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Predictors of academic achievement among students at Hillsborough Community College: Can school engagement close the racial gap of achievement?

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Predictors of Academic Achievement among Students at Hillsborough Community
College:

Can School Engagement Close the Racial Gap of Achievement?

by

Warren T. Smith

This thesis is submitted in partial fulfillment
of the requirements for the degree of
Masters of Arts
Department of Sociology
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DEDICATION

I dedicate this thesis to my wife, two daughters, mother and brother, without their patience, understanding, support and most of all love the completion of this project would not have been possible. I would also like to thank Dr. James Cavendish for his tireless support and confidence in me as a graduate student. He is truly a credit to his profession. Lastly, an un-payable debt of gratitude goes to my mother, who taught me to be independent, suspicious of the status quo, and ambitious. She assumed the challenging responsibility of raising two boys, alone fighting the influences of the streets and she prevailed. And above all I want to thank God who alone is responsible for all that is right and good!

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Warren T. Smith

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**PREDICTORS OF ACADEMIC ACHIEVEMENT AMONG STUDENTS AT
HILLSBOROUGH COMMUNITY COLLEGE:
CAN SCHOOL ENGAGEMENT CLOSE THE RACIAL GAP OF
ACHIEVEMENT?**

Warren T. Smith

ABSTRACT

In the United States today, significant gaps exist among the races along a variety of measures of academic success, including standardized test scores, grade point averages, and drop-out and graduation rates. In recent decades, social scientists and educators alike have sought to uncover the reasons for these gaps, and many have focused on the role of cultural and institutional factors within the school setting. In recent years, researchers have examined such factors as a students' school identification (Osborne 1997; Voelkl 1997), students' opportunities to learn and the classroom climate (Oakes 1985), students' sense of school belonging (Goodenow 1993), and of particular interest to this researcher, sense of school engagement (Fredricks, Blumenfeld and Paris, 2004). Using data drawn from the Community College Survey on Student Engagement (CCSSE) administered by Hillsborough Community College (HCC) in the spring semester of 2007, I explore (1) whether students' levels of academic achievement, as measured by grade point average, vary across racial groups, as much of the literature has shown; and (2) whether any of the observed racial differences in academic achievement can be explained by differing levels of school engagement. Results show that black students at HCC do, in fact, report lower academic achievement compared to their white

counterparts, but that these racial differences persist even after controlling for levels of school engagement. In other words, school engagement predicts academic achievement for all students, blacks as well as whites. The strongest predictors of academic achievement for students at HCC are class attendance, quality of student-faculty relations, and hours spent studying.

CHAPTER 1: INTRODUCTION

America's educational system has purported to treat students the same by offering them the same opportunity for achievement, however educational outcomes are very different depending on their race, social class, and gender. Sociologist W.E.B. DuBois (1998) observed this with respect to race when he predicted in 1903 that the color line would be the central problem of the twentieth century. Over a hundred years later, despite enormous change in the American educational system, including the desegregation of schools, significant gaps persist between the races along a variety of measures of academic success, including standardized test scores, grade point averages, and drop-out and graduation rates (Hallinan 2001).

These racial disparities are of particular concern to leaders of colleges and universities because they have seen the enrollment of black and Hispanic/Latino students increase in record numbers over the past few decades. In 1976, 15.4 percent of college students were ethnic minorities born in the United States; by 2000, that number had risen to 28.2 percent (National Center for Education Statistics 2004). Despite the success of racial and ethnic minorities in gaining admission to colleges and universities, African American and Hispanic students continue to lack the proportional representation in higher education graduation rates (Johnston 2006).

The challenge for post-secondary educational institutions today, is not primarily one of recruitment and admission of racial and ethnic minorities, but rather one of the retention and graduation of racial and ethnic minorities from their institutions. As Johnston (2006:1) states, "The challenge for students has gradually shifted from that of gaining access to higher education to that of persistence and achieving their academic

goals.” In other words, from the minority students’ perspective, the challenge is less about gaining admission to colleges and universities and more about performing well in their courses and ultimately graduating.

According to the National Center for Public Policy and Higher Education (2005) these challenges are seen most dramatically in the ever-widening gap among racial groups in the level of education completed. Of the working-age population, from 1980 to 2000 whites and Asian-Americans made the most progress in attaining a bachelor’s degree or higher, while African-Americans, Native Americans, and Hispanics/Latinos made the least progress. In fact, when comparing the percentage of the working age population that has attained a bachelor’s degree or higher within each racial group, the gap between whites and Hispanics/Latinos has almost doubled over the last two decades—growing from 12 percentage points in 1980 to 19 percentage points in 2000. The achievement gap between whites and African-Americans has expanded from 11 percentage points in 1980 to 15 percentage points in 2000. The result of this widening gap is that in 2000, whites aged 25 to 64 were twice as likely as African-Americans to have a bachelor’s degree, and almost three times as likely as Hispanics/Latinos.

The long-term effects of this racial gap in academic achievement must not be under-estimated. Future demographic shifts are expected to make the United States a non-white majority nation around the year 2050, which is driving a consensus among policy-makers, scholars and educators to shape school reform in ways to close the racial achievement gap. Some observers even say the long-term prospects for a healthy national economy and social stability depend on boosting the achievement levels and closing the gap for all students. Additionally, the National Center for Public Policy and Higher

Education (2005) states the greatest increase in population growth in the United States workforce is occurring among those racial/ethnic groups with the lowest level of education, while the group reaching retirement age is predominantly white with higher levels of education.

For these reasons, it has become vitally important to know why these racial disparities in academic achievement continue to persist, especially considering all of the manpower and resources targeted at closing the gap. Researchers have made a number of inroads in this area, but more work needs to be done, especially in the area of understanding what factors impact or influence students' academic achievement.

The purpose of this thesis is to investigate the factors that predict levels of academic achievement among students at Hillsborough Community College (HCC) in Tampa, Florida, using data drawn from the Community College Survey on Student Engagement (CCSSE) administered by HCC during the spring semester of 2007. Specifically, I explore (1) whether students' levels of academic achievement, as measured by grade point average, vary across racial groups, as much of the literature has shown; and (2) whether any of the observed racial differences in academic achievement can be explained by differing levels of school engagement.

I have chosen to focus on a community college for a variety of reasons. First, community colleges are a distinct institutional type in the United States post-secondary education system. They maintain an integral part of the educational and economic landscape in this country. Public two-year colleges represent more than one-fourth of all post-secondary educational institutions in the United States, and enroll more than one-third of all college students, including a disproportionate number of nontraditional, part-

time, and low-socioeconomic status students (Cohen and Braver 2003). Secondly, despite the voluminous empirical literature on the predictors of academic achievement among students attending four-year colleges and universities, relatively few studies have examined the influence of student engagement (or “school engagement”) on the academic achievement of students attending community colleges (Pascarella and Terenzini 2005). This dearth of research on community colleges limits our understanding of the factors that may influence academic achievement among the populations that enroll in them. Finally, a focus on community colleges is important because of the large number of their students who are racial and ethnic minorities or who come from lower socioeconomic backgrounds, a reality driven by the fact that the admissions standards and costs of attending a four-year college or university have risen considerably in the last decade.

I have chosen to focus on school engagement as a predictor of academic achievement because although school engagement is an important academic outcome in its own right, it has been identified by numerous researchers (e.g., Furrer and Skinner 2003) as a strong predictor of a variety of other outcomes. According to Finn and Voelkl (1993) and Goodenow and Gady (1993), the term school engagement is used broadly to refer not only to students’ participation in the school’s academic and non-academic activities, but also to students’ attitudes towards schooling. As such, school engagement is more than simply a measure of involvement in activities; it entails the extent to which students’ identify with and value and educational outcomes as well as a psychological or emotional component, which relates to students’ sense of belonging.

