban high school students ($N = 200$). And how well one can predict scores on a newly created College-Going Self-Efficacy scale based on these factors. Although continued research is needed, results of the study revealed exciting new insight into the relationship between college-going self-efficacy, career-related factors and achievement goal orientation. Results can also help school counselors begin to explore how these factors help predictive students belief in or judgment of his or her capability to organize and successfully complete college going related activities as it applies to the urban school setting and the challenges African American students are faced on their path to college and career attainment.

Appendixes

Appendix A: Student Assent Form



College-Going Confidence: A Study of High School Students: Assent Form

Greetings [redacted] students! You are being asked to participate in a research project being conducted by faculty and students at the University of Maryland, College Park. We are inviting you to participate in this research project because you are in high school and you may be considering attending college. The purpose of this research project is to understand what relates to high school students' confidence about going to college. We are going to study confidence, knowledge about oneself and colleges, college application tasks, financial aid/scholarship monies, support from adults (teachers, counselors, parents), potential barriers, career concerns, life satisfaction, and goals.

You will be asked to be a part of this study by researchers from the University of Maryland. During two of your advisory periods, a survey will be administered that is completely voluntary and will take approximately 45 minutes to complete. You will be asked to complete the survey to the best of your ability and you may drop out at any time. You may be randomly selected to take the survey two times. Example survey items include: (a) My goal is to learn as much as possible, (b) No single occupation appeals strongly to me, (c) How confident are you in identifying your values? Upon completing the survey, your name will be entered into a drawing for one of three \$100 gift certificates. We also request your permission to access your academic records maintained at [redacted], specifically your GPA, PSAT, SAT, attendance, and college-related information. For the 9th grade students, these data will be collected for the 9th, 10th, 11th, and 12th grades. For the 11th grade students, these data will be collected for the 11th and 12th grades.

We will do our best to keep your personal information confidential. Your name will not be included on the surveys and other collected data. A number will be placed on the survey that is connected to your name, but only the researchers will have the key that connects names and numbers. Completed surveys will be kept in locked cabinets at [redacted]. They will be brought by a researcher to the University of Maryland and placed in a locked cabinet in [redacted]. Once the data are analyzed, a report will be written and your identity will be protected to the maximum extent possible.

There are some risks of participating in this study. While completing the survey, you may get tired and you might feel uncomfortable or embarrassed. If you are uncomfortable answering a certain question, you can choose not to answer it. You may choose not to take part at all or may choose to stop participating at any time. If you decide not to participate in this study, you will not be penalized.

We will share the general findings with the teachers at [redacted] We hope that, in the future, other students might benefit from this study through improved understanding of what helps students develop confidence in going to college.

This research is being conducted by [redacted] and [redacted] at the University of Maryland, College Park. If you have any questions about the research study, please contact [redacted] 3214 Benjamin Building, University of Maryland College Park, MD 20742 or via email at [redacted]. Concerns can be reported to the IRB [redacted].

Agreement

Your signature indicates that the research has been explained to you; your questions have been fully answered; and you freely and voluntarily choose to participate in this research project.

Name of Study Participant _____

Signature of Study Participant _____

Date _____



Appendix B: Parental Consent Form

Page 1 of 2

Initials _____ Date _____

College-Going Confidence: A Study of High School Students: Parent Form

Project Title	<i>Confidence in Getting to College: A Study of High School Students</i>
Why is this research being done?	<p><i>This is a research project being conducted by faculty and students at the University of Maryland, College Park. We are inviting the students at [REDACTED] to participate in this study because they are high school students who may be considering attending college.</i></p> <p><i>The purpose of this research project is to understand what relates to high school students' confidence about going to college. Student confidence about going to college will be studied by looking at the following topics: knowledge about oneself, knowledge about colleges, college application tasks, financial aid/scholarship monies, support from adults (teachers, counselors, parents), potential barriers, career concerns, life satisfaction, and achievement goals.</i></p>
What will your child be asked to do?	<p><i>Your child will be asked to be a part of this study by researchers from the University of Maryland. During two of your child's advisory or class periods, a survey will be administered that is completely voluntary and will take approximately 45 minutes to complete. The students will be asked to complete the surveys to the best of their ability and they may drop out at any time. Your child may be randomly selected to take the survey twice. Example survey items include: (a) My goal is to learn as much as possible, (b) No single occupation appeals strongly to me, (c) How confident are you in identifying your values? Upon completing the survey, your child's name will be entered into a drawing for one of three \$100 gift certificates. We also request your permission to access your child's academic records maintained at [REDACTED], specifically GPA, PSAT, SAT, attendance, and college-related information. For the 9th grade students, these data will be collected for the 9th, 10th, 11th, and 12th grades. For the 11th grade students, these data will be collected for the 11th and 12th grades.</i></p>
What about confidentiality?	<p><i>We will do our best to keep your child's personal information confidential. We will do so by taking the following steps: (1) your child's name will not be included on the surveys and other collected data; (2) a code will be placed on the survey and other collected data; (3) through the use of an identification key, the researchers will be able to link the code on the survey to your child's identity; and (4) only the researchers will have access to the identification key. All completed surveys will be kept in locked cabinets at [REDACTED]. They will be brought by a researcher to the University of Maryland campus and placed in a locked cabinet in [REDACTED]'s office in the College of Education for data analysis. Once the data are analyzed, a report will be written about the results and your child's identity will be protected to the maximum extent possible. To comply with the University of Maryland policies, the data will be retained for 10 years and then shredded.</i></p>

