A STUDY OF THE RELATIONSHIP AMONG STUDENT INVOLVEMENT, ACADEMIC PERFORMANCE, RATES OF RETENTION, AND RATES OF DEPARTURE FOR AFRICAN-AMERICAN STUDENTS ENROLLED AT THREE RURAL ALABAMA COMMUNITY COLLEGES

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ABSTRACT

A STUDY OF THE RELATIONSHIP AMONG STUDENT INVOLVEMENT, ACADEMIC PERFORMANCE, RATES OF RETENTION, AND RATES OF DEPARTURE FOR AFRICAN-AMERICAN STUDENTS ENROLLED AT THREE RURAL ALABAMA COMMUNITY COLLEGES

Maurice Moore

The purpose of this study was to associate Astin's (1999) theory of student involvement and Tinto's (1993) theory of student departure as a framework for assessing and understanding the relationships among student involvements, academic performances, rates of retention, and rates of departure for African-American students enrolled at 3 rural Alabama community colleges. A total of 127 Alabama community college students participated in the study by completing the online Community College Student Experience Questionnaire (CCSEQ) at 3 college locations. The researcher used the CCSEQ to investigate the estimate of student gains on their quality of effort, effects of the college environment on the quality of students' efforts, effects of age on the estimate of gain and on the quality of student effort, and to determine if different college environments (institutional effects) influence the quality of students' efforts. The postulates of Astin's theory of student involvement and Tinto's theory of student departure were the theoretical formats used to direct this study. Data collected indicated a number of significant findings. Engaged and involved students performed well academically. The estimate of students' gains was impacted mostly by the quality of students' efforts in course activities, faculty interactions, library activities, computer technology, clubs, organizations, counseling and career planning. The more engaged and involved rural African-American community college students were, the greater the likelihood that they reached their educational goals. Finally, campus location or "fit" made a difference when student success was considered. Research

findings indicated that community college educators at College A and College B needed to make improvements in the college environments to better serve students' academic and developmental needs.

CHAPTER I

INTRODUCTION

A number of research studies have shown a positive relationship between student involvement, student development, and rates of retention for students enrolled at the community college level (Astin, 1999; Chaves, 2006; Guiffrida, 2004; Tinto, 1993). Researchers reference two prominent theories, Astin's (1999) theory of student involvement and Tinto's (1993) theory of student departure, when investigating aspects of student involvement. Most of the studies investigating student involvement have been conducted at predominantly Caucasian institutions. It is Astin's (1977) theoretical research applications that have consistently related levels of student involvement to academic performance and rates of retention in urban settings, yet few of the studies have determined if the theory's applications transfer to students enrolled in rural, community college environments.

Astin's (1999) theory of student involvement relates a student's involvement as, "the amount of physical and psychological energy that a student devotes to the academic experience, positively with improving that student's persistence and success at completing college" (p. 518). Astin's theory identifies five general categories of involvement that include academic involvement, faculty involvement, involvement with peers, involvement in work, and involvement elsewhere (to encompass other aspects of life). Astin (1977) notes that faculty-student involvement is most important and has the greatest ability to influence students' accomplishments, a category historically minimized at community colleges. Astin's theory of student involvement includes the following five postulates:

- The physical and psychological concept of student behavior relating to their levels of involvement.

- Involvement occurring along a continuum, as different students exhibit different degrees of involvement in different areas.
- Involvement being measured qualitatively and quantitatively.
- Student learning in college being directly proportional to the quality of student involvement.
- The effectiveness of any educational policy or practice being directly related to the capacity of that policy or practice to increase student involvement.

Astin (1999) states that the primary advantage of the student involvement theory over traditional pedagogical approaches is that the theory directs attention away from subject matter and instructional technique to focus educational efforts on motivating students and modifying student behaviors. The researcher's theory proposes that the behavioral aspects of individuals are critical indicators toward defining what students value, accentuate, and pursue academically and socially. Astin suggests analyses of these five postulates help educators to better understand student academic achievement, development, and experiences upon departing college.

Tinto's (1993) theory of student departure states that individuals enter college with different family backgrounds, socioeconomic statuses, levels of academic preparation and commitment, unique skills, and abilities. The theory asserts that students interact with their institutions in social and educational communities and in ways that help them integrate into new environments (Rendon, Jalomo, & Nora, 2000). Tinto (1987) suggests that student persistence in educational programs is dependent on the extent to which educational communities are constructed in college programs and classrooms, such that students are integrated into the dynamic social and intellectual life of the institution. Chaves (2006) emphasizes that classroom experiences for adult community college students may be the only thing they share with faculty

and peers. Community colleges in this way must pursue Tinto's (1997) recommendations that classrooms serve as smaller social and intellectual meeting places where faculty and students can interact and where classrooms serve as a gateway for promoting student involvement into the greater academic and social communities of the college. Tinto's (1987) theory of student departure provides a sociological context for understanding student departure and allows an individual's precollege environment to become a possible reference indicator for helping to explain the individual's postcollege possibilities and opportunities.

Researchers share important strategies through research for retaining and graduating community college students that maintain the integrity of the postsecondary institution and its mission. Researchers' findings inform education practitioners that it costs an educational institution more to recruit new students than it does to retain its current students, yet it is common practice for educational institutions to concentrate more efforts on student recruitment than on student persistence (Astin, 1993, 1999; Pascarella & Terenzini, 1991; Tinto, 1993). The researchers state that recruitment of students is required in order to get them enrolled, yet the real challenge is to identify the things that educational institutions are doing to retain them. Fike and Fike (2008) point out that an educational institution's retention efforts are just as necessary and important for a number of reasons such as (a) maintaining financial stability in order to sustain academic programs, (b) advocating accountability measures for public policy makers, (c) retaining strong measures of student enrollment that lead to graduation and transfer (departure), (d) keeping accountable measures of institutional effectiveness when reporting graduation rates for use via the federal Higher Education Act and to accrediting agencies, and (e) assuring that students have positive college experiences while completing their academic goals for entry into the workforce. The researchers emphasize that understanding why students decide to leave or to

stay enrolled at an educational institution is essential information to those professionals working to make a difference in the lives of students.

Research Design

The design of the study is that of a nonexperimental (observational), quantitative research with primary data collection being conducted using a survey instrument, the CCSEQ. The design for selecting institutions is that of purposeful sampling in that the researcher considered for participation in the study only those community colleges located in Alabama counties and designated as 60% or greater rural by the U.S. Census Bureau (2000a). The researcher randomly drew three rural community colleges from a list of five institutions located in rural areas of the state of Alabama. All African-American students enrolled at Colleges A, B, and C during Spring Semester 2011 were the individuals of interest in the study and afforded an opportunity to participate by taking the online CCSEQ. Permission to conduct research at College A, College B, and College C was granted in writing by the Chancellor of the Alabama Community College System (Appendix A) and by the Presidents of College A, College B, and College C (Appendixes B, C, and D). The research design (Polit & Beck, 2008) for this study progressed in the following five phases:

Phase 1. The conceptual phase involved (a) formulating and determining the methods of delimiting the problem by structuring a series of research questions around the framework of a questionnaire, the CCSEQ; (b) reviewing of the related literature; (c) describing the research methods and protocols for collecting data from research participants; and (d) defining the methods and protocols and using conceptual definitions in the formulation of hypotheses.

Phase 2. The design and planning phase involved (a) selecting a research design; (b) developing intervention research protocols; (c) identifying the population for the study; (b) designing a plan for sampling the population; (e) specifying the methods for measuring the research variables; (f) developing methods to safeguard subjects—The University of West Florida Institutional Review Board (IRB) approval (Appendix E), National Institutes of Health (NIH) certification (Appendix F), and research Informed Consent Form (Appendix G); and (g) finalizing the research plan.

Phase 3. The empirical phase involved the collecting of the data and preparing the data for analysis.

Phase 4. The analytical phase involved analyzing the data and interpreting the results.

Phase 5. The dissemination phase involved communicating the findings and utilizing the findings in practice.

Statement and Relevance of the Problem

The purpose of this study is to associate Astin's (1999) theory of student involvement and Tinto's (1993) theory of student departure as a framework for assessing and understanding the relationships between student involvement, academic performance, rates of retention, and rates of departure for African-American students enrolled at three rural Alabama community colleges. The two theories have widespread recognition among student services education professionals in community colleges, yet few studies identify the variable effects when focusing on African-American students enrolled in rural community college environments. The Alabama Community College System is composed of 22 community colleges, four technical colleges, Athens State University (a 4-year state university), the Alabama Industrial Development Training Institute

(AIDT), and the Alabama Technology Network (Alabama Commission on Higher Education, n.d.). Eleven community colleges are located in rural counties, and 11 community colleges are located in suburban or urban counties (U.S. Census Bureau, 2000a). The *Chronicle of Higher Education* ("Facts about higher education," 2007) reported an enrollment of 78,401 full-time equivalent (FTE) credit-generating students in Alabama's public 2-year colleges during Fall Semester 2005 (1.28% of the total enrollment in public 2-year colleges in the U.S.). Minority student enrollment in Alabama's 2-year colleges during Fall Semester 2005 was reported to be 30.40% (35,002) of the total students attending public 2-year institutions. The Alabama Commission on Higher Education (n.d.) reported that African-American students made up 26.60% of the 30.40% of minority students attending 2-year community colleges in Alabama during Fall Semester 2005. African-American students are the largest minority population attending 2-year public community colleges in the state of Alabama.

The Alabama Commission on Higher Education (n.d.) reported that rural community college minority enrollment in Fall Semester 2005 to be 19.80% (more than half) of the minority student enrollments at all 2-year community colleges. Caucasian students enrolled in Alabama's 2-year community colleges comprised 67.00% of students enrolled during Fall Semester 2005, and 74.30% of the overall students enrolled at rural Alabama 2-year public community colleges in the same enrollment period. Nevertheless, Alabama's rural community colleges play a major role in educating minority student populations, the majority group of which is African American.

According to the Alabama Commission on Higher Education (n.d.), institutional student profiles for Fall Semesters 2002-2007, African-American students made up an average of 26.30% of the state's 2-year public community college student population as compared to a 66.70% average for Caucasian students during the same enrollment period. Average enrollments

for Hispanic, Native American, Asian, and Other student populations for Fall Semesters 2002-2007 are reported to be 1.10%, 0.80%, 0.90%, and 4.20%, respectively. When only rural community colleges enrollments are considered for Fall Semesters 2002-2007 (Appendix H), one finds that (a) Caucasian student enrollments increased by 7.40 percentage points to 74.10%; (b) the average African-American student enrollment decreased by three percentage points to 23.30%; and (c) Hispanic, Native American, Asian, and the Others categories of student enrollments averaged 1.10%, 1.10%, 0.60%, and 1.00%, respectively. The overall student enrollments in the Others category for Fall Semester 2007 increased by 3.20 percentage points from Fall Semester 2006 to a 7.00% enrollment, mainly in suburban and urban settings. The lack of information on African-American students enrolled in rural campus settings and how student involvement relates to students' academic performance and rates of retention and departure make this study relevant to community college educators, to community members interested in economic development, and to training processes in the state of Alabama. The information provided in the next few paragraphs demonstrates the relevance of this study for both of these audiences.

During Fall Semester 2006, the Alabama Commission on Higher Education (n.d.) reports that although enrollment in Alabama's 2-year community colleges had decreased by 3%, enrollment in rural community colleges had increased by 0.90% of the state's total community college student enrollments. The Alabama Commission on Higher Education's Fall Semester 2006 enrollment report indicated that urban and suburban community colleges had begun to enroll fewer numbers of students. Minority student enrollments in Alabama's 2-year colleges by Fall Semester 2006 increased by 2.6 percentage points to 33% of the total system's enrollment. These reports suggest that rural community colleges have begun to play greater roles in the

education and training of Alabama student populations, a significant proportion of which are African-American students.

The state of Alabama economic development agencies use the Alabama Community College System's 2-year community colleges as well as various senior level colleges and universities to provide employment training, employability skills, and support to potential workforce employees through its Alabama Industrial Development Training initiative and Workforce Development initiative (Alabama Industrial Development Training Institute, 2008). Resources from each organization have been partially located on postsecondary educational campuses since 1971 (Alabama Industrial Development Institute, 2008). Rural community colleges have begun to serve as catalysts for rural economic and educational opportunity in the state of Alabama as robust numbers of major businesses and industries have started to locate in Alabama.

The Alabama Development Office (2008) reports a top rank listing of economic development accomplishments of the office in 2007 that have created quality job opportunities for the citizens of Alabama. Some of the office's (Alabama Development Office, 2008) accomplishments include acquisition of the following:

- ThyssenKrup, a $3.7 billion German steelmaker on 3,500 acres, and the hire of 29,000 workers in Mobile County;
- National Steel Car Limited, a $350 million Canadian railcar industry in North Alabama, and 1,800 employees;
- 271 new industrial projects throughout Alabama exceeding $6.1 million, 17,143 jobs, and 76 clients each with approximately 100 additional jobs;

- Top ratings by the National Assessment of Educational Progress, ranking Alabama's public schools' fourth grade reading initiative higher than any other state in the nation between 2005-2007, with significant gains of eight points;
- Alabama's largest biotechnology center, the Hudson Alpha Institute for Biotechnology in Huntsville, a 270,000 square foot institute with more than 900 scientists in biotech and pharmaceutical research with Dr. Richard Myers (professor and chair of genetics at Stanford University School of Medicine and director of the Stanford Human Genome Center) as scientific director;
- Supplier companies for Kia's new $1 billion U.S. assembly plant in West Point, Georgia, and Hyundai's automotive assembly and engine plants at Montgomery, representing over 2,400 jobs and almost $500 million investments for Kia, and 522 additional jobs and a $270 million investment by Hyundai in Montgomery, respectively;
- Alabama's restructured Workforce Development System directed by the chancellor of Alabama's 2-year college system, placing resources and development under one umbrella as aggressive competition for benchmarked economic development with other states becomes a more precise investment;
- Alabama Legislature's approved amendment to increase the borrowing limit of an economic development bonding authority by $400 million with which to attract leading businesses and industries to the state;
- One of the best economies in the nation for 2007, with an unemployment rate at 3.5%, well below the 4.7% national average, keeping unemployment low, incomes high, and economic development strong; and

- The nonprofit Confucius Institute at Troy State University expanding Chinese language and cultural education in Alabama, while providing a vehicle for expanding partnerships in economic development between Alabama and China.

Alabama has successfully acquired a host of world class businesses and industries to locate and conduct business within its boundaries. A network of educational institutions, businesses, industries, and governmental agencies have managed to work collectively as a team to effectively market Alabama's potential and resources to the world.

Alabama's community colleges' roles on this economic development team are an essential component of the economic development effort in a number of ways. The Alabama Technology Network (ATN), a public/private partnership of the University of Alabama System, Auburn University, the Economic Development Partnership of Alabama, and selected 2-year technical colleges (and select technical components of community colleges) provide worker training and technology transfer to industries in Alabama (Alabama Development Office, 2008). The ATN efforts enhance the competitiveness of companies by helping to strengthen the industrial base of the organization by improving the effectiveness and efficiency of the workforce (employees) with a coordinated network of education, training, and technical assistance providers. Alabama's Workforce Development initiative associated with community college campuses helps businesses and industries strengthen their workforces through in-service training and assessment both in onsite and offsite locations. The integration of Alabama's community colleges into the state's global economic development plan by way of their close association with the ATN, Workforce Development initiatives, and accredited educational programs, demand that the educational institutions improve educational methods for teaching and learning practices by grounding educational practice in theory.