Furrer and Skinner (2003) report that engagement in school improves performance and validates positive expectations about academic abilities. Moreover,

engagement seems to serve as an important social signal; when students are engaged, they are provided with more motivational support by their teachers (Skinner and Belmont 1993). This motivational support improves the level of comfort students have in approaching faculty with questions about the course content. It is no surprise, therefore, that engagement is a strong predictor of students' long-term academic achievement and their eventual completion of school (Furrer and Skinner 2003).

More specific to my research interest in racial disparities in academic achievement, I have chosen to focus on school engagement because a variety of research has suggested that school engagement may be an important mechanism for reducing the persistent racial gap in academic achievement. According to Talbert-Johnson (2004), many black and Latino students come from social settings where their lives and experiences are vastly different from those of their middle-class, monolingual, English-speaking white classmates and teachers. Because they may experience a cultural disconnect and/or language barrier, these students may have particular difficulty establishing the kind of trusting relationships with their peers and teachers which are necessary for developing a sense of belonging or feeling of community that has been identified in research as an important prerequisite for academic achievement. When these kinds of trusting relationships are established, however, schools can become one of the few social settings where racial minorities, by interacting with people of different backgrounds, can enjoy heightened levels of self-esteem, positive academic outlooks, and higher levels of academic achievement.

CHAPTER 2: REVIEW OF THE LITERATURE ON SOCIAL CAPITAL AND SCHOOL ENGAGEMENT

The literature relevant to this study is reviewed in the following order: a) A conceptual model for understanding the role social capital plays in enhancing school engagement; b) Theories used by scholars to explain variations in academic achievement in general and the gap in academic achievement between racial groups. These sections are followed by a summary of the reviewed literature.

Social Capital

Recent theoretical and empirical work on social capital offers a useful starting point for understanding how networks and relationships can foster the academic achievement of students, particularly African American and Latino students. James Coleman (1988) was among the first social scientists to theorize about the importance of social capital in educational settings. Although students have various sources of capital available to them that may influence their success in college -- including financial capital, human capital, and social capital -- Coleman maintained that social capital lies at the intersection of networks, norms, and academic achievement.

The central notion of social capital is that social networks have value. Social capital refers to the collective value of all social networks (i.e., who people know) and the inclinations that arise from these networks to do things for each other (norms of reciprocity). Accordingly, Bourdieu (1986) asserts that social capital consists of two key components: social relationships and the resources available because of those connections. While some scholars, such as Stanton-Salazar (1997), focus on the relationships among institutional agents, and the networks that weave these relationships into units, other scholars, such as Lin (2001), Burt (1997), and Fukuyama (1997), focus

on the informal values and norms of reciprocity and trustworthiness that arise from those social relationships which can be used to access resources. Lin (2001), for instance, asserts that social capital is the capacity of a person or group to utilize social relationships to mobilize resources embedded in a network structure. In other words, capital can be described as investment in social relations with expected returns. Burt (1997) argues that social capital is the opportunity (as opposed to the ability) to access various resources because of one's network connections. Fukuyama (1997) defines social capital as the existence of a certain set of informal values or norms shared among members of a group that permit cooperation among them.

Lin (2001) further contends that the quantity of social capital a person possesses depends on the size of the network connections they can mobilize and the amount of resources each person in that network possesses. Putnam (2000) identifies two types of social capital: bonding and bridging. Both might be useful in explaining the link between student engagement and social capital. According to Putnam, bonding social capital constitutes close-knit ties among similar individuals or groups. These ties provide support within the bonded group and within-group solidarity, but they often present barriers to the formation of relationships outside of the close-knit group. Putnam (2000) contends that bonding social capital is inward looking and tends to reinforce exclusive identities and homogeneous groups. Conversely, bridging social capital constitutes the relations between heterogeneous individuals or groups. Bridging social capital does not produce very strong ties, but they are more likely to be inclusive and allow for the transfer of resources across heterogeneous groups. Putnam (2000) suggests that bridging social capital is the key to mobilizing community resources, acquiring wider variety of

resources and sharing diverse information. For the purpose of this research, both bonding social capital (e.g., students' relations with their peers) and bridging social capital (e.g., students' relations with their teachers) are relevant, but bridging social capital is perhaps more relevant in generating the resources necessary to succeed in college.

Although the possession of social capital is important for all students, it may be particularly critical to the academic survival of those students who are more likely to feel alienated and unaccepted in an environment or by an institution whose values, beliefs, attitudes and culture seem incompatible with their own. Without social capital, trust can erode, and at a certain point this erosion begins to manifest itself in perceived atypical behavior or behavior that the dominant culture perceives as deviant. This can prompt those individuals or groups who feel culturally isolated or disengaged from the campus community to potentially drop out of school. In theory, social capital contends that building or rebuilding community and trust requires face-to-face encounters between students and teachers and students and their peers.

A significant body of research has suggested that students from different social and cultural backgrounds look at schooling in vastly different ways (Eckert, 1989; Farrell, 1990; Weis, 1990). Students who identify with the more conventional expectations of working hard on abstract tasks (e.g., developing verbal and mathematical skills) to obtain educational credentials are more likely to invest themselves in academic work than those students who have little hope in the future rewards promised by the educational system. Students who are more interested in developing their manual and physical competencies to enter a particular trade may be less inclined to invest themselves in academic work. From this perspective, the social and cultural orientations

that students bring to school, which are largely shaped by their family backgrounds, are the most important factors affecting their engagement. Although the family bears the responsibility of transmitting the desirable motivational dispositions, educational institutions and their agents can either enhance those dispositions or retard their development.

The fact that educational institutions can enhance or retard certain dispositions in students by channeling them into different learning opportunities can be understood by employing Pierre Bourdieu's concept of "habitus." Bourdieu (1971) defines "habitus" as a system of lasting dispositions, which integrate past experiences into a matrix of perceptions, appreciation and actions. This would help explain the variability in how individual students and groups of students make sense of the world and the opportunities presented to them. Bourdieu (1971) further highlights the various ways in which students who lack the dominant group's value system interact with the educational system. Bourdieu and Passeron (1979) contend that some students try to bluff their way through, picking up bits and pieces of the valued capital along the way; other students simply give up when they realize that they lack the dispositions that schools require and reward.

Children who grow-up in broken homes, improvised communities, or racially segregated neighborhoods often do not acquire the necessary social capital from membership in social networks that can translate into the desired values, norms and behavior which can be used as currency for academic achievement and upward mobility. Because children in these communities are often not exposed to children or adults of different races, ethnicities, or social classes, they may not develop the same types of dispositions, norms, and aspirations, and as a result, suffer in classroom settings. Cobb,

Wood, and Yackel (1996), for instance, state that classroom norms, which they define as people's beliefs or perceptions about normal and accepted ways of behaving, can have an effect on student learning opportunities and ultimately their academic achievement. According to Cobb et al. (1996), norms can influence the nature of discussions in the classroom, a student's ability to participate in classroom discussions, and a teacher's ability to track student understanding. For students who enter educational institutions without the desired norms of classroom participation and performance, the school setting is a social project where students' abilities, behaviors and attitudes can change as a result of interactions with peers and teachers.

According to Bourdieu, the transmission and effect of social capital in educational institutions may vary depending on the status of the teacher and his/her social network. Teachers who possess a different value system or who value different styles of engagement and modes of communication may not be willing to solicit the membership or participation of those students who are different from the ones they are accustomed to interacting with in their social network. According to Bourdieu, within the field of education, students who have certain dispositions that are shared by the teacher and the dominant culture, and are thus seen as valued, are more likely to be able to trade such dispositions for status or favor. Because social capital accrues from membership in social networks, black students may suffer from not being members of the same social networks as their teachers. This may result in black students' placing different values on what is being taught, or even question what is learned and the reasons for learning it.

It is also well documented that as students matriculate through the educational system their contact and interaction with teachers can significantly decrease or change.