Page 2 of 2

Initials _____ Date _____

Project Title	Confidence in Getting to College: A Study of High School Students	
What are the risks of this research?	There are some risks of participating in this study. The risks are similar to those associated with completing surveys including fatigue. For some participants, survey questions may bring up thoughts associated with college that may be considered stressful or may cause some to feel embarrassed by their answers. If your child is uncomfortable answering a certain question, your child can choose not to answer the question.	
What are the benefits of this research?	We will share the general findings with the teachers at [REDACTED] so our work may benefit current and future students. We hope that, in the future, other students might benefit from this study through improved understanding of what helps students develop confidence in going to college.	
Does your child have to be in this research? May your child stop participating at any time?	Your child's participation in this research is completely voluntary. Your child may choose not to take part at all or may choose to stop participating at any time. If your child decides not to participate in this study or if your child stops participating at any time, he or she will not be penalized or lose any benefits to which your child would otherwise qualify.	
What if I have questions?	This research is being conducted by [REDACTED], [REDACTED] at the University of Maryland, College Park. If you have any questions about the research study, please contact [REDACTED] Benjamin Building, University of Maryland College Park, MD 20742 or via email at [REDACTED]. If you have questions about the rights your child has as a research participant or wish to report a research-related injury, please contact: Institutional Review Board Office, University of Maryland, College Park, Maryland, 20742; (e-mail) irb@umd.edu ; (telephone) [REDACTED]. This research has been reviewed according to the University of Maryland, College Park IRB procedures for research involving human subjects.	
MY CHILD CAN PARTICIPATE.	DO NOTHING. You do not have to return this form if you are willing to have your child participate in this study and have the researchers obtain your child's academic records from Friendship Collegiate Academy.	
NO! MY CHILD CAN NOT PARTICIPATE IN THIS STUDY. (Fill in these boxes and return form in advisory period at Friendship.)	Name of your child who CAN NOT participate in this study	
	Signature of the parent who DOES NOT want child to participate in this study	
	DATE	____ / ____ / 2010

THANK YOU!

IRB APPROVED EXPIRES ON JUN 01 2012 UNIVERSITY OF MARYLAND COLLEGE PARK

Appendix C: College-Going Self-Efficacy Instrument Development Survey

SECTION 1

HOW CONFIDENT ARE YOU IN EACH OF THE FOLLOWING AREAS?

Not at all confident		Very Little Confidence		Some Confidence		Quite a Bit of Confidence		A Great Deal of Confidence
A	B	C	D	E	F	G	H	I
1. Determine the cost of attending different colleges								
2. Ask for help when I am having trouble with my college application form								
3. Complete the Free Application for Federal Student Aid (FASFA) financial aid form								
4. Complete three college applications								
5. Clearly describe the type of college I want to attend								
6. Complete a test preparation course								
7. Deal successfully with the things that get in the way of my completing my application								
8. Identify college majors that match my abilities								
9. Describe what a college major is								
10. Develop test taking strategies to improve my test scores								
11. Identify my interests								
12. Identify colleges that I have a good chance of being accepted								
13. Do well on the necessary tests for college admission								
14. Find an adult who will read my college essays and give me feedback								
15. Describe the characteristics of three different colleges								
16. Identify my values								
17. Identify college majors that match my interests								
18. Identify colleges that match my abilities								
19. Develop an alternative plan if none of my top choices for college accept me								
20. Apply for three scholarships								

SECTION 1 (continued)

HOW CONFIDENT ARE YOU IN EACH OF THE FOLLOWING AREAS?