Purpose of the Study

This study is an application of the CCSEQ research instrument to relate Astin's (1999) theory of student involvement and Tinto's (1993) theory of student departure to African-American students' estimate of gains on their quality of effort in order to persist in college, achieve academically, and depart from postsecondary educational efforts in rural Alabama community college settings. The focus of the study will (a) help derive a better understanding of the experiences of African-American students in rural Alabama community college settings; (b) help to extend the research on the performance of African-American students enrolled in community colleges into the Southeastern U.S.; and (c) help establish a baseline for future research in rural, Southern community college environments. The research may begin to stimulate a better understanding of the unique problems that adult African-American students face as they pursue educational goals in rural community college environments. This study references Astin's (1999) student involvement theory and Tinto's (1993) theory of student departure when determining the relationship between African-American students' estimate of gains on quality of effort with regard to their academic performance, rates of retention, and rates of departure at three rural Alabama community colleges.

Research Questions

The application of Astin's (1999) student involvement theory and Tinto's (1993) theory of student departure when considering African-American students enrolled in rural community college environments is the focus of the current research. To investigate this topic, the researcher applied the measures developed by two theorists in order to address the following questions:

1. What is the relationship of estimate of gains on African-American students' quality of effort as they attend rural community colleges in the state of Alabama?
2. What is the relationship of the college environment on African-American students' quality of effort as they attend rural community colleges in the state of Alabama?
3. Does age have an influence on African-American students' estimate of gains and quality of effort when attending rural community colleges in the state of Alabama?
4. Is there an institutional effect between the college environments on the quality of effort for African-American students attending rural community colleges in the state of Alabama?

The study helped the researcher determine how these differences challenge or support the application of the two most recognized student development models, Astin's (1999) and Tinto's (1993), especially for African-American students attending rural community colleges.

The researcher administered the CCSEQ survey to measure community college students' quality of effort with three populations of rural community college students in the state of Alabama as they work to complete their educational goals. The CCSEQ is the community college's equivalent of the senior university's College Student Experiences Questionnaire (CSEQ) survey researchers Friedlander and MacDougall (1992) developed under the guidance of Pace at the University of California in Los Angeles for use by senior university researchers to collect data on students' quality of effort (Pearson, Gould, Ethington, & Murrell, 2009). The instrument focuses on four areas regarding students: (a) the identity of the students and the reasons they are attending college; (b) the things students do at college, especially the extent and levels of productivity they possess while using facilities and opportunities made possible by the college; (c) impressions of the college; and (d) the self-perceived progress students feel they

have made toward established goals. Analyses of data collected helped the researcher gain a better understanding about the relationship between student involvement (dependent variable) and academic performance, retention rates, and departure rates (independent variables) of African-American students at three of Alabama's rural community colleges. A correlation analysis and a one-way analysis of variance (ANOVA) was used to explore these relationships.

The setting for data collection of the study was Spring Semester 2011 on three of the 11 rural Alabama Community College System's community college campuses located in counties classified as 60% or greater rural by the U.S. Census (2000a) population projections. The researcher used multistage cluster sampling to select the colleges identified for sampling, Alabama community colleges located within counties with populations below 50,000 residents or whose large, adjacent, densely settled census blocks did not exceed 2,500 urban clusters (U.S. Census Bureau, 1995). The researcher obtained the African-American students from the database of the three randomly selected schools. The researcher sampled the population of African-American students as potential participants in the study. The results obtained from this group of participants provided some insight on how well Astin's and Tinto's theories translate into rural community colleges that educate a significant numbers of African-American students.

Definition of Terms

Attainment. The impact of a student's accomplishment of earning a two year college certificate, diploma, or degree education (Attainment, 2012).

Headcount. Students enrolling in credit courses as indicated by count during a term (Alabama Commission on Higher Education, n.d.).

Community college. A 2-year lower division institution offering university parallel transfer programs culminating in the award of Associate of Arts or Associate in Science degrees,

and career or applied programs that prepare students for occupational, technical, or paraprofessional employment. The applied programs vary in length to culminate in certificates, diplomas, or Associate in Applied Science degrees (Alabama Commission on Higher Education, n.d.).

High involvement. Students who devote considerable amounts of energy toward studying, spending a considerable amount of time on campus, participating actively in student organizations, and interacting regularly with faculty members and others (Astin, 1999).

Noninvolvement. Students that fail by withdrawing from individual college classes and programs, the ultimate act along the involvement continuum, anchoring the lowest end (Astin, 1999).

Persistence. The continuing of a student in school or college enrollment (Glossary of Education, 2012).

Retention. A measure of the rate at which students continue enrollment in their educational program at an institution, expressed as a percentage; the percentage of first-time degree and certificate-seeking students from the previous fall who either re-enrolled or successfully completed their program of study by the current fall (U.S. Department of Education, 2010).

Rural county. Territory, persons, and housing units not classified as urban; places of less than 2,500 people and not in places or areas outside incorporated and census designated places and the rural portions of extended cities (U.S. Census, 2010).

Student involvement. The amount of physical and psychological energy that students devote to the academic and cocurricular college experience (Astin, 1999).

Conclusion

The framework for reporting the results of the study ultimately took the format of a Doctor of Education dissertation at The University of West Florida. Specific audiences by whom the research may eventually be evaluated and benefit include peer-graduate students, policy makers, faculty and graduate committees, editors and review boards, individuals, and educators of professional educational organizations in schools, universities, or educational environments who will read and possibly use the findings of the study. The results of this study offer student affairs practitioners deeper insights into how Astin's (1999) theory of student involvement and Tinto's (1993) theory of student departure apply to African-American students enrolled in rural Alabama community college environments.

CHAPTER II

REVIEW OF THE LITERATURE

A review of the literature reveals Astin and Tinto as two leading contributors to the study of innovation in student services. Some researchers have studied and written about the relationships of college students' academic achievement, retention, and graduation rates (departures) with regard to their levels of involvement in cocurricular activities. The aspects of Astin's (1999) student involvement theory and Tinto's (1993) theory of student departure are currently being discussed to gain greater insights into the significance of each theory's perspectives as related to the areas of Student Services.

Astin's Student Involvement Theory

Historically, educators and researchers have debated the effects of college-sponsored cocurricular activities upon student development with regard to academic achievement, persistence in programs of study, and graduation rates. Astin's (1999) student involvement theory relates a student's involvement, the amount of physical and psychological energy that a student devotes to the academic experience, positively with improving students' persistence and success at completing college. The researcher emphasizes that the primary advantage of the student involvement theory over traditional pedagogical approaches is that it directs attention away from subject matter and instructional technique to focus educational efforts toward motivating students and the modification of student behaviors. Astin's judgments are that the behavioral aspects of individuals are critical indicators toward defining what is valued, cared for, accentuated, emphasized, and pursued academically and socially. Astin's theory of student involvement possesses five postulates that influence this study.

- Postulate One is that the term *investment* refers to the investment of physical and psychological energy in various objects. These objects may be extremely generalized as a student experience, or extremely specific as a student studying for a chemistry examination (Astin, 1999).
- Postulate Two is that "regardless of its object, involvement occurs along a continuum; that is, different students manifest different degrees of involvement in a given object, and the same student manifests different degrees of involvement in different objects at different times" (Astin, 1999, p. 519).
- Postulate Three is that

  > involvement has both quantitative and qualitative features. The extent of a student's involvement in academic work, for instance, can be measured quantitatively (how many hours the student spends studying) and qualitatively (whether the student reviews and comprehends reading assignments or simply stares at the textbook and daydreams. (Astin, 1999, p. 519)

- Postulate Four is that "the amount of student learning and personal development associated with any educational program is directly proportional to the quality and quantity of student involvement in that program" (Astin, 1999, p. 519). Ory and Braskamp (1988) report that student quality of effort in academic and social endeavors are positively related to self-reported gains in intellectual skills and personal development.
- Postulate Five is that "the effectiveness of any educational policy or practice is directly related to the capacity of that policy or practice to increase student involvement" (Astin, 1999, p. 519).

Education professionals and researchers often work to explain the significance of community college student involvement, development (academically and psychologically), and retention through various theoretical foundations and potential extensions. Astin (1999) and Chaves (2006) associate practitioners' theoretical foundations with their positions and functions within the education profession when explaining their approaches to enhancing educational practice. The researchers assert that the practitioners relate traditional pedagogical theories with many college and university academicians who tend to treat students as a black box, with inputs of college/university policies and procedures and outputs of various achievement measures (i.e., grade point average [GPA] and standardized test scores). Research often associates the challenges of traditional pedagogical theories as the specific mechanisms required to transform organizational program policies and procedures into desired student academic achievements and developments. Educators often refer to the specific mechanisms required by traditional pedagogical theories to define student success (efforts put forth to accomplish acceptable educational gains) as related to institutional program policies and procedures. Astin argues that educators' professional actions are rarely formally guided by educational theory or tested critically but that the statement of supporting theory is generally commonly accepted as a uniform truth. Therefore, educators should start grounding their professional educational efforts in theory and also conduct critical research that help to validate student educational outcomes.

According to Astin (1999), the theory of student involvement can help tie pedagogical theories to student developmental outcomes by avoiding assignment of the passive role of learning to students (Alinsky, 1989), thereby preventing bias between the disadvantaged learners and highly motivated learners. The active role approach to instruction inspires all learners to take an active role in their learning and developmental processes by asking questions while

applying the learning procedures and concepts for improving the quality of their lives (Alinsky, 1989). The active role approach to instruction increases the total resources available to the entire higher education community and limits the cost of effectively educating individual students in various educational programs by using different instructional methods, such as collaborative learning, volunteer learning, career learning, and learning communities (Alinsky, 1989). Astin asserts that the theory of student involvement can provide a link between the variables (indicators of success in educational practice as identified by critical educational research) emphasized in the subject matter and resources and allow for individualized approaches to instructional methods. The researcher explains that in order for an educational program to achieve its intended outcomes, it must possess enough student effort and investment of energy to achieve the desired levels of learning and development.

Academic Involvement

Astin and other researchers (Astin, 1999; Pascarella & Terenzini, 1991; Ullah & Wilson, 2007) have utilized Astin's theory of student involvement to identify a number of factors that enhance academic involvement and achievement for college students. The researchers have also used the theory to identify factors that hinder the levels of students' academic involvement. Astin (1999) has identified several environmental factors that positively contribute to student involvement in college including a student's residence, participation in social fraternities and/or extracurricular activities, and possession of an on-campus part-time job. Environmental factors identified as hindering student involvement in college are students' working off campus at a full-time job, attendance at a 2-year college rather than a 4-year college, and the fit between the student and college. Astin identifies the most precious "institutional resource" contributing to the success of student involvement as the availability of "student time" (p. 522).

The effective management of events and activities in a student's college life has been investigated as possessing possible factors for determining student success. How effectively an institution and a student manage student experiences while on campus becomes especially important when stimulating academic performance of community college students, both inside and outside the classroom setting. Thus, community college administrators, faculty/advisors, and support personnel must be cognitive of innovative ways to motivate community college students such that educational outcomes are enhanced, despite the limited opportunities afforded them by community college campus environments.

Gallo and Odu's (2009) research with the spacing effect theory findings suggests that although many community college Algebra students prefer intensive courses or compressed class schedule formats to minimize the time they spend on campus, the 1-day-per-week group consistently scored lower on tests and final exams than the 3- and 2-day-per-week groups. The researchers' findings utilize hierarchical regression analyses controlling for student and teacher attributes with $N = 116$ Florida community college students to examine how variations in frequency and timing of instruction affect student learning. Gallo and Odu's research reveals that (a) class schedule has a significant effect on community college students' algebra achievement, (b) student attributes do not have a significant effect on exam scores, and (c) instructor attributes (gender and years teaching) have a significant effect on student academic achievement. Students of female instructors scored an average of 11.50 units fewer than students of male instructors on final exams.

Gallo and Odu (2009) determined that algebra students with prerequisite course knowledge of the content performed consistently across scheduling patterns, but the various scheduling formats made a significant difference in academic performance of students. Algebra

students of different learning styles performed consistently within scheduling patterns yet varied significantly different across scheduling formats. Gallo and Odu derived academic assessments from group projects; midterm and end-of-term self-evaluations; quizzes; examinations on cross-disciplinary topics, team teaching, and collaborative learning projects; and student involvement in the construction of class knowledge.

According to Gallo and Odu (2009), data from the study support their earlier research of 2002 which suggests that students who take college algebra once a week are not as successful academically as those who take it twice or three times a week. Students in classes meeting three times a week had better retention of earlier course content than those meeting once a week on Saturday morning.

Tinto and Russo (1994) investigated coordinated studies programs (CSP) at Seattle Central Community College as a learning community method for increasing student involvement and persistence. The authors address the college's efforts to restructure educational programs in order to enable students to become active participants in the learning process. This longitudinal study links courses and faculty from different disciplines and fields about central themes, e.g., Our Ways of Knowing: The African-American Experience and Social Change, by using instructional methods that include small-group and whole-class discussions, seminars, group projects, field trips, lectures, guest speakers, and films. Tinto and Russo's quantitative and qualitative data analyses multistep inductive process and QUALOG software show CSP students have greater involvement in a range of academic and social activities and greater developmental gains over the course of the year than non-CSP students. Students in CSP classes reported being significantly more involved in course academic activities and activities involving other students than did students in non-CSP classes. Students in CSP classes demonstrated more positive self-

perceived views of the college, of students and faculty, of classes and climate, and of their own involvement at the college than did non-CSP students. CSP class members had significantly higher rates of persistence in programs of study than that of non-CSP students (66.70% versus 52.00% persisting the following fall semester after data collection) and an emergence of a supportive community of peers inside and outside the classroom environment.

Tinto and Russo's (1994) research using a researcher-made questionnaire and a derivative of Pace's Quality of Student Effort scales indicates that relationships developed in a supportive community of peers outside of prior social networks allow for the creation of an important social support structure for students studied over the course of a year. This social network was significantly helpful in allowing students who juggled many competing obligations outside the classroom simply to attend class on a regular basis. The researchers report that the shared learning experiences of the learning communities served to bridge the academic-social divide which partitioned student lives, causing them to have to manage their lives between the two worlds. Instead of simply allowing the academic and social worlds to coexist side by side, the participation in shared learning experiences enable new students to merge the academic-social concerns together in a mutually beneficial manner to become successful academically.

Tinto and Russo (1994) conclude that it is possible to promote student involvement and academic achievement in settings (community college campuses without student housing) where such involvement is not easily attained. It is possible for supportive networks of peers to ease the transition of community college students (especially adult students) to college, to improve upon class attendance/campus life by bridging the social and academic divide within the context of the educational program, and to open a dialogue within which many voices (student and faculty) can be heard and appreciated. Educational programs empower students to enhance their

learning as these social support networks evolve. Tinto and Russo feel that their research efforts effectively fill a critical gap in the work of Astin (1993), Tinto (1987), and other researchers' investigations into the importance of student involvement as it affects a student's attainment of academic achievement.