This decrease in interaction can profoundly limit the transmission of specific social and cultural values, skills, codes and motivational dispositions valued by institutional agents. Furthermore, the decrease in contact with institutional agents can negatively impact the performance of students, particularly African American and Latino students whose cultural orientation promotes the establishment of relationships and networks as a support system for their retention and academic success. According to Nichols (1976), the axiology or the highest value for African Americans lies in interpersonal relationships. Hence, the maintenance and enhancement of the interpersonal relationship is considered the most preeminent value in African American communities, a value that is highlighted in the human relations model of organizations, with its emphasis on interpersonal competence, warm personal ties, and collegial relationships (Kaplan and Tausky 1977; Litwak 1978).

In summary, social interaction in educational settings enables students to build social capital, those relationships of trust and support that can provide access to opportunities and resources necessary for academic achievement. Some students, however, are faced with challenges in developing relationships of trust and support because of their varying norms, values, and aspirations. This can be especially true for students who are racial minorities or who are from economically disadvantaged families because schools tend to reward white, middle-class values (Ogbu 1978, 2003; Lareau 1989). The challenge for many black students who attend Hillsborough Community College (and other community colleges across the nation) is that their social networks are often localized and insular, thereby depriving them of exposure to the different values, norms, and expectations they may experience in college.

School Engagement

Related to the theoretical concept of social capital is the concept of school engagement. The following review presents a definition of the concept of school engagement and describes three dimensions or types of engagement identified in the existing literature. This is followed by a review of social science literature that investigates empirically whether and how school engagement is related to academic achievement.

Baumeister and Leary (1995) argue that social engagement is a basic human need, which individuals seek to satisfy through their social relationships. Because of its essential quality, human beings who do not experience a sense of engagement, or who are not engaged socially, might experience negative outcomes such as alienation or withdrawal.

Willms (2000) defines school engagement as the extent to which students identify with and value schooling outcomes and participate in academic and non-academic school activities. At its highest level, school engagement is seen in the form of membership which occurs when students internalize the feeling that they “belong”. They are a conspicuous part of the school environment, and the school is an important aspect of their own experience. Hallinan (2001) states that schools are second only to the family as a socializing agent of children.

In synthesizing some of the recent research on school engagement, Fredricks, Blumenfeld, and Paris (2004) and Finlay and NCSE (2006) have identified what they consider to be three types of engagement:

- 1) Behavioral engagement, which generally focuses on students' participation in academic, social, and extra-curricular activities.
- 2) Emotional engagement, which focuses on students' "positive and negative reactions to teachers, classmates, academics, and school" environment. This type of engagement is believed to create feelings of belonging to the institution and to influence students' willingness to do their work (Fredericks, Blumenfeld, and Paris 2004:60).
- 3) Cognitive engagement, which focuses on students' exerting the necessary effort to study, to comprehend complex ideas, and to master difficult concepts or skills (Fredericks, Blumenfeld, and Paris 2004:60).

According to Fredricks et al. (2004), studies on school engagement often include one or perhaps two of these types of engagement, but rarely do they include all three components or deal with engagement as a multifaceted construct. A brief review of this literature helps to illustrate this point.

Behavioral Engagement

In a report to the National Center for Education Statistics, Finn (1993) summarized studies that utilized measures of behavioral engagement. These studies, using a national sample of eight-grade students from a survey sponsored by the U.S. Department of Education, found that students who participated in school and classroom activities scored significantly higher on achievement tests than students who did not participate.

In addition, the results of the National Survey of Student Engagement (2009) show that students who indicated that they participated in college-sponsored activities

that involved interacting with other students and members of the campus community demonstrated a significantly higher grade point average than those who indicated they did not participate in college-sponsored activities. In general, the more interaction students have with their peers and teachers, the more likely they are to learn effectively and persist toward the achievement of their educational goals. Personal interaction with faculty members strengthens students' connections to the college and helps them focus on their academic progress. Working with an instructor on a project or serving with faculty members on a college committee lets students see first-hand how experts identify and solve practical problems. Through such interactions, faculty members become role models, mentors, and guides for continuous, lifelong learning.

Emotional Engagement

The quantity of social interactions would be meaningless, however, if these interactions were not of sufficient quality to foster feelings of belonging or a sense of community. Focusing on what might be described as emotional engagement, several studies have examined the influence of sense of belonging, or sense of community, on academic achievement. Although it is often believed that students' emotional needs are met outside of the classroom and school, these studies show that when these basic emotional needs are fulfilled in the school, students develop a sense of belonging that reduces the likelihood of dropping out (Tinto 1987; Bryk and Driscoll 1988) and enhances academic achievement (Finn and Voelkl 1993; Bryk and Driscoll 1988). According to this research, students' sense of belonging to the school community is derived largely from having positive relationships with peers and faculty at the school.

What are some of the mechanisms by which sense of belonging, or sense of community, might significantly enhance academic achievement? Finn and Voelkl (1993) identify the student's identification with the school as an important mechanism by which sense of community among peers maximizes student learning outcomes. Bryk and Driscoll (1988) found that communally organized schools have fewer problems with student misbehavior (e.g., class cutting, absenteeism, etc.) and drop-out, and greater levels of student interest in academics, than do other schools. These factors, according to Bryk and Driscoll (1988), get translated into high levels of academic achievement. Fine (1991) found that students' perception of teacher support, encouragement, and warmth was significantly and positively related to academic achievement, and significantly negatively related to their likelihood of dropping out of school.

In a review of studies that examined the link between supportive schools and academic success, Schaps (2005) reports that a sense of community at school positively affects students' enjoyment of school, academic motivation, educational aspirations, and tendency to stay in school. According to Schaps (2005), these positive outcomes can, in turn, lead to higher levels of academic achievement, as measured by grades and standardized test scores. Schaps (2005) concludes, however, that building a sense of community may not be sufficient for some students, particularly low-income students and students of color, without a concurrent "academic press" that consists of strong norms and expectations at the school that encourage academic effort and achievement. The challenge with presenting these norms, however, is that schools are not necessarily neutral institutions, and may favor the norms, attitudes, and behaviors commonly associated with the dominant class. John Ogbu (1978) made this point when he

contended that blacks are not socialized to succeed in an educational system dominated by whites; rather they are trained to cope with their lower status in society that limits their opportunities.

Having a sense of belonging, therefore, may be particularly important for racial minorities because, according to Talbert-Johnson (2004), many black and Latino students come from social settings where their lives and experiences are vastly different from those of their middle-class, monolingual, English-speaking white teachers. In fact, the National Center for Educational Statistics (2004) reports that there is a high probability that black students in grades K-14 will have mostly white teachers throughout their educational career. The under-representation of black teachers can have a profound impact on student-teacher relations further widening the achievement gap due in part to the cultural disconnect and potential language barrier. Johnson et al. (2001) state that beyond the composition of the student body, the composition of the teaching staff may shape students' level of school engagement. For many students, race is perhaps the initial dimension along which students can identify with teachers and thus feel a sense of belonging.

At the same time, students who come from low-income households or single parent households are at greater risk of having their emotional and social needs neglected in their families. As a consequence, they may view school as an alternative place where they can get their social needs addressed. Booker (2004) and Sanchez Colon and Esparza (2005) argue that affirmative, meaningful interactions with teachers and other students in and out of the classroom are especially critical to the academic success of black students because black students may seek relationships with teachers and students to substitute for

what they are missing at home. In the absence of the traditional two-parent households, many black students may envision their school as an extension of their community and their teachers as surrogate parents. Although this can be a challenge for teachers who are not familiar with the nuances of the black family or black culture, the more interaction African American students have with their teachers, the more likely they are to learn effectively and persist toward achievement of their educational goals.