Not at all confident		Very Little Confidence		Some Confidence		Quite a Bit of Confidence		A Great Deal of Confidence
A	B	C	D	E	F	G	H	I
21. Name three colleges in my state								
22. Not give up when I feel overwhelmed with applying to college								
23. Know my academic strengths								
24. Identify some of the classes that make up a major								
25. Maintain a 3.0 GPA								
26. Know how college will affect my future								
27. Obtain three outstanding letters of recommendation from adults who know me well								
28. Identify several possible college majors of interest to me								
29. Identify strategies to improve my grade point average								
30. Know my academic weaknesses								
31. Meet the deadlines for submitting my college applications								
32. Obtain emotional support from my parents/guardians to go to college								
33. Identify three possible scholarships that I qualify for								
34. Identify several career goals								
35. Obtain enough financial assistance to be able to go to college								
36. Know my learning style								
37. Receive help from my parents to complete the college applications								
38. Talk to a teacher about possible college options								
39. Receive encouragement from adults to go to college								
40. Talk to current college students about their college experiences								

SECTION 1 (continued)

HOW CONFIDENT ARE YOU IN EACH OF THE FOLLOWING AREAS?

Not at all confident		Very Little Confidence		Some Confidence		Quite a Bit of Confidence		A Great Deal of Confidence
A	B	C	D	E	F	G	H	I
41. Rank colleges on criteria important to me								
42. Talk to 3 adults about their college experience								
43. Prioritize the tasks needed to complete my college application								
44. Score a 3 or better on all of my advanced placement tests								
45. Spend time filling out the application when I would rather do something else								
46. Save enough money for college								
47. Persist in getting answers to my questions about college applications								
48. State why going to college is important to me								
49. Talk to an admissions counselor at a college								
50. Receive support from my teachers to complete the college applications								
51. Receive support from my counselor to complete the college applications								
52. Talk to my family about how much money they can contribute to my college education								
53. Visit college campuses to learn more about college life								
54. Use resources like the College Source Book to learn about colleges								
55. Talk with an adult who went to college for advice about the application process								
56. Write an excellent personal statement/essay for college applications								
57. Understand the differences between grants, loans, scholarships and work study								
58. Use the Internet to learn about several colleges								
59. Talk to someone at a college about obtaining financial aid for college								
60. Talk to my counselor about applying to college								

SECTION 2

Try to answer all the following statements as mostly TRUE or mostly FALSE. Mark the answer that best represents your present opinion.

IN THINKING ABOUT YOUR PRESENT JOB OR IN PLANNING FOR AN OCCUPATION OR CAREER:

True	False
T	F

61. I need reassurance that I have made the right choice of occupation.
62. I am concerned that my present interests may change over the years.
63. I am uncertain about the occupations I could perform well.
64. I don't know what my major strengths and weaknesses are.
65. The jobs I can do may not pay enough to live the kind of life I want.
66. If I had to make an occupational choice right now, I am afraid I would make a bad choice.
67. I need to find out what kind of career I should follow.
68. Making up my mind about a career has been a long and difficult problem for me.
69. I am confused about the whole problem of deciding on a career.
70. I am not sure that my present occupational choice or job is right for me.
71. I don't know enough about what workers do in various occupations.
72. No single occupation appeals strongly to me.
73. I am uncertain about which occupation I would enjoy.
74. I would like to increase the number of occupations I could consider.
75. My estimates of my abilities and talents vary a lot from year to year.
76. I am not sure of myself in many areas of life.
77. I have known that occupation I want to follow for less than one year.
78. I can't understand how some people can be so set about what they want to do.

SECTION 3

I NEED THE FOLLOWING INFORMATION:

Yes	No
Y	N

79. How to find a job in my chosen career.
80. What kinds of people enter different occupations.
81. More information about employment opportunities.
82. How to get necessary training in my chosen career.

SECTION 4

I HAVE THE FOLLOWING DIFFICULTIES:

Yes	No
Y	N

83. I am uncertain about my ability to finish the necessary education or training.
84. I don't have the money to follow the career I want most.
85. I lack the special talents to follow my first choice.
86. An influential person in my life does not approve of my vocational choice.

SECTION 7

BUBBLE IN YOUR ANSWERS ON THE SCANTRON.
DO NOT WRITE IN YOUR ANSWERS ON THIS SHEET.