Faculty Involvement

Astin's (1999) research reveals that increased student interaction with faculty is more strongly related to students' satisfaction with their college experience than with other types of involvement, student or institution oriented. The researcher indicates that students who interact frequently with their instructors are more likely to express satisfaction with all aspects of their college experience, peer involvements, academic and personal developments, and college personnel. The findings indicate that campuses with improved levels of student-faculty interactions have greater potential for retaining productive student populations. Chang (2005) emphasizes that faculty-student interaction traditionally has been acknowledged as a form of involvement, although many community college faculty members tend to view in-class activities as academic involvement, separate and independent from out-of-class student involvements.

Chickering and Gamson (1987) suggest that undergraduate teaching and learning can be improved when classroom instruction follows seven principles of good practice. According to Chickering and Gamson, educators should do the following:

1. Encourage student-faculty contact. Routine contact between members of the faculty and student (in and out of class) enhances and is an important factor in student motivation and involvement.
2. Encourage cooperation among students. Good learning is a collaborative behavior and should involve others.

3. Encourage active learning. Students must become engaged with the content of the subject matter they are studying by writing about and internalizing it.
4. Provide prompt feedback. Faculty members should provide students with appropriate feedback on a regular basis to let them know what they do and do not know.
5. Emphasize time on tasks. Time management is a skill students must acquire in order to allot adequate amounts of time for learning.
6. Communicate high expectations. All students must be required to perform consistently at a high academic level.
7. Respect diverse ways of knowing. Recognize that students learn differently and encourage them to learn in ways that work for themselves.

Caboni, Mundy, and Duesterhaus's (2002) research shows empirical evidence that supports Chickering and Gamson's (1987) seven principles of good undergraduate education. The findings of Caboni et al. (2002) and Ullah and Wilson (2007) identify faculty-student contact, cooperation among students, and high expectations of students by instructors as factors that enhance student academic progress. Brown, Cervero, and Johnson-Bailey's (2000) research shows that the positionality of community college teachers influences how they interact with students as they (a) embrace a teaching philosophy based on a history of marginalization, (b) raise issues of credibility with students because of the teacher's race and gender, and (c) allow their cultural perspectives to influence their classroom interactions and teaching strategies.

Tinto and Russo (1994) note that community college faculty in learning community environments of the classroom can consciously include students as active participants in the construction of classroom knowledge. The researchers state that given the diversity of both

faculty and students in the learning community, diverse views expressed in the classroom can force students to rethink their own perspectives into creatively bridging the academic-social divide. The diversity and cultural histories of individual students in this way contribute to a creative learning medium flexible enough for students to be taken into sustainable, practical classroom experiences in which they view one another through a new academic lens for personal growth and development for the respect and appreciation of others.

Douzenis (1994) and Haplin (1990) note that measures of student participation in academic activities (writing, faculty, library), when compared to campus social activities, prove to be more important predictors of the amount of progress that students feel they have made toward achieving their educational goals. Douzenis' (1994) administration of the CCSEQ to community college students reveals that the degree and quality of student involvement is significantly related to educational outcomes. The researcher's findings further determine that if students at a given institution are not involved in a wide range of collegiate experiences, then a potential exists that their educational growth may be limited.

Berger and Malaney's (2003) research indicates that it is possible for faculty and higher-education administrators to play a significant role in assisting transfer students from 2-year colleges in making successful adjustments to 4-year institutions. The researchers explain that community college faculty and administrators must first understand the students' backgrounds and concerns in order to facilitate the students' transitional processes. A survey of 372 community college transfer students attending a large, public 4-year university showed that community college students who are best informed and have most actively prepared for transfer become the most likely to achieve higher grades and are most satisfied at the university level.

Berger and Malaney (2003) mention that most studies of community college transfers have focused on academic achievement as an indicator of successful student adjustments and progress in 4-year institution environments. The researchers explain that more factors are involved in successful community college transfers to and persistence at 4-year institutions. These factors include patterns of academic and social involvement shifts as students move from a 2-year college environment to a 4-year university environment. Three sets of factors are identified as being vital for community college transfer student success at 4-year institutions including individual student characteristics, community college experiences, and university experiences.

Berger and Malaney's (2003) research results show differences in the levels of student involvement for students transitioning from community colleges to a university in that they (a) reduced outside commitments (reduced off-campus work for pay by 7.54 hours, reduced family commitments by an average of 3.43 hours, increased study time by 4.43 hours, and increased socialization by 4.65 hours); (b) "indicated higher levels of satisfaction for aspects of the university experience" (88% were satisfied or very satisfied with their university experience, 89% were satisfied or very satisfied with their social life, 68% were satisfied or very satisfied with their academic support, 83% were satisfied or very satisfied with the sense of community on campus, 86% were satisfied or very satisfied with their academic progress); (c) "were highly satisfied with their academic progress via community college to university grade point average" (midrange grades were mostly very to somewhat satisfied with their academic progress while students with grade point averages above 3.50 were very satisfied); and (d) "the most important finding in terms of satisfaction and academic performance, is most strongly influenced by how well students have prepared for the transfer process" as related to variables entry characteristics,

community college involvement, and university involvement (p. 20). The researchers recommend that community college faculty and staff must discover ways to actively engage students who seek advice in learning about the 4-year university transfer requirements and the transfer process. The faculty/staff interactions with the students tend to improve levels of success educationally and developmentally in 4-year university environments.

Involvement With Peers

Research indicates that students' interactions with their peers and their exposure to a social network reinforce higher aspirations and goals (Pascarella & Terenzini, 1991). Students' interactions with their peers occur both inside and outside of classroom environments. Commuter campus community college students' obligations in life, family, and community present unique challenges for becoming involved with their peers. Tinto (1987) states that most adult community college students commute to campus and that classroom experiences could possibly be their only involvement with their faculty and peers. Students' persistence in college is in this way related to the extent to which institutions engage and incorporate educational learning communities into classroom environments and programs.

Ullah and Wilson (2007) acknowledge the involvement relationship between students' connection with peers and academic achievement. The researchers report that the relationship is not a simple one at a Midwestern public university (Ullah & Wilson, 2007). Data sources in their research indicate that female students' relationships with peers tend to influence academic achievement positively, yet male students' relationships with peers tend to influence their academic achievement negatively (Ullah & Wilson, 2007). Ullah and Wilson suggest that the findings are valuable, especially with the development of curricular and co curricular educational programs. Ullah and Wilson emphasize that additional research is necessary with regard to these

student-peer levels of involvement, in that male-to-male relationships in the classroom setting affect the learning environment differently from relationships among their female counterparts. Based on the finding that academic achievement can be influenced by student relationships within the classroom setting, Ullah and Wilson feel that academic achievement of students at the college level provides opportunities for more socially grounded approaches to the process of teaching and learning.

Student-peer involvements take place in all aspects of college life. Chang, Astin, and Kim (2004) suggest that cross-racial interaction has positive effects on students' intellectual, social, and civic development. The researchers (Chang et al., 2004) recommend that institutions could enhance student experiences on campuses by enrolling larger proportions of students of color and by offering students greater opportunities to live and work on campus. The positive findings of this research study apply uniformly to Caucasian students; the frequency of cross-racial student enhancements did not uniformly apply to students of color as student population increasingly became more diverse.

Chang et al. (2004) relate the findings on cross-racial interaction among undergraduates with the U.S. Supreme Court 1978 *Regents of the University of California v. Bakke* decision on race-conscious admission practices at educational institutions. The Supreme Court, deeply divided, ruled to prohibit racial quotas in university admission practices but allowed race to be used as a plus factor in the admission process. Chang et al. note that although public debate on the legality of race-conscious admission practices has been intense, educational research related to the benefits of racial diversity on college campuses has been left out of courtroom decisions. The legal debate and ongoing educational research findings continue to fuel a spirited conversation on the benefits of a diverse student population and whether a university possesses

the freedom to make its own judgments on educational practices by permitting race to be permissible when admitting students.

Educational researchers (Astin, 1993; Chang et al., 2004) have identified some educational findings with regard to cross-racial interactions (peer involvements) brought about by increasing the presence of diverse student populations on college/university campuses. Astin (1993) and Chang et al. (2004) correlate diversity experiences positively with intellectual ability, social ability, and civic interest. Chang et al. posit that interactions in class and outside class with students of different ethnic groups indicate the following:

- The effects of racial diversity for Caucasian students on cross-racial interaction are uniformly positive for all forms of interaction (studying with students of different racial/ethnic groups, dining with students of different ethnic groups, dating students from different racial/ethnic groups, interacting in class with students from different racial/ethnic groups) at increasingly higher levels of campus diversity.
- The effects of racial diversity on students of color cannot be explained simply by the presence of other races of students, especially Caucasian students. The researchers' findings indicate that something more complex (that is not completely understood) is at work.
- African-American students, when compared to Asian and Latino students, are substantially less likely to engage in interracial dining and dating regardless of the level of campus diversity; only two exceptions occurred (a) at institutions with the two highest levels of diversity in the study, 11% to 18.9% and greater than 19%, where African-American students were less likely to study with different ethnic/racial

groups and (b) at campuses with the lowest level of diversity, where African-American students were less likely to study with different ethnic/racial groups.

- The frequency for all researched forms of cross-racial interaction uniformly decreased for African-American students between the 8% to 10.9% and 11% to 18.9% levels of campus diversity but increased between the 11% to 18.9% and greater than 19.0% levels of campus diversity;
- Asian-American and Latino students, unlike African-American students, did not show consistent gains across all forms of cross-racial interaction between 11% to 18.5% and greater than 19.0% of campus diversity; with the one exception of cross-racial studying, all other cross-racial interactions (dining, dating, in-class interactions) drops for Asian-American and Latin students at the highest level of campus diversity (greater than 19.0%).
- African-American, Asian-American, and Latino students' cross-racial dating between 8% to 10.9% and 11% to 18.9% levels of diversity declined, yet Asian-American and Latino students continued to decline through 11% to 18.9% and greater than 19% levels of campus diversity.

Data collected in the researchers' investigation of the availability of student diversity hypothesis indicate that the hypothesis only holds true for Caucasian students (Chang et al., 2004). The research findings show that as campus diversity increases, the frequency of cross-racial interactions in the classroom increases among students of color. When campus diversity increases, although the potential for within-group interactions increases, students of color actually exhibit the least levels of cross-racial interactions (Chang et al., 2004). The research findings show when campus diversity is at its greatest levels (greater than 19% in the research

study), Asian-American and Latino students' cross-racial interactions level off and start to decline, unlike the positive benefits of increased interactions experienced among their Caucasian student counterparts (Chang et al., 2004).

Involvement With Work

Astin (1999) identifies the most interesting environmental factor that affects retention in school for students is possession of a part-time job on campus. The researcher notes that although one might believe that part-time work/work-study competes for a student's time that can be dedicated to academic pursuits, part-time work or work-study on campus functions to increase retention on campus, just as on-campus residential living does. Astin argues that working on campus increases the likelihood that students will interact with other students, faculty members, and support staff members. The researcher (Astin, 1999) states that the student develops a beneficial psychological association with the institution, resulting in a sense of attachment to the college and a resource for income. Astin relates off-campus activities negatively with student academic achievement, retention, and nonacademic developmental activities because they decrease the time and energy that students can use for studies and on-campus activities.

Bambara, Harbour, Davies, and Athey (2009) investigated community college students' involvement with work and associated the influences of work on students' success in college. The researchers (Bambara et al., 2009) associate the benefits of online courses as an option for community college students to enroll and complete programs of study using flexible and expanded schedules of classes in order to reduce the cost of commuting to campus and to allow themselves to work dynamic shift schedules. Health care workers, fire fighters, police officers, correction officers, and manufacturing workers are occupations suggested as possible

beneficiaries of community colleges' online course offerings. Bambara et al. investigated a situation they term delicate engagement, an identification of aspects of online students' academic and social experience to determine themes of student experiences that help determine academic success and withdrawals/failures in online courses with failure rates of 30% and higher. The researchers (Bambara et al., 2009) interviewed 13 community college students in a phenomenological study to identify four common structural themes (isolation, academic challenge, ownership, and acquiescence) that students combine to lead to survival or failure in online classroom environments. Bambara et al. state that online courses are very attractive to many community college students because of work and family obligations that restrict their classroom attendance and participation in traditional on-campus classroom environments.

Involvement Elsewhere

The life experiences of various community college student populations tend to influence student involvement, academic achievement, retention, and departure. Bambara et al. (2009) find that the educational needs of certain special populations of students are met when institutions use online course environments to accommodate students with small children and/or family with members with special disabilities to reduce child care expenses, and free time for special care needs. The researchers state that institutional policies should encourage students to utilize online courses as a utility for overcoming barriers during their educational process. The researchers state that the institution's means to satisfy student interests and demands further hinge on helping students to become technologically literate so that they may effectively participate in online methods of instruction.

Tinto's Theory of Student Departure

In his theory of student departure Tinto (1993) assumes that individuals enter college with different family backgrounds, socioeconomic statuses, levels of academic preparation and commitment, and unique skills and abilities. The theory indicates that students interact with their institutions in social and educational communities and in ways that help them integrate into new environments (Rendon et al., 2000). Tinto (1987) suggests that student persistence in educational programs is dependent on the extent to which educational communities are constructed in college programs and classrooms so that students are integrated into the dynamic social and intellectual life of the institution. Chaves (2006) observes that classroom experiences for adult community college students may be the only thing they share with faculty and peers. Chaves recommends that community college administrators pursue Tinto's (1997) recommendations. Community college classrooms must serve as smaller social and intellectual meeting places where faculty and students can interact, and they also must serve as a gateway for promoting student involvement into the greater academic and social communities of the college. Tinto's (1993) theory of student departure provides a sociological context for understanding student departure and allows an individual's precollege environment to be associated as the foundation for explaining the individual's postcollege possibilities and opportunities (Liu & Liu, 1999).

Student Involvement

Chaves (2006) engages colleagues in a spirited theoretically grounded perspective on how community college research efforts might advance the involvement, development, and retention of adult community college students. The researcher (Chaves, 2006) places student engagement and other forms of involvement in college at the heart of the matter of successful

academic progress for community college students. Chaves associates Tinto's (1993) theory of Departure with the value of students' and instructors' in-classroom experiences in order to achieve an intellectual synergy. Chaves associates Astin's (1999) theory of student involvement more generally with students' experience both inside and outside the classroom. The researcher's (Chaves, 2006) concern is the numerous problems faced when attempting to educate the often-marginalized group of the illiterate; adult involvement and engagement, student developmental approaches, and adult learning theories together can be used to improve upon the education of adults in community colleges.

The Community College Survey of Student Engagement (CCSSE) is one unified effort of the federal government and the state of Texas' community college system to provide colleges with information that improves student learning and persistence by effectively engaging students while on community college campuses. The collaborative educational research efforts work to identify the effective services and activities that best serve students' educational and developmental needs while on campus. The CCSSE is conducted each year and provides community colleges with credible and relevant information about students' experiences at their colleges. Data collected help educational professionals to understand how effectively college instructors are engaging their students and identify areas of improvement. The CCSSE generates an annual executive summary report each year of relevant benchmarks established for areas of its findings. The CCSSE (2006) annual executive summary reports a number of findings with regard to the quality of student study habits and participation for class.