One of the challenges faced by those seeking to educate black students is the perception among some black students that the school culture is simply a reflection of the dominant culture. Ogbu (1978) was one of the first to observe that students from historically oppressed minority groups may resist school goals as a way of opposing the culture and values of the dominant society. Describing this cultural disconnect as it is manifested today, Witherspoon, Speight, and Thomas (1997) and Steele (1992) observe that African American students, particularly males, who get good grades are often accused of trying to act white, because performing well in school has been deemed as a white behavior. Faced with the prospect of losing their connection with their friends, many black students invariably choose peer relations or group identity over academic achievement. DeRosier, Kupersmidt, and Patterson (1994) observations confirmed this by finding that students who are accepted by in-group *and* out-group peers experience more positive academic outlooks and higher levels of academic achievement than students who are accepted by in-group peers but rejected, or not highly accepted, by out-group peers. This reinforces the notion that because schools are one of the few social settings where racial minorities can interact with people of different backgrounds, school-based relationships play a critical role in enhancing minority students' academic outlook.

Black students may also perceive differential expectations from their instructors based on their appearance, their perceived intellectual capabilities, or their perceived possession of different values, interests, and modes of communication. These perceived differential expectations can impact the ways in which students perceive their own academic abilities, which in turn influences their academic achievement. Many researchers have noted that black students need to have strong, positive relationships with faculty to promote their self-esteem and to overcome the perception, held by the students or the faculty, that college is not a domain in which they can excel (Wentzel and Wigfield 2009).

Cognitive Engagement

Finally, some studies (Newmann et al. 1992; Marks 2000) focus on the cognitive dimension of school engagement – the dimension that examines the role of students’ study habits and the discipline and dedication it takes to comprehend complex ideas and master difficult concepts or skills. Marks (2000) conceptualized cognitive engagement as the attention, interest, investment, and effort students expend in the work of learning. Newmann et al. (1992:12) define cognitive engagement as the “student’s psychological investment in and effort directed toward learning, understanding, mastering the knowledge, skills or crafts that the academic work is intended to promote.” These studies find a positive relationship between cognitive engagement and academic achievement.

Summary and Hypotheses

This review of the literature highlights the fact that school engagement is a multidimensional concept involving behavioral, emotional, and cognitive dimensions. The behavioral dimension, as measured by students’ levels of participation in a variety of

school activities and social networks in the educational setting, provides the kinds of social experiences that tie students to the norms and values of the educational context. The emotional dimension, as measured by students' reactions and feelings about their relationships with their peers and their teachers, enables students to develop feelings of warmth and a sense of belonging to the educational community. Finally, the cognitive dimension, as measured by students' study habits and dedication to learning, fosters students' comprehension and mastery of important concepts and skills.

Together, these dimensions of school engagement can enhance students' motivation to learn, their incentives to prepare for class and impress their teachers, and their overall enjoyment of school. They can also reduce their likelihood of skipping classes and dropping out of school. According to Royal and Rossi (1997), these positive benefits get translated into higher academic achievement for all students who are highly engaged.

In addition, these dimensions of school engagement, particularly emotional engagement, may be especially critical in predicting the academic achievement of racial and ethnic minorities and students from low income families. Guthrie and Wigfield (2000), for instance, recently found that highly engaged students from low-income and minority families scored higher on reading tests than less-engaged students from high-income or white families. This suggests that increasing a students' sense of engagement may be one way to close the racial academic achievement gap.

According to the 2007 National Survey of Student Engagement (NSSE), not only does "engagement" work for minority and under-represented students, but such practices make a bigger difference for such students than for students in general. Steele (1992)

contends that dis-identification with the school is the root of black students' academic achievement problems.

The literature reviewed in this chapter included the literature on social capital and the literature on school engagement. These literatures punctuate the importance of examining social capital and sense of engagement as predictors of academic achievement for students in general, and for African American students in particular. On the basis of this review, I seek to test the following hypotheses:

Hypothesis 1: African American students at Hillsborough Community College will report lower levels of academic achievement than will white students at Hillsborough Community College.

Hypothesis 2: Variables measuring school engagement will emerge as significant predictors of academic achievement among all students at Hillsborough Community College.

Hypothesis 3: Variables measuring school engagement, particularly emotional engagement, will have a greater influence on academic achievement among African American students than among White students.

By testing these hypotheses and identifying the predictors of students' academic achievement at Hillsborough Community College, I hope to be able to offer recommendations for the steps that HCC and other community colleges can take to ensure that all students, particularly at-risk students, can enjoy increased rates of completion and improved levels of academic achievement.

CHAPTER 3: RESEARCH METHODOLOGY

The Sample

This study uses survey data gathered from students who attend Hillsborough Community College (HCC), a mid-sized public community college established in 1968 and located in Hillsborough County (Tampa), Florida. In the spring of 2007, Hillsborough Community College (HCC) agreed to participate in a nationwide survey of community colleges designed to evaluate the performance of colleges in meeting the needs of their constituents (students). The survey, titled the Community College Survey of Student Engagement (CCSSE), was administered to 310,013 students at 525 two-year colleges in 48 states, the British Columbia, Nova Scotia and the Marshall Islands using a uniform sampling and administrative procedure.

To assist in the administration of the survey at HCC, HCC administrators submitted a copy of its class schedule of credit generating courses for the spring semester to CCSSE staff and CCSSE randomly selected the courses that would receive the survey. Remedial college preparatory courses were excluded from the sample. The required number of course sections to be surveyed was determined by the total sample size needed to reduce sampling error and to ensure valid results. The sampling and survey strategy produced a usable *N* of 1,252 community college students from HCC's four campuses for a response rate of 83%.

Survey Administration

Survey administration took place in classrooms during regularly scheduled class meeting times and was not announced to the students in advance. The survey was administered by either the faculty member teaching the course or by a campus

representative. Survey administrators were given a script that they read to students in each classroom. The script instructed students to complete all items on the survey and reminded them that the survey is about their experience at the college where the survey is being administered.

Because sampling units were classrooms and not individuals, some students were in more than one sampled course. Students who were attending more than one course in which the surveys were administered were asked to complete the survey again even if they had completed one in another class. CCSSE administered a test-retest reliability on respondents who took the survey more than once during the same administration year. While only the first completed surveys were included in the analyses reported here, CCSSE has used the second completed survey to examine test-retest reliability.

Representativeness of Respondents

In order to gauge how representative the HCC survey respondents were of the larger Hillsborough Community College student population, descriptive analyses of the demographic data from the CCSSE survey were performed and the results compared to the institutional data collected by HCC of its overall student population. A similar comparison was then made between the demographic profile of HCC respondents and the demographic profile of respondents to the nationwide CCSSE survey.

Table 1 reports the results of these comparisons. As Table 1 shows, survey participants at HCC are very similar to the overall HCC student population except in one major respect – survey respondents are much more likely than non-respondents to be full-time students. While 66% of HCC survey respondents reported being full-time students and 34% reported being part-time students, institutional data obtained from HCC about

its student population show that, of the overall student population at HCC, only 32% is enrolled full-time and 68% is enrolled part-time. This disparity between the percent of full-time students among survey respondents and the overall HCC student population can be explained by the fact that classes were sampled rather than students. Because full-time students enroll in more courses than do part-time students, full-time students had a greater chance of being selected to participate in the survey. This disparity is important to note because the results of the analyses reported herein will be less generalizable to the part-time student population at HCC than to the full-time student population.

Despite this difficulty in being able to generalize my findings to the part-time student population, I can be fairly confident that the results of my analyses are generalizable to HCC students of different races and genders because, as Table 1 also reports, there is little difference between HCC survey respondents and HCC students in terms of gender and race. While 39% of HCC students are male and 61% are female, 40% of survey respondents report being male and 60% report being female. Furthermore, of those surveyed, 48% (or 598 students) reported being White/Non-Hispanic, 17% (or 230 students) reported being Black or African American, 22% (or 275 students) reported being Hispanic, Latino, Spanish, 6% (or 65 students) reported being Asian, Asian American or Pacific Islander, 1.2% (or 16 students) reported being American Indian or Native American, and less than 1% (or one student) reported being of another race. These figures are very similar to the institutional data provided by the HCC administration, which show that 55% of HCC students are White/Non-Hispanic, 19% are Black or African American, 20% are Hispanic, Latino or Spanish and 4% are Asian.