1. Age

2. Sex

Male	Female
M	F

3. Year in School

7 th grade	8 th grade	9 th grade	10 th grade	11 th grade	12 th grade
0 7	0 8	0 9	1 0	1 1	1 2

4. Race/Ethnicity

Asian/Pacific Islander American	Black/African American	Latino/a or Hispanic American	Native American	White or European American	Other
1	2	3	4	5	6

5. Mother's Highest Level of Education

Below High School	High School Graduate or GED	Some College	College Graduate	Graduate School	Don't Know
1	2	3	4	5	6

6. Father's Highest Level of Education

Below High School	High School Graduate or GED	Some College	College Graduate	Graduate School	Don't Know
1	2	3	4	5	6

SECTION 7 (continued)

BUBBLE IN YOUR ANSWERS ON THE SCANTRON.
DO NOT WRITE IN YOUR ANSWERS ON THIS SHEET.

7. Do you participate in your school's free and reduced-lunch program?

Yes	No	Don't Know
M	F	M

8. What is your Grade Point Average (GPA)?

9. How many Advanced Placement (AP) classes have you already taken?

10. How many Honors classes have you already taken?

11. PSAT Scores

Reading	
Math	
Writing	

12. SAT Scores (Composite)

Appendix D: Teacher's Script



College-Going Confidence Study: PROCTOR GUIDE

Thank you for helping us to administer the College-Going Self Efficacy Scale to your students. We ask that you follow this guide carefully.

Distribute packets. Each student should receive the following from you:

- a scantron sheet
- a copy of the survey
- a copy of the assent form
- a number 2 pencil

Please also collect any signed Opt-Out forms brought in by students. All students who handed in an opt-out form should NOT be invited / allowed to participate in the study.

Begin by saying:

"You are being asked to participate in a research project being conducted by faculty and students at the University of Maryland, College Park. They are inviting you to participate in this research project because you are in high school and you may be considering attending college. Information about the study is provided on the form on your desk. Upon completing the survey, your name will be entered into a drawing for one of three \$100 gift certificates. "

"Now the first step is to read the assent form stapled to the top of the survey. Read the form and if you agree to complete the survey, please sign the form and we will continue with the next step."

[GIVE THE STUDENTS 3 MINUTES TO READ AND SIGN THE ASSENT FORM. IF A STUDENT CHOOSES NOT TO PARTICIPATE, HAVE THEM CONTINUE TO WORK ON THEIR PORTFOLIOS OR HOMEWORK.]

"Now we will begin the survey. Please only use the number two pencil we have provided for you. Please open your survey booklet. You will see the first question at the top of the page. Under each question, you can see you have 9 choices and on the scantron you have 9 corresponding bubbles. Please fill in the bubble that matches the response you believe best answers the question. Once you are finished, raise your hand and I will collect your materials. Everyone who completes the survey will be entered into a drawing for one of three \$100 gift certificates."

"Now please begin."

Appendix E: Teacher's Instruction Checklist

Teacher Instructions for College-Going Self Efficacy Survey

The University of Maryland Research Team thanks you for helping us administer the College-Going Self Efficacy Survey. Please read through the following **pre-survey administration instructions**. If you have any questions, please email Jessica Diaz at jmdiaz@umd.edu

On the day of the survey the following will take place:

1. Envelopes will be distributed to you in your "College and Career Prep" Class at as your advisory period begins which will contain the following:
 - a. A proctor guide with verbal instructions to be read aloud to your students.
 - b. One survey packet for each student. (*Do not distribute a survey packet to any student who returned an Opt Out form*). Each survey packet contains (1) an assent form with stapled slip, (2) the survey booklet, (3) #2 pencils and (4) the answer bubble sheet.
2. Distribute survey packets and begin reading aloud the directions to your students.
3. Begin by having students sign and date assent form slip, have them pull off the signed slip and turn it in to you. You should place all slips back in envelope. These slips will be used to enter students into a drawing for one of three \$100 gift certificates.

(over)→

4. Have students remove the bubble sheet from the survey packet.
5. Students have as much time as they need to complete the survey booklet. They should answer every question on the survey answer sheet by filling in the bubbles. No answers should go on the survey booklet. They should only use the pencils given to fill in the bubbles.
6. When they are finished, they should turn in the bubble sheet to you. Please quickly scan each bubble sheet to make sure all questions are answered. Place all completed answer sheets in envelope.
7. Students can keep survey booklet and the assent form itself (slip was turned in).
8. A University of Maryland representative will come by to collect the envelopes and the pencils. Teachers who turn in all required material will also be entered into a raffle for one of three \$50 gift certificates.

NOTE: If there are students who are unable to finish the survey in the time allotted, we will return on another date to have students finish the surveys. Please return their survey to the envelopes with the others.

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