- More students are engaged in active and collaborative learning inside the classroom than they are outside of the classroom.

- More than a third of full-time students spend 5 hours per week or less preparing for class.
- Full-time women put forward more effort preparing for class than do full-time men.
- Academically, approximately 64% of students indicated that coursework emphasizes rote memorization as much as, or more than, higher-level cognition.
- Approximately 64% of student participants report that their coursework emphasizes analyzing ideas, synthesizing ideas or information, making judgments about the value and soundness of information, and applying concepts to practical problems or in new situations.

The CCSSE (2006) findings show differences in the levels of engagement of different student groups.

- Student-faculty interactions are different with African-American men, who are more likely to work with instructors on non-course related, out-of-class activities with social connections than other such groups of students.
- Part-time students are less likely than full-time students to use e-mail in order to communicate with an instructor.
- Academically underprepared students use services more than their prepared peers, but far fewer than half of academically underprepared students report using these services.
- Among all students, the gap between perceived importance and use of college services indicates that more students value these services than use them (CCSSE, 2006).

The CCSSE (2007) annual executive summary suggests that engagement does not happen by accident, but by design. Community colleges must be deliberate and aggressive in creating opportunities to get students involved so that engagement becomes central to every student's educational experience. Engagement matters for all students, although it will matter more for some students than for others.

Data from the CCSSE (2007) initiative report works to build on the five lessons learned through its member community colleges' educational research by identifying five strategies that work when it comes to using the CCSSE data to improve students' educational experiences while maximizing student institutions. The five lessons learned using CCSSE research follow.

- Be intentional. Engagement does not happen by accident, but it happens by design (p. 5).
- Engagement matters for all students; however, it matters more for some students than for others (p. 5).
- Part-time students and faculty are a reality of community colleges mission, yet are not usually addressed in improvement efforts (p. 5).
- Data collected are community college educators' friends. Decisions made are based on what data sets show on student engagement, progress, and achievement (p. 7).
- College education professionals should look behind the numbers as they work within a culture of evidence that data supports, or does not support (p. 7).

Given the five lessons learned about student engagement through research, the CCSSE (2007) researchers recommend the following strategies for improvement:

- Set high expectations and clear goals (p. 11),
- Focus on the front door (p. 13),

- Elevate developmental education (p. 15),
- Use engaging instructional approaches (p. 17), and
- Make engagement inescapable (p. 19).

Research data of the CCSSE (2007) show that each college has stated commitments for educating all students, but their actions tell more than their mission statements. A casual walk onto a college campus has the potential of making visitors aware of the institution's level of commitment toward believing that every student can learn. Recommendations are that colleges must address the precipitous loss of new students by focusing on the front door and designing engagement efforts that capture students from the moment of their first interactions with the institution. Adelman (2004) indicates that helping students to succeed through the equivalent of the first semester (12 to 15 credit hours) can significantly improve upon their persistence and completion of their educational program of study. Adelman indicates that up to 61% of all first-time community college students are assessed as underprepared for the demands of college-level courses. The CCSSE (2007) shows that community colleges cannot significantly strengthen student success until they first focus on providing effective developmental education and appropriate levels of student support programs and facilities.

Because of the part-time, working, commuting, and family responsibilities of community college students, the most successful engagement strategies are likely to happen inside classrooms (CCSSE, 2007). Data (CCSSE, 2007) consistently show that students are more engaged in the classroom than they are anywhere else. The active and collaborative learning benchmark is of greatest value and is related to many student outcomes including persistence and academic achievement (CCSSE, 2007). Colleges and their faculty members can set the tone and terms for student engagement. Course design can make certain types of engagement

inescapable. Students can be required to work on projects with other students outside of class, to complete service learning projects, and to make peer summative assessments of one or more group projects (CCSSE, 2007).

The CCSSE (2008) findings indicate that high expectations and high support of community college students are essential ingredients for their educational success during a time of falling budgets. The CCSSE report cites Tinto as saying, "no one rises to low expectations" (p. 2). The joint CCSSE 2008 report with the congressionally-appointed Advisory Committee on Student Financial Assistance indicates a number of findings. Only 56% of part-time students completed the standard Free Application for Student Federal Student Aid (CCSSE, 2008). Forty-six percent of part-time students and 31% of full-time students reported receiving no financial aid of any kind (CCSSE, 2008).

Seventy-one percent of student participants indicate that the college encourages them to spend significant amounts of time studying, but only 67% of full-time students actually spend 10 or fewer hours preparing for class in an average week (CCSSE, 2008). Twenty-four percent report that they always came to class prepared (CCSSE, 2008). About 49% of the research participants report that they often or very often worked harder than they thought they could to meet an instructor's standards; 11% reported that they never did so (CCSSE, 2008). Twenty-nine percent of full-time students report that they have written four or fewer papers or reports of any length during the current school year. Sixty-eight percent report that exams are relatively to extremely challenging while 9% find them relatively to extremely easy (CCSSE, 2008). Less than half (45%) of student research participants report that the college provides the financial support that they need to afford their education (CCSSE, 2008). The same percentage of student research participants state that lack of finances would most likely contribute to their dropping out

of classes and college (CCSSE, 2008). The CCSSE (2008) researchers state that (a) colleges' commitment to focus on data is necessary in order to improve on student progress and success, (b) colleges develop programs on a scale level since critical choices about making a significant impact on the success of large numbers of students are the ultimate goal, and (c) colleges make the tough decisions for the reallocation and convincing cases for the return on investments in student success since significant resource constraints are usually the situation.

Tinto provides the foreword in the CCSSE (2008) annual report of institutional findings. Tinto (CCSSE, 2008) notes that requiring high expectations are an essential condition for student success. He states that an educational institution's establishment of high expectations requires more than just words (telling students and the community of the levels of expectation) and also that policies and practices must occur in order to transform patterns of faculty, staff, and student actions into experiences that inspire greater effort to achieve high academic and social behaviors. Colleges must make sure that high expectations and support services are highly visible and in places accessible to students each day. The researcher reminds community college practitioners that because of work, part-time enrollment status, family responsibilities, and lack of college-level academic preparation, the time that community college students spend on campus is often limited to the time they spend in the classroom. The classroom may be the only place that students interact with one another and with faculty, the only place where they can be engaged in effective learning experiences.

Tinto (CCSSE, 2008) states that the classroom must become the focus of institutional action for student success. The researcher notes that faculty should work with support staff to become the primary advocate for student attainment of high expectations one course at a time. The researcher mentions that some community colleges have begun to reshape classroom

practice using methods that hold students to high levels of expectation while providing the support they need in order to succeed. Instructional methods in classrooms have incorporated curricula that engage students in varied educational experiences, including but not limited to cooperative or collaborative learning, problem-based learning, and learning communities to accompany the academics supported by the students' classroom experiences. The researcher's final reminder is that support for financial assistance is also a critical influence on support required by high expectations. Community college personnel strategize to act on the recognition that high expectations and high support are essential to generating greater effort and engagement among students (CCSSE, 2008).

Findings indicate how community colleges are using technology (Web 2.0) to make connections with students and in this manner influence the quality of community college students' educational experiences online, in the classroom, on campus, and beyond (CCSSE, 2009). Data collected by the CCSSE survey in 2009 verify continued significant growth in the use of online courses and support services at community colleges for services they provide including online developmental education courses, orientation, and tutoring. The CCSSE researchers note that connecting with students requires interaction, a feeling of personal investment, and a commitment to listen and to be heard.

The CCSSE (2009) research data identified social media connections as the single-most educational tool set used to enhance academic achievement with students using the Web 2.0 platform. The beneficial connections established with student participants identified in the CCSSE (2009) findings are noted below:

- Characterize the attributes of the diverse population of students participating in the study as 60% attending as part-time students, 54% working more than 20 hours per

week, and 22% being uncertain about their educational plans after the current semester. The colleges studied used the data findings to better understand student needs while connecting with them in their life experiences and to purposefully create relationships that help students to succeed at completing college. More than a third of the more than 400,000 participants at 663 institutions in 48 states were reported as being first-generation college students.

- Acknowledge that 67% of the community college faculty members were part time and that they teach one half to two thirds of all course selections at the 663 participating colleges. Part-time instructors play a major role in shaping students' experiences, yet they are minimally involved with the students beyond the classroom hours of instruction.
- Investigate the CCSSE respondents' use of the Web 2.0 social networking tools. CCSSE data collected show an increase in students' usage of technologies to complete assignments, computers, the Internet, and email since 2004.
- Note that traditional-age students (18 to 24 years of age, 68% of community college students nationwide) are more likely to use social networking tools multiple times per day for any purpose. Only 5% of the traditional-aged students versus 22% of the nontraditional-age respondents "never do so."
- Suggest that traditional-age students are more likely to use social networking tools to communicate with other students, instructors, and/or college staff regarding their coursework. In comparison, 27% of traditional-age students versus 49% of the nontraditional-age students will "never do so."

- Suggest that some social networking tools improve engagement, yet there is a point when they reach diminishing returns. Using social networking to communicate with students, instructors, or college staff about coursework correlates with higher levels of engagement. Analyses of the data demonstrate that the more frequently students' use social networking tools for academic purposes, the more engaged they become. Analyses of the data show that when students use social networking tools at an excessively higher usage frequency for any purpose (including for academic purposes), the less engaged they become academically.
- Indicate that the most important connections are formed in the classroom.
- Determine that making engagement connections elsewhere on campus or beyond the campus requires intentional effort and planning on the part of the colleges.
- Identify that the potential for creating on-campus connections is largely untapped.
- Suggest that engagement connections made with students beyond the campus are most likely to occur when colleges incorporate mandatory learning experiences into the instructional process.

The CCSSE (2010) authors reveal a number of findings related to the quality of community college students' educational experiences as contrasted with the perceptions of community college faculty and endeavor to explain how institutions in America are implementing strategies that strengthen student learning and in turn improve students' abilities to earn high-quality college degrees at graduation. Although earning a certificate or degree is not the goal for all community college students, the 2010 research participants reported the goal of 52% is to complete a certificate and the goal of 84% is to complete an associate degree (certificate seeking students also earn the associate degree). The CCSSE data suggest that 60%

of the students are enrolled part time and that 32% of them work more than 30 hours per week (cohort includes 19% urban-serving colleges, 21% suburban-serving colleges, and 60% rural-serving colleges). The 2010 CCSSE report suggests four strategies which work to improve students' chances for completing college:

- strengthening classroom engagement,
- integrating student support into the learning experience,
- expanding professional development for full-time and adjunct faculty, and
- focusing institutional policy on creating the conditions for learning.

The CCSSE (2010) researchers state the following:

- Teaching and learning (the heart of student success) should strengthen classroom engagement by using experiences (any activity that takes place as part of a regularly scheduled course) that demonstrate that colleges think beyond traditional classroom boundaries. The CCSSE research report efforts focus on this effort by bringing awareness to the numbers of students that are being required to participate using different cognitive levels in their studies.
- Community colleges should integrate a broad range of student support services into students' learning experiences. The researchers state that community colleges should act on their understanding that high expectations of students must be accompanied by high support. The CCSSE data of student focus group findings indicate that students are usually not aware of the services available to them, lack the knowledge for accessing them, do not find them convenient, and feel stigmatized for using them. The researchers recommend that "intentionally integrating student support into course work circumvents many of the barriers that keep students from using services" (p. 15)

- Community colleges must expand professional development to focus on engaging students. Community colleges should increasingly become involved in identifying and implementing effective educational strategies via significant foundation support and institutional initiatives. The report shows that philanthropic organizations and governmental agencies' funding emphasizes evaluation of the impact of those strategies on student success. The organizational funding stimulates accountability measures for new strategies in order to promote higher levels of learning and college completion rates, while a substantial institutional commitment to the professional development for full-time faculty members, college teams, and part-time instructors is essential.
- Community colleges should consider creating policy conditions to promote learning and completion, thereby creating more structure which will in turn result in student success. The CCSSE data show mixed results on issues related to institutional policy.

The CCSSE (2010) researchers proposed the following arguments: (a) Grounding effective educational practice is at the heart of student success; and (b) Quality teaching, facilitated by integrated student support services and continuous improvement supported with targeted professional development, is a vital part of the community college response to the college completion challenge. The heart of the matter, according to CCSSE, is that the improvement of educational outcomes requires an intensive focus on the people and educational practices that help to produce those outcomes.

Approaches of the Current Research Study

Research questions contained within the demographic section of the CCSEQ are directed at collecting personal information about student participants in order to better apply the

perspectives of Tinto's (1993) theory of student departure. Through these questions, researchers attempt to collect participant information related to age, sex, race, native language, time spent working on a job, effects of job responsibilities on college work, the effects of family responsibilities on college work, and work study (Appendix I). The information collected in sections of the CCSEQ by the researcher delineated different family backgrounds, socioeconomic statuses, unique skills, and abilities of the study's research participants. Research data derived from the participant demographics was useful in the analyses and discussion of trends and patterns within the data by allowing the researcher to analyze variables common to participants with similar personal attributes.

The researcher obtained additional information about research participants' levels of academic preparation, commitment to the educational process, unique skills, and abilities using several types of research questions concerning enrollment in developmental education classes, the possession of skills acquired that enhance student abilities in workforce training, and any academic preparations (earned and planned) that position the student to become successful in university transfer programs. The College Program and College Courses Sections of the CCSEQ research instrument (Appendix I) provided the researcher with this information. The researcher also used the U.S. Census Bureau (n.d.a, n.d.b, n.d.c, n.d.d) to determine the educational backgrounds, dynamics of family backgrounds, socioeconomic status, economic well-being of the county, and thrusts of employment opportunities for citizens residing within the counties from which student participants were recruited and enrolled at each community college. The demographic data collected and analyzed was helpful to the researcher when using descriptive and inferential statistics to explain the findings of the research study as it is related to Tinto's (1993) theory of student departure.

The Community College Student Experience Questionnaire

Pace (Pearson et al., 2009) initially developed the CCSEQ to accommodate research on the evolving characteristics and experiences of the data collection research on community college students' outcomes. Pace and his colleagues (Pearson et al., 2009) designed the CCSEQ to collect research data from community college students from four fundamental inquiries.

- Who are the students attending the college, and why are they in attendance at the college?
- What are the things that students do at the college? (How much do they do, and how productive are they given the opportunities made available by the college?)
- What impressions do the students have of the college?
- How do the students perceive their progress toward reaching their goals as a result of attending the college?

This approach to research derives a concept of quality of effort context, which is grounded in Pace's (1979) model of student development and college impress.

Pace's Model of Student Development and College Impress

Pace (1979) established his model of student development and college impress on the following three basic propositions:

- Proposition 1. The college experience involves the events within which the students are engaged while in college. The events include those occurring both inside and outside the classroom, opportunities for formal and informal contact with faculty and other students, opportunities for growth in self-understanding, utilization of the library, and those that improve writing skills.

- Proposition 2. The characteristics of the environment and the quality of effort put forth by students impact the sense made of student experience(s).
- Proposition 3. The combination of the environment and student effort that contributes to student development.