The demographic profile of those who responded to the survey at Hillsborough Community College is also very similar to the demographic profile of those who responded to the nationwide 2007 CCSSE survey except in respect to race and age. As Table 1 illustrates, the two groups of respondents are similar with respect to full-time or part-time status and gender. The HCC distribution reveals that 34% of the surveyed respondents identified as part-time students while 66% identified as full-time students. The percent of full-time students in the national survey is slightly higher than the HCC survey at 70%, and the number of part-time students is slightly lower at 40%. Of the respondents to the HCC survey, 40% identified themselves as male, while 60% identified as female. Again, these figures are comparable to those reported in the national survey, where 41% reported being male and 59% reported being female.

Table 1: 2007 Demographic Profile of Students and Survey Respondents at Hillsborough Community College and Community Colleges Nationally

<i>Student Characteristics</i>	<i>All HCC Students</i>	<i>HCC Respondents</i>	<i>All CCSSE Students</i>	<i>CCSSE Respondents</i>
Enrollment Status				
Full-time students	32%	66%	38%	70%
Part-time students	68%	34%	62%	30%
Gender				
Male	39%	40%	41%	41%
Female	61%	60%	59%	59%
Race/Ethnicity				
White, Non-Hispanic	55%	48%	58%	64%
Black, Non-Hispanic	19%	17%	13%	12%
Hispanic, Latino, Spanish	20%	22%	15%	12%
Asian or Pacific Islander	4%	6%	6%	6%
Native American	0%	1%	1%	2%
Other	1%	6%		
Age				
18-24 years old		70%		55%
25-49 years old		25%		39%
50-64 years old		1%		5%
65+ years old				

HCC respondents are slightly different from CCSSE member survey respondents, however, in terms of race and age. Whereas only 48% of HCC respondents report being white, non-Hispanic, 64% of CCSSE member college respondents report being white, non-Hispanic. Furthermore, 70% of HCC respondents (or 911 students) are between the ages of 18 and 24, 25% (or 320 students) are between the ages of 25 and 49 and the 1% (or 18 students) are between the ages of 50 and 65. This distribution reveals that the HCC respondents are somewhat younger than those who responded to the nationwide 2007 CCSSE survey, where 55% reported being between the ages of 18 and 24, 39% between the ages of 25 and 49, and 5% between the ages of 50 and 65. Based on these data, we can say that HCC respondents are similar to CCSSE survey respondents except

that HCC respondents are slightly younger and more likely to be racial minorities compared to CCSSE respondents.

The Dependent Variable: Academic Achievement (Grade Point Average)

Academic achievement can be measured in a variety of ways and can be based on several factors. Many colleges use grade point averages, standardized test scores, and graduation rates as measures of academic achievement. In college, academic achievement entails fulfilling academic requirements resulting in a grade point average and ultimately a degree or certificate. The primary dependent variable in my analyses is academic achievement, which is operationalized by the use of the student's reported grade point average. Young and Fry (2008) contend that grade point average (or GPA) is a broad and progressive measure of academic achievement over the duration of enrollment in a course or at a college. It provides an overall view of a student's performance and it is an internationally recognized. While the use of one variable to measure of academic achievement is not ideal, given the limitations of the CCSSE survey data, it is necessary. Additionally, GPA is the only direct, traditional, universal and quantifiable measure available that provides a reasonable ordinal ranking of academic achievement.

In the CCSSE survey, GPA was assessed by asking the student respondents to self-report their grades in response to the following question: "In what range is your overall college grade average (GPA)?" Respondents were asked to select from the responses: C- or lower (coded 1), C (coded 2), C+ to B- (coded 3), B (coded 4), B+ to A- (coded 5) or A (coded 6) (See Appendix for variable names, question wordings, and actual coded values). Forty-one students (or 3.2%) indicated they had a grade point

average of a C- or lower, 103 students (or 7.9%) indicated they had a grade point average of a C, 251 students (or 19.4%) indicated they had a grade point average of C+ to B-, 315 (or 24%) indicated they had a grade point average of B, 345 (26.6%) indicated they had a grade point average of B+ to A-, and 153 (or 11.8%) indicated they had a grade point average of A. There were 44 (or 3%) missing cases.

Independent Variables

The primary aim of this study is to examine the relationship between sense of school engagement and academic achievement as measured by using the proxy GPA among African Americans at Hillsborough Community College. The CCSSE survey consisted of 38 questions designed to measure the students' level of involvement in various aspects of Hillsborough Community College. Of these 38 questions, 6 independent variables were identified as measures of the three dimensions of school engagement – behavioral engagement, emotional engagement, and cognitive engagement -- described in the existing literature.

The variables identified as measuring the concept of “behavioral engagement” were frequency of skipping class, hours spent in college activities, and use of academic advising. To measure frequency of skipping class, students were asked “In your experiences at this college during the current school year, about how often have you done each of the following? ...Skipped class.” Responses to the question were coded as 1=Never, 2=Sometimes, 3=Often, and 4=Very Often. To measure the number of hours spent in college activities, students were asked “About how many hours do you spend in a typical 7-day week doing each of the following? Participating in college-sponsored activities (organizations, campus publications, student govt., intercollegiate or intramural

sports, etc.).” Responses to the question were coded as 0= None, 1=1-5 hours, 2=6-10 hours, 3=11-20 hours, 4=21-30 hours, and 5=More than 30 hours. Because preliminary analyses revealed that this variable was highly skewed (i.e., with 144 respondents reporting that they spent 1-5 hours, but only 30 respondents indicating that they spent 6-10 hours, 13 respondents reporting that they spent 11-20 hours, 8 reporting 21-30 hours, and only 5 reporting more than 30 hours), this variable was recoded into a dichotomous variable in which 0= No hours spent on college-sponsored activities, and 1= 1 or more hours spent on college-sponsored activities. To measure the use of academic advising, students were asked to “Indicate how often you use the following services.... Academic advising/planning,” and responses were coded as 1=Rarely/never, 2=Sometimes, and 3=Often.

The variables identified as measuring the concept of “emotional engagement” were quality of peer relationships and quality of faculty relationships. To measure the quality of these relationships, students were asked to “Mark the box that best represents the quality of your relationships with people at this college. Your relationship with: ...other students ...instructors.” The scale for quality of relationships with other students ranged from 1= ‘Unfriendly, unsupportive, sense of alienation’ to 7= ‘Friendly, supportive, sense of belonging.’ The scale for quality of relationships with instructors ranged from 1= ‘Unavailable, unhelpful, unsympathetic’ to 7 = ‘Available, helpful, sympathetic.’

The variable identified as measuring the concept of “cognitive engagement” was the simple measure of time spent studying. Students were asked “About how many hours do you spend in a typical 7-day week doing each of the following? Preparing for class

(studying, reading, writing, rehearsing, doing homework, or other activities related to your program).” Responses were coded as 0=None, 1=1-5 hours, 2=6-10 hours, 3=11-20 hours, 4=21-30 hours, and 5=more than 30 hours.

Demographic Variables

Because previous studies have shown that students’ race, gender, age, marital status, and having a child can influence their academic performance, all of these variables were included as control variables in my analyses. Race is included because previous studies have shown that significant gaps persist between the races along a variety of measures of academic success, including grade point averages, with blacks having significantly lower levels of academic achievement than whites (Hallinan 2001; National Center for Public Policy and Higher Education 2005). To measure race, respondents to the CCSSE survey were asked “What is your racial identification?” The response options were used to create dummy variables for each racial group (i.e., Native American, Asian, Black, Hispanic, White), and in the regression analyses White is omitted to serve as a reference category.