Pace's (1979) model of student development is composed of five measures: (a) background, or the characteristics students bring to the college with themselves; (b) status in college—transfer student, transient student, full-time, or part-time; (c) college activities, conceived as the quality of effort that they invest in taking advantage of the opportunities for learning provided by the institution (Pace argues that it is this effort that students extend that ends up being the most important determinant of academic outcomes); (d) impressions of the institutional environment; and (e) perceptions of the extent to which they have gained or of the educational progress of which they have made as a result of attending college. Pace operationalized the concept of quality of effort in a questionnaire, which developed the quality of student effort through scales that reflect the domains of academic and intellectual experiences, personal and interpersonal experiences, and group experiences. Pace directed student selections of items within the scales by the basic educational knowledge of how individuals learn and develop (Pearson et al., 2009). These selections/scales became the intellectual and developmental conceptions of personality development. Pace's quality of effort scales, in this way, are closely related to human development theories and the findings of credible research in the literature. Items reflecting increasingly higher levels of quality of effort and student participation in an activity will require higher levels of effort from the student than those that reflect lower levels of quality of effort (Pace, 1979).

The CCSEQ permits research participants to provide information that includes student background, satisfaction with college, perceptions of the institution's environment, and perceptions of how students rate their personal and educational gains since being enrolled at the institution. This aspect of the CCSEQ allows educational researchers to evaluate sets of variables within the context of Pace's (1979) model. Since the development of the CCSEQ and its publication in 1990, many 2-year colleges have used the research instrument (Ethington & Horn, 2007).

Community College Student Experience Questionnaire Research Studies

Ethington and Horn's (2007) research using the CCSEQ on 1,241 community college students who indicated their intent to transfer to a 4-year institution and who had completed more than 30 college credit hours investigated Pace's model at 40 community colleges across the U.S. from Fall Semester 1999 through Spring Semester 2001. The study's (Ethington & Horn, 2007) results strongly supported the views of Pace's (1979) model.

- Student effort is the most important determinant of growth and development resulting from college attendance.
- A major influence on students' perceived personal and social development is derived from the effort they exert when taking advantage of the opportunities provided by the institution.
- The greater students' efforts are in a variety of activities, the more they perceive the institution as a challenging and stimulating place to complete their college education.
- Student effort was found to have a positive impact on student research participant's perceived gains and an indirect positive impacted on their gains as related to student enhanced perceptions of the institutional environment.

- Variable influences from background variables, brought about by student perceptions of the institution or quality of effort, are only indirectly related to significant findings.
- Quality of effort variables had a significantly negative impact on student perceptions and on faculty perceptions; negative influences from job responsibilities on both groups, and a positive influence of age on perceptions of the institution.

Ethington and Horn concluded that, while the institution is responsible for presenting opportunities for students and establishing the environmental context within which learning and development takes place, the students are responsible for taking advantage of those opportunities. Students will not become heavily engaged in the varieties of academic and social activities if the institution does not make them available. Likewise, students cannot expect to attain optimal growth and development if they do not acknowledge their own responsibilities. One must consider both the institution's responsibilities and the students' responsibilities in order to optimally understand college students' development (Ethington & Horn, 2007).

Eklund-Leen and Young's (1997) research regarding the attitudes of student leaders of organizations and students who were nonmembers of student organizations utilized two items of the CCSEQ when composing The Campus and Community Involvement Questionnaire (CCIQ) developed for their study. The CCSEQ questions used researched (a) the amount of time students spent on campus outside of class and the amounts of time spent studying, (b) the amount of time respondents spent working on club or organizational responsibilities, (c) the number of organizations of which they were members, and (d) the length of membership in the organization in which they were most active. The purpose of the study (Eklund-Leen & Young, 1997) was to determine the relationship among the intensity of student involvement in community college

organizations, attitudes toward community involvement, and self-reported projections of participation in community activities.

Eklund-Leen and Young's (1997) research used a random numbers list to survey 350 students at an urban midwestern community college in three categories: 121 designated leaders, 109 club members but nonleaders, and 120 students identified as nonmember/nonleaders in any organization. They achieved a 50.57% return rate, with 177 questionnaires analyzed and 59 responses for each leadership category-leader, member, and nonmember. The following results were derived from the research:

- A strong relationship existed between designated student leaders and campus involvement. Student leaders were more involved than student members in organizations. Student members were more involved than nonorganizational students participating in the study, although some organizations' activities proved more demanding than others.
- A positive, statistically significant relationship existed between intensity of involvement and attitude toward community involvement. The finding supports Astin's (1999) theory that the more intensely involved a student is in student organizations, the more positive his or her attitude will be toward becoming more involved in the community.
- The more involved students are in campus activities, the more they indicate that they will participate in community activities in the future.

Eklund-Leen and Young's (1997) research affirms statements of Astin's (1999) student involvement theory that a student's intensity and extent of involvement in college activities positively influences the benefits of both the college experience and the student's projected

participation in community activities. The more involved a student becomes, the greater the benefits of his/her involvements. The findings of the study indicate that cocurricular involvement can be a major benefit to a community college student's educational outcomes, even though the nature of the student and the institution restricts the time for such involvements.

Swigart and Murrell's (2001) research with a national random sample of 650 community college students explores the factors influencing the estimates of gains made among African-American and Caucasian community college students using the CCSEQ. The research study engaged 268 (48.55%) African-American students and 284 (51.45%) Caucasian students. The researchers related the study with Pace's (1979) model of student development and college impress and with the student development theory to relate the unique cultural influences on growth between and among students of different ethnic backgrounds to the variable of the estimates of gains process. Researchers discussed correlations, means, and standard deviations. The investigation examined the breadth and amount of effort exerted by community college students toward their college education with aspects of Pace's theory using the Quality of Effort scales of the CCSEQ and the student development theory. Results suggest that educators not overlook the unique influences on growth between and among students of differing ethnic backgrounds.

Swigart and Murrell's (2001) statistical treatment of the data included correlations, means, and standard deviations for each group of students. The researchers compared the means for each group using univariate *F* tests (ANOVAs) and tested for significance at $p < .05$. Significant ANOVAs followed with Tukey-Kramer tests with a priori experiment-wise alpha rate of .01. Researchers found that an ANOVA for quality of effort in student acquaintances and of self-reported gains were highly significant ($p < .0001$). The ANOVAs for library, faculty,

writing, and computers were found significant ($p < .001$). Swigart and Murrell reported that the ANOVA for coursework was found to be significant at $p < .01$. Discussions of the statistical analyses in this study (Swigart & Murrell, 2001) revealed several findings:

- African-American students reported greater gains with regard to the quality of effort in student acquaintances and of self-reported gains than did Caucasian students. The researchers suggest that African-American students' greater involvement in completion of important educational objectives explains this fact. Caucasian students had enrolled in more credit hours and were younger than their African-American counterparts.
- African-American students were more involved in coursework, library usage, interactions with family member(s), interaction with other students, and use of computer technology.
- Results suggest that the relationship between student effort and self-reported gains are not the same for African-American and Caucasian students. Observers report that when background variables are statistically controlled for quality of effort, several common and unique influences on estimates of gains show themselves for each group.
- The most significant involvement of African-American students and Caucasian students was their involvement in activities of talking one-on-one with their instructors about course progress, preparation of rough drafts of research papers, and asking fellow students to proofread them. It was important to both groups to have access to computers, e-mail, and the World Wide Web's instructional materials.

Ethington (2000) uses the CCSEQ to examine the effects of peer groups on community college students' perceptions of general educational gains at the time that the research instrument was initially being developed in 1990 through 1994. A sample population from 48 community colleges across the U.S. yielded a research sample population of 8,063 student participants to generate a number of findings (Friedlander & MacDougall, 1992; Pearson et al., 2009). Two datasets were created from student responses. The first dataset contained information on individual college students, and the second contained measures of students' attendance. The measures of the institutional dataset demonstrated Weidman's (1989) normative influences of the college environment which were defined by the peer group at the institution of attendance. No external factors were considered in these analyses since they lie outside the limitations of the CCSEQ.

Ethington (2000) used a nested structure of data (students within institutions) when utilizing the hierarchical linear model approach of Bryk and Raudenbush. Ethington devised a three stage modeling approach in the analyses of the data in order to use institutional measures to predict the coefficients in the student-level model and to test whether the influence of individual student measures on individual perceived gains are dependent on the environment of the institution attended or whether it is consistent regardless of the institutional environment. Findings resulting from the study indicate that the dominant influence on students' perceived gain was from the quality of effort exerted by the students. The aggregates of the individual-level measures investigated were used as indicators of the peer environment and were found to have little impact on the individual-level estimates. Ethington reports that only 5% of the variability in the students' perceptions of gains are due to between-institution differences.

Association of Perspectives on Astin, Tinto, and Pace

Pace's (1979) model of student development and college impress is closely associated with Astin's (1999) and Tinto's (1987) theories in that it states that student time and effort are the key constructs associated with outcomes of the college experience (Ethington & Horn, 2007). Ethington and Horn (2007) emphasize that Pace's model considers student effort as the most important determinant of perceived gains of student outcomes. Ethington and Horn state that the extent to which students utilize their time and efforts in the educational opportunities and activities made available by the educational institution is closely related to impacts upon their individual growth and development. Pace argues that although institutions may provide the setting and opportunities for the engagement of students in their learning, it is the quality of that engagement (not just the participation) that impacts growth and development. The researcher argues that multiple types of experiences within the academic and social domains with certain types of learning experiences are qualitatively better than others. Specific research instruments developed by Pace to research his model on student development and college impress by way of quality of effort are the senior university instrument, the CSEQ and the community college instrument, the CCSEQ (Ethington & Horn, 2007; Pearson et al., 2009).

Astin (1999) states that when one studies students' quality of effort, a quantity versus quality issue arises. Astin proposes three research questions:

> To what extent can high-quality student involvement compensate for lack of quantity? Can institutions encourage students to use their time more wisely? Does low-quality student involvement reveal educational obstacles in the lives of students (lack of motivation, or struggles with personal problems)? (p. 527)

Tinto (1998) encourages academic organizational reforms to assure that students interact with their peers and faculty members both within and outside the classroom environment. Tinto states that increased academic involvement with peers and instructors promotes higher levels of learning, improves the likelihood that students will persist at their educational objectives, and helps commuter students develop social networks that they often find difficult to establish. The use of learning communities is one educational reform strategy that Tinto (1997) suggests for community college instructors to embrace when increasing students' contact with their instructors and peers in diverse populations. The researcher notes that learning communities have the potential to promote greater academic and social involvement on community college campuses by inviting greater opportunities for socialization inside and outside the classroom setting (Tinto, 1997).

Retention, Persistence, and Attrition

In a 4-year longitudinal study of 9,200 community college freshman students, Fike and Fike (2008) emphasize the importance of relating theories with educational institutions' student efforts. Tinto's (1993) student development theory correlates students' progress to stages as they transition from a freshman in college to a mature student. Bean's (1990) psychological model of retention shows that there are background variables that influence the way a student interacts with the college or university. Fike and Fike note that Bean's theory involves environmental variables with student intention as factors that help to predict student retention. Astin's (1999) well-known input-environment-outcome model (Astin's student involvement theory) shows that outcomes must always be assessed in terms of inputs. Fike and Fike state that input and output data have limited usefulness when utilized alone and that the environment completes the model for assessing student retention.

Fike and Fike's (2008) research findings for predictors of first-year student retention in community college identify the impact of developmental education programs and internet-based courses on student persistence. Fike and Fike relate financial aid and support services programs (federally funded student support services) as predictors of student retention. In a 4-year study of first-time in college freshman students, correlations of predictors and response variables demonstrate that completion of a developmental reading course has the strongest positive correlate with retention. Successful completion of a developmental mathematics course, receiving financial aid, taking an Internet course, semester hours enrolled in the first semester, and participation in student support services are all positively correlated with student retention (Fike & Fike, 2008). Student age and semester hours dropped during the first semester are negatively correlated with retention. Student ethnicity and the educational level of parents were not found to be consistently related with student retention.

Fike and Fike's (2008) research findings show that a third of the first-time-in-college students who enrolled in the fall term did not re-enroll at the same institution in the spring. More than half of the first-time-in-college students who enrolled in the fall did not enroll in the following fall semester. Fike and Fike conducted a multivariate analysis on data to reveal positive predictors of fall-to-spring retention (ordered from strongest to weakest) with regard to students passing a developmental reading course, taking Internet courses, participating in for credit course activities during fall semester, and student age. Factors reducing the odds of fall-to-spring retention include not taking a developmental math course, mother having some college education, and semester hours dropped in the first fall semester. A logistic regression model to predict the first fall to second fall semester retention revealed no significant differences with regard to age, gender, and ethnicity when controlling for covariates (Fike & Fike, 2008).

Taylor and Hahs-Vaughn (2010) researched the credibility of the Retention Index associated with CCSSE in an effort to determine how meaningful the index is with regard to the three CCSSE benchmarks (active and collaborative learning, student-faculty interaction, and support for learners). The CCSSE (2004) research initiative data was accessed by the researchers in order to investigate institutional-level enrollment trends at all 28 Florida community colleges during the 2003-2004 academic year (800,000 student participants). The researchers conducted a simple correlation and regression analysis to determine if the CCSSE Retention Index could be used to predict the institutional retention rate calculated from the state accountability measure (Taylor & Hahs-Vaughn, 2010). Taylor and Hahs-Vaughn used student-level data with a nested ANOVA to determine if there were mean differences in the CCSSE Retention Index scores of males and females of different racial groups when accounting for the potential influence of the institution attended. The researchers (Taylor and Hahs-Vaughn, 2010) examined the mean differences in retention rates of the groups having taken the survey.

Taylor and Hahs-Vaughn (2010) analyzed two variables: (a) the independent variable—the institutional CCSSE Retention Index; and (b) the dependent variable—the institutional retention rate for all degree types used to calculate the Florida accountability measure for retention success. Taylor and Hahs-Vaughn found that the mean (49.71) of the independent variable Retention Index indicates that the average Retention Index of the Florida community colleges is slightly below that of other institutions that participated in the survey. The question as to whether and how much CCSSE's Retention Index can inform or guide decision making about improvement strategies for retention was determined in four parts:

- A negligible linear relationship resulted from the simple correlation and regression analysis using institutional level data (Taylor & Hahs-Vaughn, 2010).

- The statistically significant findings when examining mean differences in CCSSE Retention Index scores of different racial groups were negligible (Taylor & Hahs-Vaughn, 2010).
- The CCSSE (2004) report recommends disaggregating data by student groups by individual benchmark scores and even to individual survey questions to strategize and gauge interventions.
- The CCSSE (2004) findings report that there are only small differences between racial groups in two of the three benchmarks that make up the CCSSE Retention Index.

No linear relationship was found with regard to the ancillary analyses conducted to examine whether there was a linear relationship among the three benchmarks that comprise an institution's Retention Index and the state retention rate (Taylor & Hahs-Vaughn, 2010). Taylor and Hahs-Vaughn (2010) report evidence that signal caution in using the Retention Index as a measure or tool. The researchers raised questions of how informative the CCSSE Retention Index is in regard to the analysis of the student-level data. There are statistically significant mean differences between the independent variables of race, sex, and the nesting factor of institution and the dependent variable of students' Retention Index scores.

There were questions regarding the nested or hierarchical ANOVA conducted with both a balanced and unbalanced design (Taylor & Hahs-Vaughn, 2010). Some groups are more at risk than others, and there are institutional factors that may play a part in student retention. Although the researchers (Taylor & Hahs-Vaughn, 2010) report differences in attrition rates of minority and majority students, it is not apparent that race and socioeconomic status or first-generation classification explains much of the differences in engagement levels of students as measured by

the Retention Index. Taylor and Hahs-Vaughn (2010) state that in conclusion, engagement remains a promising construct for improving student learning and retention rates in 2-year and 4-year degree granting institutions. The general construct of engagement in community colleges as well as the Retention Index needs ongoing study for further validation, deeper understanding, and improved application (Taylor & Hahs-Vaughn, 2010).

Hotchkiss, Moore, and Pitts (2006) were concerned with a freshman learning community (FLC) to accomplish the goals of determining whether a small community of freshman peers with a common interest organized around topics of the environment, communication, and leadership can improve retention and performance on a large nonresidential urban campus in the U.S. The researchers' (Hotchkiss et al., 2006) findings indicate that belonging to an FLC increases a student's GPA from approximately three fourths to one full letter grade, and not controlling for individual self-selection leads one to conclude incorrectly that FLC participation impacts all races and gender groups equally. Hotchkiss et al. also found that (a) FLC impact drops one third (.34) of a letter grade one year later; (b) FLC participation can improve the retention for some students; and (c) FLC participation increases the probability that African-American men and women will continue to be enrolled one year after studying increased significantly at the conclusion of FLC participation. The researchers (Hotchkiss et al., 2006) conclude that educational institutions' knowledge of the impact that FLC can have on improving student retention can improve upon informed administrative decisions for improving academic performance and retaining freshman students.

Nathan (2012) investigated latent postsecondary persistence pathways as they relate to educational pathways in American 2-year colleges with three independent samples of community college students and five qualitative distinct patterns of persistence that emerge from the sample

populations to include full-time, long term; two years and out; long-term decliners; part-time, long-term; and one term and out. Nathan uses measures of the Community College Student Report (CCSSE, 2007) to reveal that the long-term decliner group; the part-time, long-term group; and the one term and out-group were the least engaged groups. Nathan reports that the long-term decliner group was the least engaged group. The study indicates the use of utility of latent trajectory modeling in higher education research to provide a basis for an empirically based scape of postsecondary persistence pathways (Nathan, 2012).

Nathan (2012) indicates that community colleges are the only practical pathway for many students to obtain a higher education because of the relatively low cost and open-door admission policies, but the high dropout rates at community colleges show that many students are not being successful at accomplishing their educational objectives (Bradburn, 2003). According to the U.S. Department of Education (2010) report on the future of higher education, student persistence has become an important accountability measure at community colleges. The report recommends greater transparency and accountability in higher education in order to highlight completion rates and student learning as the core accountability measures at the nation's community colleges. Nathan explains that measures of persistence and rates of completion have become new challenges for postsecondary institutions that enroll increasing numbers of nontraditional students whose educational objective is not to earn associate's degrees. Nathan states that more and better pathways have to be developed to create an understanding of alternatives to current standard education accountability measures in place at 2-year institutions.

Nathan (2012) explains that while factors associated with postsecondary attainment are thoroughly studied at 4-year institutions, not much information is known about the characteristics of persistence patterns. The researcher notes that the focus on persistence to date

has been centered on the identification of variables that can predict persistence, yet little has been done to improve upon the understanding of pathway characteristics, patterns of behaviors that can be used to identify typographies of patterns across time (Nathan, 2012). In the two phases of the study, Nathan utilizes transcript data to develop a typography of persistence for community college students during their first 3 years of college by identifying clusters of individuals defined by their patterns of credit hour completion and examines the differences in engagement behaviors according to the Community College Student Report, a research instrument administered by CCSSE. Class assignments, collaborative learning, information technology, and student services were significantly different across the latent groups in all samples (Nathan, 2012).

The follow-up analysis indicates that there are notable differences between trajectory groups in their levels of engagements (Nathan, 2012). The researcher (Nathan, 2012) explains that the development of typography of persistence pathways in community college students is motivated by the fact that attrition among students who begin higher education at community colleges significantly exceeds that demonstrated at 4-year public and private institutions. Bradburn (2003) explains that there are more students leaving during their first year of community college enrollment and not returning to any institution within the next 3 years than there are beginning 4-year institutions as freshmen. Bailey, Calcagno, Jenkins, Leinbach, and Kienzl (2006) state that even though measures of persistence and attainment are unique institutional performance measures, much controversy exists concerning how the measures should be examined in the community college environment since the educational goal of all students is not to earn a certificate, degree, or to transfer to a 4-year institution. Bradburn (2003) explains that complex enrollment patterns create complicated agendas for student services,

institutional finances, financial aid, institutional assessment and accountability (annual audits and accreditations), student advising, student assessment, and curriculum planning. Bailey et al. (2006) suggest that in order to understand student persistence patterns in community college educational environments, a typology of the educational pathways should be developed to understand alternative persistence patterns that are not easily classified in a degree completion accountability framework. Nathan explains that there is a need to develop a typology of persistence patterns and an understanding of how students differ across these groups in order to direct policy and practice in higher education.

Conclusion

Much research and many discussions have been conducted relating levels of student involvement with academic achievement, retention, and departure at 4-year colleges and universities, yet few efforts have been made to conduct similar levels of educational research in 2-year community college campus environments. Despite the increasing demands upon 2-year community colleges, particularly rural community colleges, to respond to changes in an American postindustrial economy by structuring educational programs to prepare students or retrain employees to enter highly technical jobs, minimal efforts have been made to ground educational practices for instruction, student personal and professional development, and student preparation for civic productivity after graduation in sound educational theory. Specifically, educational research in the rural community college campus setting has been significantly neglected, although in recent years rural community colleges have become the incubators of economic and workforce education, training, and growth for America making it necessary to ground educational efforts, workforce training, and their educational mission in reliable theory and educational practice. Valadez (2000), in a study of African-American mothers attending a

rural community college attempting to find a path out of poverty, describes the new environment individuals in small communities face when preparing for highly technical jobs in the new service-oriented economy.

America has placed the burden of educating academically underprepared and culturally diverse individuals of this new workplace upon the community college system nationwide. Additional educational expectations of community colleges include the retraining of displaced employees through workforce training programs and the stimulation of a sense of teamwork, workplace ethic, and knowledge of the workplace while maintaining a strong academic core of traditional program offerings for students in senior university transfer programs. Today more than ever, community college educators must begin to ground educational and personal development enhancement efforts in sound education theory.

CHAPTER III

METHODS

The purpose of this study was to use Astin's (1999) theory of student involvement and Tinto's (1993) theory of student departure as a framework for assessing the relationships among student involvement, academic performance, rates of retention, and rates of departure for African-American students enrolled at three rural Alabama community colleges. The goal of the study was to (a) help derive a better understanding of the experiences of African-American students in rural community college settings, (b) extend the research on the performance of African-American students enrolled in community colleges further into the Southeastern U.S., and (c) help to establish a baseline for future research into rural southern community college environments. The research may begin to stimulate a better understanding of unique problems that adult African-American students face as they pursue educational goals in rural community college environments.

Research Questions

The application of Astin's (1999) student involvement theory and Tinto's (1993) theory of student departure when considering African-American students enrolled in rural community college environments is the focus of the current research. To investigate this topic, the researcher administered the CCSEQ research instrument and applied the measures developed by the two theorists with the following research questions:

1. What is the relationship of estimate of gains on African-American students'quality of effort as they attend rural community colleges in the state of Alabama?
2. What is the relationship of the college environment on African-American students' quality of effort as they attend rural community colleges in the state of Alabama?

3. Does age have an influence on African-American students' estimate of gains and quality of effort when attending rural community colleges in the state of Alabama?
4. Is there an institutional effect between the college environments on the quality of effort for African-American students attending rural community colleges in the state of Alabama?

The researcher determined how the research variables challenge and/or support the application of two of the most recognized student development models, Astin' s student involvement theory and Tinto's theory of student departure, especially for African-American students attending rural community colleges.

Research Method

Astin (1999) relates a student's involvement and the amount of physical and psychological energy that a student devotes to the academic experience positively with improving students' persistence and success at completing college. Astin's theory shows five general categories of involvement that include academic involvement, faculty involvement, involvement with peers, involvement in work, and involvement elsewhere (to encompass other aspects of life). Astin notes that faculty-student involvement is the most important type of involvement and has the greatest ability to influence students' accomplishments, a category historically minimized at community colleges. Astin's theory of student involvement includes five postulates to include (a) the physical and psychological concept of student behavior being related to levels of involvement, (b) involvement occurring along a continuum as different students exhibit different degrees of involvement in different areas, (c) involvement being measured qualitatively and quantitatively, (d) student learning in college being directly proportional to the quality of student involvement, and (e) the effectiveness of any educational

policy or practice being directly related to the capacity of that policy or practice to increase student involvement.

Astin (1999) states the primary advantage of student involvement theory over traditional pedagogical approaches is that the theory directs attention away from subject matter and instructional technique to focus educational efforts on motivating students and modifying student behaviors. The researcher's (Astin,1999) theory proposes that the behavioral aspects of individuals are critical indicators toward defining what is valued, cared for, accentuated, emphasized, and pursued academically and socially. Astin suggests that analyses of these critical indicators help educators better understand student academic achievement, development, and experiences after departing college.

Tinto's (1993) theory of student departure assumes that individuals enter college with different family backgrounds, socioeconomic statuses, levels of academic preparation and commitment, unique skills, and abilities. Students interact with their institutions in social and educational communities and in ways that help them integrate into new environments (Rendon et al., 2000). Tinto (1987) suggests that student persistence in educational programs is dependent on the extent to which educational communities are constructed in college programs and classrooms and that students are integrated into the dynamic social and intellectual life of the institution. Tinto's theory of student departure provides a sociological context for understanding student departure and allows an individual's precollege environment to be associated as the foundation for explaining the individual's postcollege possibilities and opportunities.

The researcher administered the CCSEQ, a survey developed by Pace (1979), to collect and analyze data from community college students in an effort to measure their quality of effort or how much students do to capitalize on what the college offers: courses, library, writing, arts,

science, faculty contacts, students acquaintances, etc. (Pearson et al., 2009). The rationale of the questionnaire is that some student activities require greater effort and possess greater influence on learning and development than others and in this way denote a quality of effort. Analysis of data collected helped the researcher gain a better understanding about the relationship among student involvement, academic performance, retention rates, and departure rates of African-American students at three of Alabama's rural community colleges.

The CCSEQ was administered to a sample of students attending three rural community colleges in Southern Alabama. Correlation analyses were conducted to analyze the relationships between students' estimate of gains and quality of effort while enrolled at rural community college environments in the state of Alabama. Two one-way ANOVAs were applied to data as well. The dependent variable is quality of effort, and the independent variables are estimate of gains, college environment, and age. The estimate of gains variable was treated as a dependent variable in Research Question 3 as age was the independent variable with both one way ANOVAs conducted. Descriptive statistics in the form of means, standard deviations, and frequencies were analyzed and reported in order to explain the college student's experiences further, especially when using the level of satisfaction scales.

Sample

The sample for the study was obtained from three populations of noncorrectional education: civilian African-American students enrolled in three rural community colleges of the Alabama Community College System. The county settings within which the rural populations of students were located are identified by the U.S. Census Bureau (2010) as 60% or greater rural during Fall Semester 2010. The sample included both full-time and part-time students enrolled at each institution designated as College A, College B, and College C. Participants in the sample

were requested from College A, a small community college with an average student population of 1,319 students for fall semesters 2003-2007; College B, a slightly larger community college with an average student population of 2,224 students for fall semesters 2003-2007; and College C, a larger college with an average student population of 5,775 for fall semesters 2003-2007 (Alabama Commission on Higher Education, n.d.).

Student enrollment for College A included correctional education programs whose students were not included in the study. College B did not include correctional education program student populations. College C reported only one correctional educational program student during the Fall Semester of 2004 and was not included in the study.

The demographics of the sample of students in this study were male and female African-American students with full-time and part-time day and evening class enrollments during Fall Semester 2010 possessing a range in age of 18 to 19 or younger to over 55 years, as indicated by survey data collected. Participants may be single, married, or divorced; working full-time, part-time, or unemployed; and with or without children living in the household. Colleges A, B, and C from which student participants of the sample were taken reported student demographics to the Alabama Community College System's Department of Postsecondary Education in racial population categories as White, Black, Hispanic, Native American, Asian, and Other (Alabama Commission on Higher Education, n.d.). The ethnic/demographic categories used by Alabama's community colleges to report data to the Alabama Community College System were used in this research to collect research data.

The Alabama Commission on Higher Education (n.d.) statistical data for student enrollments reported College A average ethnic student enrollments for fall semesters 2003-2007 as 59.50% Caucasian (785); 30.39% African-American (401); 0.97% Hispanic (13); 3.14%

Native American (41); 0.53% Asian (7); and 5.47% Other (72). The average total minority student population for College A during fall semesters 2003-2007 was reported to be 40.50 % (534.40) of student enrollments (Alabama Commission on Higher Education, n.d.). College A ethnic student demographics (Alabama Commission on Higher Education, n.d.) of 1,239 students during Fall Semester 2008 were reported to be 54.49% Caucasian (674), 28.29% African-American (352), 1.37% Hispanic (17), 4.61% Native American (57), 1.05% Asian (13), and 10.19% Other (126). College A ethnic student demographics (Alabama Commission on Higher Education, n.d.) of 1,434 students during Fall Semester 2009 were reported to be 54.25% Caucasian (778), 31.94% African-American (458), 1.32% Hispanic (19), 4.04% Native American (58), 1.32% Asian (19), and 7.11% Other (102). College A ethnic student demographics (Alabama Commission on Higher Education, n.d.) during Fall Semester 2010 with a total enrollment of 1,181 students were reported to be 62.9% Caucasian (744), 34.1% African-American (343), 0.5% Hispanic (6), 4.5% Native American (54), 2.1% Asian (25), and 0.7% Other (9). Percentages of enrollments tended to be lower than the institution's student enrollment statistics for the previous years being considered for comparison (Appendix J).

At College A, a predominant White educational institution possessed a 30% African-American student population (Alabama Commission on Higher Education, n.d.). The average ratio of male to female students for Fall Semester 2003-2007 was 1 male to every 1.2 female students. The average ratio of male to female during Fall Semester 2008 was 1 male (537) to every 1.3 female (702) students. The average ratio of male to female during Fall Semester 2009 was 1 male (603) to every 1.4 female (831) students. The average ratio of male to female during Fall Semester 2010 is 1 male (383) to 2.1 female (789) students. The ratio of males to females at College A slowly increased between Fall Semester 2008 and Fall Semester 2010.

According to the Alabama Commission on Higher Education (n.d.), College A reported 691 day students, 352 evening students, and 138 online students for Fall Semester 2010. College A Fall Semester 2009 posted 743 day students, 352 evening students, and 131 online students. Online students were allowed the opportunity to participate in the study by taking the questionnaire. Reports to the Alabama Commission on Higher Education revealed College A retention rates as 40.50% in Fall Semester 2007-2008; 43.88% in Fall Semester 2008-2009; and 39.79% in Fall Semester 2009-2010. Completion rates for College A as reported by the Alabama Commission on Higher Education (n.d.) for the 2007-2008 academic year was 39 completions in short certificate vocational programs, 75 completions in long vocational certificate programs, and 158 completions in associate degree programs (Alabama Commission on Higher Education, n.d.).