The literature on college academic achievement also reports the presence of gender differences. According to the U.S. Department of Education’s 1995 “Condition of Education Report,” men are less favored in college and university admissions today than they were in the past. While of the ratio of male-to-female college admissions favored men during the 1970s and achieved equilibrium during 1980s, the ratio favored women (54-to-46) during the 1990s. The same type of shift – i.e., from ratios favoring men to ratios favoring women – can be seen in college graduation rates. In the 1970s, women were less likely than men to receive bachelors and masters degrees, whereas in

the 1990s, women made up the majority of bachelors and masters degree recipients. In light of this literature which documents disparities between the genders, I include gender (coded 0=male, 1=female) as a control variable in my analyses.

Age, marital status, and having a child were also included in my analyses. The response categories for age presented to the respondents of the survey were: 1=under 20 years old; 2=20 to 21; 3=22 to 24; 4=25 to 29; 5=30 to 39; 6=40 to 49; 7=50 to 64; and 8=65+. Marital status was measured by asking respondents “Are you married,” and the presence of a child was measured by asking respondents “Do you have children who live with you?” Both variables were coded as 0=No, 1=Yes.

Interaction Variables

Because the literature on academic achievement suggests that school engagement, particularly emotional engagement, may be especially critical in predicting the academic achievement of racial and ethnic minorities (Guthrie and Wigfield 2000; Steele 1992), leading some to argue that school engagement might actually be one of the best strategies for closing the racial academic achievement gap, I have included in my analyses two interaction terms – Black X Quality of Peer Relationships and Black X Quality of Faculty Relationships – to measure whether either or both of these two measures of emotional engagement is a better predictor of GPA for black students than for white students.

Data Analysis

First, to test whether black students at Hillsborough Community College report lower levels of academic achievement than white students, I conducted an Independent Sample t-test of mean scores on the dependent variable (i.e., Grade Point Average) for the black and white subsamples. This provided a direct test of the hypothesized black-

white difference in academic achievement based on the prior literature. This t-test was followed by a Ordinary Least Squares (OLS) multiple regression to examine whether any differences in academic achievement based on race stand up while controlling for other demographic variables.

To test my second hypothesis, in which I predicted that variables measuring school engagement will emerge as significant predictors of academic achievement among all students at Hillsborough Community College, I conducted a second OLS regression in which the variables measuring school engagement were added to the model in which only the demographic variables were included. By observing the change in values of the Adjusted R-square statistic, I am able to determine the extent to which adding the variables measuring school engagement increases the predictive capacity of the model. This is because the Adjusted R-square statistic can be interpreted as the percent of variation in the dependent variable (i.e., GPA) that is attributable to the independent variables in the model.

Finally, to test my third hypothesis, in which I predicted that variables measuring school engagement, particularly emotional engagement, will have a greater influence on academic achievement among black students than among white students, I added two additional variables the regression model – the interaction terms Black X Quality of Peer Relationships and Black X Quality of Faculty Relationships.

CHAPTER 4: RESULTS

Table 2 displays the mean values on self-reported grade points averages for students of different races and ethnicities at Hillsborough Community College. As predicted, black students report lower GPA's than other groups of students. Furthermore, independent sample t-tests of difference between black and white students at HCC revealed that a statistically significant difference exists between black and white students ($p < .05$).

Table 2: Mean Values on Self-Reported Grade Point Averages for Students of Different Races/Ethnicities at Hillsborough Community College

	Mean GPA	N
Native American	4.13	16
Asian or Pacific Islander	4.20	51
Black, Non-Hispanic	3.87	230
White, Non-Hispanic	4.11	598
Hispanic, Latino	4.09	275
Other	4.06	65

Table 3 reports the results of three OLS regression models, the first of which examines whether the difference in academic achievement observed between black and white students holds up when controlling for demographic variables. Because black students at HCC, in comparison to other students in the HCC sample, report being older and more likely to have a child, it is conceivable that once age and the presence of a child are controlled, that the significant, zero-order race difference in academic achievement will no longer be apparent.

As Model I in Table 3 shows, black students ($b = -.250$, $p < .05$) report significantly lower GPA's than white students even when controlling for the respondents' age, gender, marital status, and child care obligations. In addition to this significant relationship

between race and GPA, Model I also reveals that age ($b=.148$), gender ($b=.220$), and marital status ($b=.357$) are significant net predictors of academic achievement. Those who are older ($p<.001$), female ($p<.01$), or married ($p<.01$) report significantly higher GPA's than those who are younger, male, or unmarried. As the beta values (or standardized regression coefficients) in this model show, of the various demographic characteristics of respondents, age ($\beta=.179$) and marital status ($\beta=.103$) appear to be most predictive of students' reported academic achievement.

Model II in Table 3 adds the variables measuring school engagement. As the model shows, variables measuring each of the dimensions of school engagement – behavioral, emotional, and cognitive – emerge as significant predictors of academic achievement. Those who report skipping classes (and the frequency of that skipping) have significantly lower GPA's than those who report regular attendance at classes ($b=-.292$, $p<.001$). Moreover, those who report spending some time in college-sponsored activities – the other measure of behavioral

Table 3: Net Relationships (Bs and Betas) Between Demographic Variables (Model I), Dimensions of School Engagement (Model II), and Interaction Variables (Model III) and Academic Achievement among Students at Hillsborough Community College (N=1,296)

	Model I		Model II		Model III	
	B	Beta	B	Beta	B	Beta
<i>Demographic Variables</i>						
Native American	-.086	-.008	-.030	-.003	-.026	-.002
Asian	.122	.018	.088	.013	.090	.013
Black	-.250*	-.073*	-.292**	-.085**	-.242	-.071
Hispanic	.060	.019	.007	.002	.007	.002
Age	.148***	.179***	.096***	.115***	.095***	.114***
Female	.220**	.082**	.148	.055	.150	.056
Married	.357**	.103**	.237*	.069*	.234*	.068*
Has Child (1=yes; 0=no)	-.078	-.025	-.094	-.031	-.090	-.029
<i>Behavioral Engagement</i>						
Frequency of skipping class			-.292***	-.149***	-.294***	-.150***
Spent time in college activities			.224*	.062*	.228*	.063*
Use of academic advising			-.061	-.031	-.060	-.031
<i>Emotional Engagement</i>						
Quality of Peer Relationships			.053	.054	.062	.063
Quality of Faculty Relationships			.180***	.181***	.173***	.174***
<i>Cognitive Engagement</i>						
Hours Spent Studying			.146***	.113***	.146***	.113***
<i>Interaction Variables</i>						
Black X Qual. of Peer Relations					-.059	-.097
Black X Qual. of Fac. Relations					.048	.081
Constant	3.385		2.680		2.670	
Adjusted R ²	.060		.151		.150	

*p≤ .05, ** p≤ .01, *** p≤.001

engagement – have significantly higher GPA's than those who do not spent time in these types of activities (b=.224, p<.05). Model II also shows that emotional engagement is a significant predictor of academic achievement, but only in terms of the quality of the student's relationships with the faculty, not his/her peers. HCC students who report that their instructors are available, helpful and sympathetic report significantly higher GPA's

than students who report that their instructors are unavailable, unhelpful, or unsympathetic ($b=.180$, $p<.001$). Cognitive engagement also matters in terms of academic achievement, with time spent studying emerging as a significant, net predictor of academic achievement. The longer students spend “preparing for class (studying, reading, writing, rehearsing, doing homework, or other activities),” the higher their reported grade point averages ($b=.146$, $p<.001$). Examining the beta values (or standardized coefficients) in Model II further reveals that of the variables measuring school engagement, the quality of faculty relations ($\beta=.181$) appears to be the most influential, although attending class and studying hard are also very important. Overall, students who feel engaged by their teachers, attend class regularly, and spend time studying reported having higher grades than those students who report they were not engaged by instructors, skipped classes, and did not study.

Model III tests whether emotional engagement might be more influential and predicting academic achievement among black students than among white students. As the model shows, neither of the two interaction variables emerges as a significant predictor of GPA. In other words, although emotional engagement is a significant predictor of academic achievement among students in general, it is not more influential for black students than for white students, as I had hypothesized.

Examination of the R-square values of these three models reveals that Model II does the best job explaining variation in academic achievement. Slightly over fifteen percent of the variation in the dependent variable (GPA) is explained by the variables in this model.

CHAPTER 5: DISCUSSION AND CONCLUSION

The central finding of this analysis is that school engagement matters for student success at HCC. The strongest predictors of academic achievement for students at HCC are class attendance, quality of student-faculty relations, and hours spent studying. These three factors can be conceived as measuring each of the three dimensions of school engagement – behavioral engagement, emotional engagement, and cognitive engagement -- identified by previous researchers (Fredricks, Blumenfeld, and Paris 2004).

The fact that students' assessments of the quality of their relationships with the faculty emerges as such a strong predictor of academic achievement in this research confirms the results of Talbert-Johnson (2004), who observed that the most important variable in determining academic achievement in a school environment is the quality of students' relationships with teachers. Such relationships are seen as indicators of the extent to which students have integrated themselves into the academic and social aspects of a college community, which Tinto (1987) showed are critical to students' first-year persistence decisions and long-term academic achievement.

Although black students at HCC do, in fact, report lower academic achievement compared to their white counterparts, these racial differences persist even after controlling for a variety of demographic variables measuring students' background characteristics and for levels of behavioral, emotional, and cognitive school engagement. In other words, whatever is causing the racial academic achievement gap at HCC (and I suspect other community colleges), it appears NOT to be linked to the background characteristics or levels of school engagement included in my analyses. School engagement predicts academic achievement equally well for all students, blacks as well

as whites, and while all students, including black students, should avail themselves of opportunities for engagement and supportive relationships with their teachers, researchers and college administrators must look beyond these factors if they want to close the academic achievement gap.

One factor which our society must examine in greater detail is a factor which I was unable to incorporate into my analyses because of its absence in the CCSSE survey – that is, the quality of the student’s elementary and secondary schools. Although some readers may wonder if the academic achievement gap between whites and blacks is better explained by reference to students’ childhood family background, rather than to the quality of the childhood schools, ancillary analyses of the CCSSE survey data for HCC reveal that neither the mother’s nor the father’s level of education is significantly related to students’ grade point average.

I believe that studying a community college like HCC adds an important dimension to the existing literature on school engagement and academic achievement because, as mentioned earlier, community colleges are a distinct institutional type in the United States post-secondary education system. Because community colleges in general enroll a disproportionate number of nontraditional, part-time, and low-socioeconomic status students (Cohen and Brawer 2003), and because HCC in particular enrolls a disproportionate number of racial and ethnic minorities, these contexts are important sites for observing a high degree of variability in academic achievement. As admission standards and tuition costs continue to climb and four-year colleges and universities, we can expect that community colleges, with their “open door” policies in admissions, will

continue to attract and enroll highly diverse groups of students with highly diverse academic abilities.

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APPENDICES

APPENDIX A: QUESTION ITEM WORDINGS AND CODED VALUES FOR VARIABLES USED IN ANALYSES

Dependent Variable	Wording of Question Item	Actual Coded Values Used
Academic Achievement (GPA)	At this college, in what range is your overall college grade average?	1=C- or lower; 2=C; 3=C+ to B-; 4 = B; 5= B+ to A- 6 = A
Demographic Variables	Wording of Questions Items	Actual Coded Values Used
Native American	What is your racial identification?	1=American Indian or Native American
Asian	What is your racial identification?	1=Asian, Asian American or Pacific Islander
Black	What is your racial identification?	1= Black or African American, Non-Hispanic
Hispanic	What is your racial identification?	1= Hispanic, Latino, Spanish
Age	Mark your age group.	1= Less than 20; 2=20 to 21; 3=22 to 24; 4=25 to 29; 5=30 to 39; 6=40 to 49; 7=50 to 64; 8= 65+
Female	Your sex.	0=Male; 1=Female
Married	Are you married?	0=No 1=Yes
Has Child	Do you have children who live with you?	0=No 1=Yes
Time Spent Studying (ACADPR01)	About how many hours do you spend in a typical 7-day week?	0=None 1=1-5 hours 2=6-10 hours 3=11-20 hours 4=21-30 hours 5=More than 30 hours
Independent Variables	Wording of Questions Items	Actual Coded Values Used
<i>Behavioral Engagement</i>		
Frequency of skipping class	In your experiences at this college during the current school year, about how often have you done each of the following? ...Skipped class	1=Never; 2=Sometimes; 3=Often; 4=Very often
Hours spent in college activities	About how many hours do you spend in a typical 7-day week doing each of the following? ...Participating in college-sponsored activities (organizations, campus publications, student govt., intercollegiate or intramural sports, etc.)	Original: 0=None; 1=1-5 hours; 2=6-10 hours; 3=11-20 hours; 4=21-30 hours; 5=More than 30 hours Recoded as: 0=None; 1=1 or more hours
Use of academic advising	Indicate how often you use the following services.... Academic advising/planning	1=Rarely/never; 2=Sometimes; 3=Often

**APPENDIX A (CONTINUED): QUESTION ITEM WORDINGS AND CODED VALUES
FOR VARIABLES USED IN ANALYSES**

Independent Variables	Wording of Questions Items	Actual Coded Values Used
<i>Emotional Engagement</i>		
Quality of Peer Relationships	Mark the box that best represents the quality of your relationships with people at this college. Your relationship with: ...other students.	Scale from 1=Unfriendly, unsupportive, sense of alienation; to 7=Friendly, supportive, sense of belonging
Quality of Faculty Relationships	... Your relationship with instructors.	Scale from 1=Unavailable, unhelpful, unsympathetic; to 7 = Available, helpful, sympathetic
<i>Cognitive Engagement</i>		
Hours spent studying	About how many hours do you spend in a typical 7-day week doing each of the following? Preparing for class (studying, reading, writing, rehearsing, doing homework, or other activities related to your program)	0=None; 1=1-5 hours; 2=6-10 hours; 3=11-20 hours; 4=21-30 hours; 5=More than 30 hours

APPENDIX B: DESCRIPTIVE STATISTICS FOR VARIABLES USED IN ANALYSES

	N		Mean	Median	Mode	Std. Deviation	Skewness	Kurtosis
	Valid	Missing						
GPA	1208	88	4.0588	4.0000	5.00	1.28235	-.379	-.483
Age	1249	47	3.63	3.00	2	1.571	.809	-.207
Female	1252	44	.6318	1.0000	1.00	.48251	-.547	-1.703
Married	1252	44	.1701	.0000	.00	.37590	1.758	1.092
Has Child	1256	40	.2309	.0000	.00	.42157	1.279	-.365
Frequency of Skipping Class	1285	11	1.68	2.00	2	.667	.891	1.272
Hours Spent in College Activities	1276	20	.1567	.0000	.00	.36370	1.891	1.577
Use of Academic Advising	1177	119	1.67	2.00	2	.659	.484	-.728
Quality of Peer Relationships	1275	21	5.31	5.00	6	1.358	-.606	-.066
Quality of Faculty Relationships	1275	21	5.48	6.00	6	1.294	-.753	.272
Hours Spent Studying	1278	18	1.85	2.00	1	1.000	.907	.308