The Alabama Commission on Higher Education (n.d.) reported that the majority of all student enrollments in 2009 for College A were from seven locations in Alabama, 79.36% (1,138); Non-U.S., 5.51% (79); Other U.S. Territories and States, 0.28% (4); Tennessee, 0.00% (0); Mississippi, 0.14% (2); Georgia, 0.14% (2); and Florida, 14.57% (209). The top five Alabama counties from which College A obtained its undergraduates in Fall Semester 2009 were Escambia (61%), Conecuh (8%), Monroe (3%), Unknown Alabama Counties (2%), and Baldwin (1%). The Alabama Commission on Higher Education reported that during the 2008-2009 academic year, 54 individuals transferred into College A, and 126 students transferred out of the institution.

College B reported (Alabama Commission on Higher Education, n.d.) average ethnic student enrollments for 2003-2007 as 47.33% Caucasian (1,053); 50.65% African-American (1,126); 0.44% Hispanic (10); 0.57% Native American (13); 0.32% Asian (7); and 0.14% Other

(15). The average minority student population for College B during fall semesters 2003-2007 was 52.67% (1,171). College B ethnic student demographics of 1,318 students in Fall Semester 2008 were reported (Alabama Commission on Higher Education, n.d.) to be 54.25% Caucasian (715); 37.78% African-American (498); 1.21% Hispanic (16); 0.53% Native American (7); 0.23% Asian (3); and 5.99% Other (79). College B ethnic student demographics (Alabama Commission on Higher Education, n.d.) of 1,431during Fall Semester 2009 were 54.65% Caucasian (782); 41.37% African-American (592); 0.63% Hispanic (9); 0.49% Native American (7); 0.28% Asian (4); and 2.59% Other (37). College B ethnic student demographics (Alabama Commission on Higher Education, n.d.) in Fall Semester 2010 were 47.81% Caucasian (719); 49.20% African-American (740); 0.73% Hispanic (11); 0.47% Native American (7); 0.66% Asian (10); and 1.13% Other (17). Percentages of enrollments tended to be inconsistent with the institution's student enrollment patterns of 2003-2009.

College B in 2003 reported a predominately Caucasian population of 62% with African-American students being the largest minority student population in attendance at the institution (Alabama Commission on Higher Education, n.d.). The demographics of College B in 2004, 2005, 2006, and 2007 were predominately African-American with Caucasian students being the largest minority population in attendance at the institution (Appendix J). College B transitioned back to a predominantly Caucasian institution 54.25% in 2009 with African-American students (37.78%) constituting the largest minority population. The Alabama Commission on Higher Education (n.d.) reported College B as an institution with almost equal proportions of Caucasian and African-American student populations: 47.81% Caucasian (719) and 54.65% African-American (740) in Fall Semester 2009.

College B was predominantly Caucasian (47.81%) with African-American students constituting 41.37% of the student population (Alabama Commission on Higher Education, n.d.). The average ratio of male to female students for Fall Semester 2003-2007 was 1 male to every 1.9 female students (Alabama Commission on Higher Education, n.d.). The average ratio of male to female during Fall Semester 2008 was 1 male (485) to every 1.7 female (833) students. The average ratio of male to female during Fall Semester 2009 was 1 male (532) to every 1.7 female (899) students. The average ratio of male to female during Fall Semester 2010 was 1 male (527) to every 1.85 female (977) students (Alabama Commission on Higher Education, n.d.). The ratio of males to females at College B remained relatively unchanged since Fall Semester 2008.

The Alabama Commission on Higher Education (n.d.) revealed College B retention rates as 50% in Fall Semester 2007 and 51% in Fall Semester 2008 (Alabama Commission on Higher Education, n.d.). It was reported that 46% of first time degree-seeking freshmen attended in Fall Semester 2009 (Alabama Commission on Higher Education, n.d.). Completion rates for College B were reported by the Alabama Commission on Higher Education for the 2006-2007 academic year as 53 completions in short vocational certificate programs, 90 completions in long vocational certificate programs, and 101 completions with the associate degree. Completion rates for College B were reported by the Alabama Commission on Higher Education for the 2007-2008 academic year as 15 completions of short vocational certificate programs, 38 completions in long vocational certificate programs, and 142 completions with the associate degree. Completion rates for College B was reported by the Alabama Commission on Higher Education for the 2008-2009 academic year to be 42 completions short vocational certificate

programs, 35 completions in long vocational certificate programs, and 125 completions with the associate degree.

The Alabama Commission on Higher Education (n.d.) indicated that the majority of all student enrollments for 2009 for College B were from seven locations: Alabama, 87% (1,245); Non-U.S., 11.2% (139); Other U.S. Territories and States, 0.35% (5); Mississippi, 0.56% (7); Georgia, 1.12% (16); and Florida, 1.33% (19). The top five Alabama counties from which College B obtained its undergraduates in Fall Semester 2009 were Clark (27%), Monroe (19%), Marengo (8%), Washington (8%), and Choctaw (8%). The Alabama Commission on Higher Education reported 59 individuals transferred into College B during 2007-2008, and 193 students transferred out of the institution. The Alabama Commission on Higher Education reported 60 students transferred into College B, and 199 students transferred out during the 2008-2009 academic year.

College C was a strong, predominantly White institution that reported (Alabama Commission on Higher Education, n.d.) average student ethnic enrollments for Fall Semesters 2003-2007 as 93% White (5,379); 4.5% Black (258); 1% Hispanic (55); 0.59% Native American (34); 0.36% Asian (21); and 0.50% Other (29). The average total minority student population for College C during Fall Semesters 2003-2007 was 6.87% (397). College C ethnic student demographics for a student enrollment of 5,548 during Fall Semester 2008 reported 90.90% (5,043) White; 4.16% (231) Black; 1.50% (83) Hispanic; 0.94% (52) Native American; 0.32% (18) Asian; and 2.18% (121) Other (Alabama Commission on Higher Education, n.d.). College C ethnic student demographics (Alabama Commission on Higher Education, n.d.) of 6,312 students during Fall Semester 2009 were 91.13% Caucasian (5,752); 4.56% African-American (288); 1.19% Hispanic (75); 0.90% Native American (57); 0.41% Asian (26); and 1.81% Other

(114). College C ethnic demographics (Alabama Commission on Higher Education, n.d.) during Fall Semester 2010 with a total enrollment of 1,374 students were 91.06% Caucasian (5,804); 4.80% African-American (306); 1.58% Hispanic (101); 0.96% Native American (61); 0.35% Asian (22); and 1.10% Other (70). Percentages of these enrollments tended to be higher than the institution's student enrollment statistics for the 2003-2009 (Appendix J).

College C is a predominantly Caucasian educational institution with an average African-American student enrollment of 4.41% in Fall Semester 2003-2007 (Alabama Commission on Higher Education, n.d.). College C gender ratio averages for fall semesters 2003-2007 were 1 male to every 1.7 females (Alabama Commission on Higher Education, n.d.). The average ratio of males to females for Fall Semester 2008 was 1 male to 1.9 females, and for Fall Semester 2009 1 male to 1.7 females (Alabama Commission on Higher Education, n.d.). The average ratio of male to females during Fall Semester 2010 was 1 male (2,352) to 1.17 (4,022) female students Alabama Commission on Higher Education (2011). The ratio of males to females at College C remained relatively unchanged for the past 8 years.

Reports to the Alabama Commission on Higher Education (n.d.) revealed College C retention rates for first time degree-seeking freshmen to be 58% in Fall Semester 2007, 60% in Fall Semester 2008, and 59% in Fall Semester 2009 (Alabama Commission on Higher Education, n.d.). Completion rates for College C as reported by the Alabama Commission on Higher Education for the 2007-2008 academic year were 120 completions in short vocational certificate programs, 116 completions in long vocational certificate programs, and 904 completions with the associate degree. The Alabama Commission on Higher Education reported for the 2008-2009 academic year 75 completions in short vocational certificate programs, 111

completions in long vocational certificate programs, and 765 completions with the associate degree (Alabama Commission on Higher Education, n.d.).

The Alabama Commission on Higher Education (n.d.) indicated that the majority of all student enrollments for 2009 for College C were derived from seven locations: Alabama, 97.16% (6,133); Non-U.S., 1.25% (79); Other U.S. Territories and States, 0.75% (47); Tennessee, 0.27% (17); Mississippi, 0.05% (3); Georgia, 0.27% (17); and Florida, 0.25% (16). The top five Alabama counties from which College C obtained its undergraduates in Fall Semester 2009 were Cullman (38%), Jefferson (14%), Blount (13%), Morgan (11%), and Marshall (7%). The Alabama Commission on Higher Education reported that during the 2009-2010 academic year, 392 students transferred into College C, and 442 students transferred out of the institution. The Alabama Commission on Higher Education reported that during the 2008-2009 academic year, 392 individuals transferred into College C, and 442 students transferred out of the institution. The Alabama Commission on Higher Education reports that during the 2007-2008 academic year 333 individuals transferred into College C, and 443 students transferred out of the institution.

Setting

College A, located in the Southern region of Alabama, is the 43rd most rural county in the state of Alabama at 61% rural and 39% urban or suburban (U.S. Census Bureau, 2010). The population of the county location of College A was 37,849 residents according to the population estimated by the U.S. Census Bureau (2000a). The ethnic populations of the county reported by the U.S. Census Bureau (2000c) was 64.1% Caucasian; 31.3% African-American; 1.1% Hispanic or Latino origin; 3.1% American Indian and Native American; 0.3% Asian; and 1.2% Other ethnic categories. The proportion of ethnic populations enrolled at College A was similar to those percentages of the county, yet varied somewhat with the attendance of Caucasian and

Other student populations (Appendix J). For residents living within the county of College A, educational attainments levels reported by the U.S. Census Bureau were 2.7% of citizens 18 to 24 and 34.7% of citizens 25 and over had either a high school diploma, a GED, or some college, yet no degree; 2.6% of residents 18 to 24 and 5.5% of residents 25 and older had an associate degree; 0.18% of residents 18 to 24 and 6.6 % of residents 25 and older possessed a bachelor's degree; and 3.9% of residents (1,002) held a graduate or professional degree (U.S. Census, 2000c). Although many students attending College A resided outside the location of the county, these levels of education statistics persisted with residents within the county location of College A.

College A awarded the Associate in Arts Degree in 11 transfer plans of study, the Associate in Science Degree in 20 plans of study (to students planning to transfer to 4-year institutions in pursuit of parallel plans of study), the Associate in Applied Science Degree in three plans of study associated with a specific occupational or technical program, certificates in eight occupational or technical areas, and two Associate in Applied Science Degree Articulated Transfer Programs with two other community colleges in the Alabama Community College System via collaborative agreements (Jefferson Davis Community College, 2010). College A offers special programs that include year-round Adult Education (AE) classes, General Education Development (GED), and a Workforce Development Program (Jefferson Davis Community College, 2010). Academic, technical, and special program classes were taught during the day, evening, and marginally on the weekends.

College A sponsored a number of student development programs to support students learning in a holistic educational environment (Appendix K). College A sponsored student development programs including campus organizations, an Honors Program, Student

Government Association, Nursing Students' Association, Phi Theta Kappa Honor Society, Tech Prep Program, Psi Beta Honor Society, Fellowship of Christian Students, Baptist Campus Ministries, and a Student Support Services Program (Jefferson Davis Community College, 2010). In addition, College A athletic programs included a female volleyball team, male basketball team, female softball team, and male baseball team. College A had on campus a 40-unit dormitory in which as many as 125 students resided, and a State of Alabama/Federal Financial Work-Study program in which some students worked on campus (Jefferson Davis Community College, 2010). Collectively, the student organizations, honor societies, athletic teams, and work-study assignments associated students with instructors, administrators, and support personnel which improved the quality of student community college life and involved the students in a full range of educational experiences.

College B of the study is also located in the Southern region of Alabama and is the 28th most rural county in the state at 78% rural and 22% urban or suburban (U.S. Census Bureau, 2010). The total population of the county for College B was 24,324 residents (U.S. Census Bureau, 2000a). The ethnic populations of the county were reported by the U.S. Census Bureau (2000d) as 56.9% White; 40.9% African-American; 0.8% Hispanic or Latino; 1.1% Native American; and 0.3% Asian. The U.S. Census Bureau (2000d) also reported that 0.8% of residents were of two or more races. The proportion of the ethnic populations enrolled at College B was different from the ethnic percentages reported for residents of County B. For residents living within the county of College B, education levels reported by the U.S. Census Bureau (2000d) were 3.0% of residents 18 to 24 and 34.4% of residents 25 years and older had either a high school diploma or GED, but had not earned a college degree; 2.9% of residents 18 to 24 and 4.6% of residents 25 and older had an associate degree; 0.1% 18 to 24 and 7.3% of

residents 25 years and older had a bachelors degree; and 4.5% of residents hold graduate or professional degrees.

Accredited by the Commission on Colleges of the Southern Association of Colleges and Schools, College B awards 2-year transfer degree programs to senior universities, the Associate in Arts Degree in seven program areas, the Associate in Science Degree in 19 program areas, the Associate in Applied Science Degree in eight program areas, technical or occupational certificates of completion in eight program areas, and articulated transfer programs via the State-wide Transfer and Articulation Reporting System (Alabama Southern Community College Catalog, 2008). College B offered special programs to enhance student development that included year-round Adult Education (AE) preparation classes, the GED, a Talent Search Program, Upward Bound, Student Support Services, Workforce Development Program, and an annual Alabama Writers Symposium. Academic, technical, and special program classes were taught during the day, evening, and on weekends.

College B sponsored a number of student activities and organizations to support student learning in a holistic educational environments (Appendix K). These student development activities and organizations (Alabama Southern Community College, 2008) included developmental or transitional studies, computer lag support, learning assistance or tutorial support (free tutoring for all students), support services for Distance Learning students, nontraditional student support, an Honors Students Program, an Art Scholars organization, an ambassadors program, a Student Leadership Association, Baptist Campus Ministries, a stage music group "Expose," intercollegiate athletics (women's basketball and softball and men's basketball and baseball), a National Association of Student Nurses, a Phi Beta Lambda chapter, a Phi Theta Kappa chapter, a Students in Free Enterprise (SIFE) organization, and a Technical

Association of the Pulp and Paper Industry (TAPPI). College B had no college owned dormitories on or off campus. College B participated in the State of Alabama and Federal Financial Work-Study Program which allowed some students to work on campus (Alabama Southern Community College, 2008). Collectively, the student organizations, honor societies, athletic teams, and work-study assignments, associated students with instructors, administrators, and support personnel work and improved the quality of community college student life and experiences at College B.