GPA		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 = C- or lower	41	3.2	3.4	3.4
	2 = C	103	7.9	8.5	11.9
	3 = C+ to B-	251	19.4	20.8	32.7
	4 = B	315	24.3	26.1	58.8
	5 = B+ to A-	345	26.6	28.6	87.3
	6 = A	153	11.8	12.7	100.0
	Total	1208	93.2	100.0	
Missing	System	88	6.8		
Total		1296	100.0		

APPENDIX B (CONTINUED): DESCRIPTIVE STATISTICS FOR VARIABLES USED IN ANALYSES

RACE		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Native American	16	1.2	1.3	1.3
	Asian or Pacific Islander	50	3.9	4.0	5.3
	Black, Non-Hispanic	230	17.7	18.6	24.0
	White, Non-Hispanic	598	46.1	48.4	72.5
	Hispanic, Latino, Spanish	275	21.2	22.3	94.7
	Other	65	5.0	5.3	100.0
	Total	1235	95.3	100.0	
Missing	System	61	4.7		
Total		1296	100.0		

AGE		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1= Less than 20 years old	379	29.2	30.3	30.3
	2= 20-21 years	319	24.6	25.5	55.9
	3= 22-24 years	213	16.4	17.1	72.9
	4= 25-29 years	151	11.7	12.1	85.0
	5= 30-39 years	111	8.6	8.9	93.9
	6= 40-49 years	58	4.5	4.6	98.6
	7= 50-64 years	17	1.3	1.4	99.9
	8= 65+ years	1	.1	.1	100.0
	Total	1249	96.4	100.0	
Missing	System	47	3.6		
Total		1296	100.0		

APPENDIX B (CONTINUED): DESCRIPTIVE STATISTICS FOR VARIABLES USED IN ANALYSES

FEMALE		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0= Male	461	35.6	36.8	36.8
	1= Female	791	61.0	63.2	100.0
	Total	1252	96.6	100.0	
Missing	System	44	3.4		
Total		1296	100.0		

MARRIED		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0= No	1039	80.2	83.0	83.0
	1= Yes	213	16.4	17.0	100.0
	Total	1252	96.6	100.0	
Missing	System	44	3.4		
Total		1296	100.0		

HAS CHILD		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0= No	966	74.5	76.9	76.9
	1= Yes	290	22.4	23.1	100.0
	Total	1256	96.9	100.0	
Missing	System	40	3.1		
Total		1296	100.0		

APPENDIX B (CONTINUED): DESCRIPTIVE STATISTICS FOR VARIABLES USED IN ANALYSES

SKIPS CLASS		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1= Never	536	41.4	41.7	41.7
	2= Sometimes	656	50.6	51.1	92.8
	3= Often	67	5.2	5.2	98.0
	4= Very Often	26	2.0	2.0	100.0
	Total	1285	99.2	100.0	
Missing	System	11	.8		
Total		1296	100.0		

HOURS IN COLLEGE ACTIVITIES		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0= None	1076	83.0	84.3	84.3
	1= 1 or more hours	200	15.4	15.7	100.0
	Total	1276	98.5	100.0	
Missing	System	20	1.5		
Total		1296	100.0		

USE OF ACADEMIC ADVISING		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Rarely/never	518	40.0	44.0	44.0
	Sometimes	535	41.3	45.5	89.5
	Often	124	9.6	10.5	100.0
	Total	1177	90.8	100.0	
Missing	System	119	9.2		
Total		1296	100.0		

APPENDIX B (CONTINUED): DESCRIPTIVE STATISTICS FOR VARIABLES USED IN ANALYSES

QUALITY OF PEER RELATIONSHIPS					QUALITY OF FACULTY RELATIONSHIPS					
		Frequency	Percent	Valid Percent	Cum. Percent		Frequency	Percent	Valid Percent	Cum. Percent
Valid	1	9	.7	.7	.7		9	.7	.7	.7
	2	38	2.9	3.0	3.7		21	1.6	1.6	2.4
	3	67	5.2	5.3	8.9		60	4.6	4.7	7.1
	4	229	17.7	18.0	26.9		188	14.5	14.7	21.8
	5	316	24.4	24.8	51.7		299	23.1	23.5	45.3
	6	325	25.1	25.5	77.2		374	28.9	29.3	74.6
	7	291	22.5	22.8	100.0		324	25.0	25.4	100.0
	Total	1275	98.4	100.0			1275	98.4	100.0	
Missing		21	1.6				21	1.6		
Total		1296	100.0				1296	100.0		

HOURS SPENT STUDYING					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0= None	15	1.2	1.2	1.2
	1= 1-5 hours	576	44.4	45.1	46.2
	2= 6-10 hours	373	28.8	29.2	75.4
	3= 11-20 hours	229	17.7	17.9	93.3
	4= 21-30 hours	65	5.0	5.1	98.4
	5= More than 30 hours	20	1.5	1.6	100.0
	Total	1278	98.6	100.0	
Missing	System	18	1.4		
Total		1296	100.0		

APPENDIX C: ZERO-ORDER PEARSON CORRELATIONS FOR VARIABLES USED IN ANALYSES

	GPA	Black	Age	Female	Married	Has Child	Skips Class	College Activities	Uses Advising	Qual. of Peer Rel.	Qual. of Fac. Rel.	Hours Studying
GPA	1	-.067*	.192**	.089**	.180**	.078**	-.227**	.069*	.031	.154**	.239**	.199**
Black	-.067*	1	.100**	.020	.013	.146**	-.056*	.064*	.158**	.014	.053	-.012
Age	.192**	.100**	1	.071*	.451**	.422**	-.275**	-.049	.089**	.066*	.135**	.203**
Female	.089**	.020	.071*	1	.091**	.154**	-.134**	-.057*	.070*	.068*	.067*	.100**
Married	.180**	.013	.451**	.091**	1	.357**	-.193**	-.035	-.013	.047	.089**	.186**
Has Child	.078**	.146**	.422**	.154**	.357**	1	-.156**	-.045	.057	.043	.112**	.122**
Skips Class	-.227**	-.056*	-.275**	-.134**	-.193**	-.156**	1	-.003	-.114**	-.118**	-.165**	-.236**
College Activities	.069*	.064*	-.049	-.057*	-.035	-.045	-.003	1	.116**	.074**	.008	.059*
Uses Advising	.031	.158**	.089**	.070*	-.013	.057	-.114**	.116**	1	.109**	.123**	.079**
Quality of Peer Relations	.154**	.014	.066*	.068*	.047	.043	-.118**	.074**	.109**	1	.411**	.120**
Quality of Fac. Relations	.239**	.053	.135**	.067*	.089**	.112**	-.165**	.008	.123**	.411**	1	.086**
Hours Studying	.199**	-.012	.203**	.100**	.186**	.122**	-.236**	.059*	.079**	.120**	.086**	1

*p≤ .05, ** p≤ .01, *** p≤.001

ABOUT THE AUTHOR

Warren Timothy Smith was born to Olive B. Smith and James Warren Smith on June 8, 1966 in Queens New York. He was reared in the Rochdale Village Housing Development in South Jamaica. He attended St. Agnes Cathedral High School in Rockville Center Long Island where he was a three year letterman in basketball. Warren has one younger brother who he considers to be his best friend since December 22, 1969. Warren graduated from high school in 1984 and went on to play college basketball for Central Florida Community College in Ocala Florida where he earned an Associate of Arts Degree. He continued his education as a student-athlete at Charleston Southern University in Charleston South Carolina, where he earned a Bachelor of Science Degree in Political Science and Sociology in 1990. After completing his degree, Warren returned to Central Florida Community College to work with student-athletes at the behest of the Vice-President Dr. Issac Williams. Warren considers Dr. Williams to be his first mentor. For the past twenty-years Warren has worked for the College Reach-Out Program (CROP) at three community colleges in the state of Florida. He is currently manager of the College Reach-Out Program at Hillsborough Community College in Tampa Florida. Warren has assisted more than 100 high school students earn college admission to the universities of their choice. Success is a Habit!