The county of College C in the study is located in the North Central region of Alabama and is the 32nd most rural county in the state, possesses a 76% rural and 24 percent urban or suburban population (U.S. Census Bureau, 2010). The total population of the county for College C was 77,483 residents, according to the U.S. Census Bureau (2000a). The U.S. Census Bureau's (2000b) estimates of ethnic populations of this county were 93.9% Caucasian not Hispanic origin; 1.2% African-American; 3.4% Hispanic or Latino origin; 0.5% Native-American; 0.3% Asian; and 0.8% Other ethnic categories. The proportion of ethnic populations enrolled at College C was not proportional to the ethnic populations of residents living in that county (Appendix J). For residents living within the county of College C, education levels reported by the U.S. Census Bureau (2000b) were 2.5% of residents 18 to 24 and 32.0% of residents 25 years and over had a high school diploma or a GED; 3.4% of residents 18 to 24 years and 6.7% of residents 25 years and older had an Associate degree; 0.4 % of residents 18 to 24 and 7.4% of residents 25 years and over had a bachelors; and 4.5% of residents 25 and over held graduate or professional degrees.

Accredited by the Commission on Colleges of the Southern Association of Colleges and Schools, College C offered university transfer programs leading to the Associate in Arts Degree

and the Associate in Science Degree in five program areas, to the Associate in Applied Science Degree in 27 program areas, and certificates in 29 program areas (Wallace State Community College, 2009). College C had program accreditations and approvals to train students in 26 technical or occupational programs. College C offered special programs that included Adult Education classes and the GED, the ACT WorkKeys skills training system, Training for Existing Business and Industry, Continuing Education and Certification Programs, and Continuing and Community Education certification by way of a Workforce Development program. Academic, technical, and special program classes were taught during the day, evening, and on weekends.

College C sponsored a number of student development programs which extended student learning (Appendix K). These student development programs included a Career Planning and Placement Services center, an Educational Talent Search program, an Upward Bound program, guidance and counseling services, on-campus food services, a Head's Up program, and a Student Support Services program (Wallace State Community College, 2009). College C provided (Wallace State Community College, 2009) many student activities and organizations that included the Student Government Association, Alabama Student Nurses' Association, Campus Ministries, cheerleaders, a concert choir, a Commercial Foods club, Computer Science Club, Cosmetology Club, Fellowship of Christian Athletes, Human Services Club, intercollegiate athletics (male's and female's basketball, golf, softball, baseball, volleyball, and soccer), jazz and concert Bands, College C Pep Band Auxiliaries, College C Newspaper, discipline specific clubs (Lambda Beta-Respiratory Therapy, Lex Adjutor Majus-Paralegal Club, Lex Corpus-Law Enforcement, Math and Physics Club, Sonograph Club-Diagnostic Medical Sonography, Southeastern Horticulture Club, Student Dental Assistants' Club, Student Physical Therapy Organization, the Talking Hands Club, College C Drama Club, College C Upholstery Club), and

honor societies (Phi Beta Lambda, Phi Theta Kappa, Sigma Kappa Delta-English, Vocational Industrial Clubs of America-Technical programs).

College C also sponsored a beauty pageant and basketball homecoming queen and court activities (Wallace State Community College, 2009). On-campus food services (a cafeteria) and college housing were located on campus. College C participated in the State of Alabama and Federal Financial Work-Study Program which allowed some students to work on campus. Opportunities for student involvement were available in almost every aspect of college life at College C.

Description of the Instrument

The CCSEQ is composed of several sections that acquired information on participants' background, work, and family; College Program; College Courses; College Activities; Estimate of Gains; College environment; and Additional Questions (Pearson et al., 2009). The first three sections of the CCSEQ contained items which provided information about student demographics, college programs, and courses taken. The background, work, and family information requested from research participants included information on age, gender, ethnicity, native language, time spent working on a job, the effect of job responsibilities on college work, the effect of family responsibilities on college work, and involvement in a work-study program (Pearson et al., 2009). Research participants selected from lists of choices in each category the best choice that described them in each inquiry. Two items in this section related to the participant's job and family responsibilities because community college students are more likely to work, be married, and have children than 4-year college students.

The College Program section of the CCSEQ obtained information about the research student participants' programs of study at the college (Pearson et al., 2009). Topics of inquiry in

this section included number of credits taken during the current term, total number of credits taken at present college, meeting times of classes, grades at the college, number of hours spent studying, number of hours spent on campus (not in class), and the student's most important reason for attending college. Much information can be obtained on the diverse nature of student participants by asking the most important reason each student is attending college. This question provided comparisons among groups of students.

The College Courses section of the CCSEQ gained information from student participants in 12 general educational areas (Pearson et al., 2009). Student participants were asked to indicate the number of courses they had taken in each educational area by responding with a Likert-type scale in the first section: *none*, *one*, *more than one*. The educational areas of inquiry in the questionnaire included college math, computer literacy, English (preparation for college level English), English composition, fine arts, foreign languages, humanities, math (preparation for college level math), physical or health education, sciences, social sciences, and speech communications. Student participants were asked to respond "yes" or "no" to items that include working for an Associate of Arts degree, working for an Associate of Science degree, working for a diploma, working for a certificate, plan to transfer to a 4-year college or university, and currently enrolled in an occupational/vocational program. The final part of this section allowed student participants to indicate whether they were enrolled in a career or occupational program. Student participants enrolled in career or occupational programs were asked to indicate a selection which best describes their program of enrollment from a listing of eight categories.

The College Activities section of the CCSEQ instrument presented 107 items grouped under 13 topics (Pearson et al., 2009). Nine groups of these items produced information on individual activities to form nine Quality of Effort scales which indicated the amount of effort

that students put into those areas of their college experience. A list of the titles of the college activity items of the CCSEQ include Learning and Study Skills; Course Activities; Library Activities; Faculty; Student Acquaintances; Art, Music, and Theatre Activities; Writing Activities; Science Activities; Athletic Activities; Career or Occupation Skills; Computer Technology; Clubs and Organizations; and Counseling and Career Planning. Student participants indicated how often they had engaged in each individual activity during the current school year. Student participants indicated how much out-of-class help they received (none, some, or a lot) in the first group of activity items. Student participants selected one category from the remaining 12 groups of activity items to respond to choices (*never*, *occasionally*, *often*, or *very often*).

The Estimate of Gains section of the questionnaire asked student participants to report how much they perceived their gains or progress (*very little*, *some*, *quite a bit*, or *very much*) in a series of 25 important educational goals (Pearson et al., 2009). The questionnaire's range of goals spanned from acquiring knowledge and skills applicable to a specific job or type of work, to writing clearly and effectively, to becoming clearer about values and ethical standards (Pearson et al., 2009). The CCSEQ research instrument provided researchers with opportunities to investigate the relationships between self-reports of college experiences with regard to achievement-test scores, environmental variables, student involvement, student-faculty interaction, and peer relations (Astin, 1993).

A College Environment section of the CCSEQ provided the student participant with eight items to gain information on how students felt about the overall college (Pearson et al., 2009). The first inquiry asked the student participants if they would choose to attend the same college again. The next five items asked students to respond to quality statements about the college:

- Students are friendly and supportive of each other.
- Instructors are approachable, helpful, and supportive.
- Counselors, advisors, and support staff are helpful, considerate, and knowledgeable.
- Courses are challenging, stimulating, and worthwhile.
- The college is a stimulating and exciting place to be (Pearson et al., 2009, p. 10).

The last two questions asked student participants to respond with "yes" or "no" to indicate if there were adequate places for them to meet and study with other students and if there were places on campus for them to use computer technology.

The Additional Questions section of the CCSEQ gave colleges the option to ask student participants questions about the college experiences which were not addressed elsewhere in the research instrument (Pearson et al., 2009). There were 20 opportunities for colleges or researchers to collect additional information or to identify groups of students (traditional, online) for the purpose of analyzing data collected in different ways. The researcher instrument allowed additional opportunities for research with varying research purposes.

Quality of Effort (Pace, 1979) is defined as the amount, scope, and quality of effort that students put into taking advantage of opportunities offered to them by the college. The CCSEQ measured how often students engaged in activities during the current school year and related student participants' behaviors to the use of campus resources (classrooms, libraries, science labs, art exhibits, etc.) to increase their academic and personal development (Pearson et al., 2009). The Quality of Effort scales encompassed several categories. The possible responses to each Quality of Effort scale were coded *never* = 1 point, *occasionally* = 2 points, *often* = 3 points, and *very often* = 4 points. Table 1 shows a listing of categories and the Quality of Effort scales within each category. The different numbers of items in the different Quality of Effort

scales resulted in different ranges for each scale. If student participants omitted any item within a scale, a scale score would not be computed for that student for that particular scale. The advantage of using a research instrument which represented the quality of effort that student participants put into their college experience was that the scale scores for groups of students could be used to obtain means scores that represent groups' Quality of Effort (Pearson et al., 2009).

Table 1

Quality of Effort Categories, Number of Items Within Each Scale, and Range Within Each Category

Scale	Number of items	Scale range
Course activities	10	10-40
Library activities	7	7-28
Faculty	9	9-36
Student acquaintances	6	6-24
Art, music, and Theater	9	9-36
Writing activities	8	8-32
Science activities	11	11-44
Career/occupational skills	9	9-36
Computer technology	8	8-32

Students' college experiences can be researched from perspectives of groups of students' program of study, gender, enrollment status, etc., in order to derive credible reasons why some groups of students are more involved than others (Pearson et al., 2009), to improve delivery of

services by the college (Astin, 1999), or to relate student participants' levels of involvement to their academic achievement, rates of retention, and departure from college. The findings of such credible quality of effort research using the CCSEQ can be used to improve an array of services provided by community colleges.

The CCSEQ combined five of the eight items in the College Environment section to form a scale to represent a student's perception of the college environment (Pearson et al., 2009). The items used to derive a student's perception of the college environment asked them to (a) reveal whether they would choose to attend the college again if given an opportunity to do so; (b) rate the supportiveness of other students, instructors, and support staff; (c) rate the challenge of the courses taken; (d) express whether college as a whole was an exciting place to be; and (e) confirm whether there were places for group studying or computer usage. Analyses of data regarding students' self-reports of their college experiences functioned as policy indicators that guide institutions toward improving the quality of undergraduate education, especially in mathematics and science (Pike, 1995).

The CCSEQ possessed psychometric properties that allowed for descriptive statistics of college activities investigated (Pearson et al., 2009) and inferential statistics (Creswell, 2005) to describe overall trends or tendencies in data collected. The research instrument in previous research for all students (n = 18,179), transfer students (n = 12,956), and vocational students (n = 7,106) students demonstrated levels of validity in the nine Quality of Effort scales (Pearson et al., 2009). Inter-item correlations matrices by scale were calculated (all were positive) to show that items within each scale were related to one another in that scale in a cohesive manner. These psychometric properties of the CCSEQ provided evidence that it was appropriate to form scales from the sets of items. Coefficients of reliability using Cronbach's alpha for the same data sets

are demonstrated in Appendix L. The coefficients ranged from .82 to .93. These coefficients indicated that each scale measured for a specific quality of effort was constructed with a degree of consistency. The scores received on each of the scales should be stable from one administration of CCSEQ to another.

Other statistical analyses conducted on student population participants' data included a factor analysis on Quality of Effort scales for item groups to identify correlation between factors (Pearson et al., 2009). Researchers found the CCSEQ to be appropriate for calculating Pearson correlation coefficients within which interitem matrices can be carefully examined to determine which groups of items were more related to other items in Estimate of Gains. One primary effort of the researchers was to utilize a research instrument whose components demonstrated the extent to which the relationship existed between college activities (or quality of effort scales) and the Estimate of Gains items: academic achievement, retention and departure of students. Pearson et al. (2009) noted that although the Estimate of Gains factor analysis was not a perfect factor structure, the CCSEQ instrument examined the relationship between College Activities and Estimate of Gains by correlating the Quality of Effort scales against the Estimate of Gains items in research studies. The highest correlation for each factor identified in previous research reported all correlations $\geq .25$ (Pearson et al., 2009). Data collected by the researchers using the CCSEQ were used not only to identify findings at College A, College B, and College C, but also to compare groups of students' behaviors at each participating college. The researcher's efforts will be to derive a more meaningful understanding (similarities and differences) of the data.

The construct of the CCSEQ was ideal for the questioning of participants in this dissertation research study. The CCSEQ's design provided specific questions that were applicable to the study's research questions related to community college student's quality of

effort inside and outside of rural classroom environments. The research instrument associated this quality of effort by community college students to their success in achieving their academic goals, retention rates, and status of ultimate departure from the education institution. The research questions and the research instrument's inquiry for data collection regarding each specific research question were the following items:

- Research Question 1: What is the relationship of the estimate of gains on African-American students' quality of effort as they attend rural community colleges in the state of Alabama? CCSEQ research questions attempting to collect data on this question included questions in the Estimate of Gains section: GAIN1-GAIN25, ENVINST, ENVCOUNS, ENVCOURSE, ENVCOLL, ENVMEET, ENVTECH; in the Additional Questions section ORGMEM; and in the College Program section REASON, AADEGREE, ASDEGREE, DIPLOMA, CERTIFICATE, TRANSFER, VOCENROLL, VOCPGRM, SCI7, SCI8, and SCI9 (Appendix M).
- Research Question 2: What is the relationship of college environment on African-American students' quality of effort as they attend rural community colleges in the state of Alabama? CCSEQ research questions attempting to collect data on this question included questions in the College Program section UNISNOW, UNISTOT, MEETWHEN, GRADES, TIMESCH, TIMECAM and RET; in the College Courses section COURSE1-COURSE10, MEMORY, NOTETAKING, LISTENING, SPEAKING, WRITING, READING, TESTTAKING, TIMEMANAGEMENT, PROBLEMSOLVING; in the College Activities section CLASS1-CLASS10, LIB1-LIB7, FAC1-FAC9, STACQ1-STACQ6, AMT1-AMT9, WRITE1-WRITE8, SCI1-

SCI11, ATHL1-ATL6, VOC1-VOC9, CLUBS1-CLUBS7, COUNS1-COUNS8 (Appendix M).

- Research Question 3: Does age have an influence on African-American students' estimate of gains and quality of effort when attending rural community colleges in the state of Alabama? CCSEQ research questions attempting to collect data on this question involved establishing the age demographic of research participants in the Background, Work, and Family section of the survey instrument with students' perceived estimate of gains and with their perceived quality of effort while attending college in the rural campus settings.
- Research Question 4: Is there an institutional effect between the college environments on the quality of effort for African-American students attending rural community colleges in the state of Alabama? CCSEQ research questions attempting to collect data on this question included a cross-sectional comparison of data collected in the entire questionnaire including responses to all questions for College A, College B, and College C; sections College Programs, College Activities, Estimate of Gains, College Environment, and Additional Questions requested by the researcher (Appendix M).

The Statistical Package for the Social Sciences (SPSS) Version 19 was used to input and analyze data collected by the researcher using the CCSEQ for this dissertation research study. A code book grid used to score, input data into the program for analysis, and to clear data was developed (Appendix N).

Limitations of the Study

This research study possesses a number of limitations. Specifically, the study focuses on studying African-American students enrolled in 2-year public community colleges located in Alabama counties determined as 60% or greater rural in population as identified by the U.S. Census (2010). Stand alone technical colleges were not included in this study. The study was restricted to inquiry of non-correctional, full-time and part-time, day and evening community college students. Correctional Education, Dual Enrollment, and Adult Education students were not included in the study. The study purposefully excludes the questioning of 2-year public community college students located in areas designated as urban and suburban. The study focuses on the perceptions and lived experiences of rural Alabama community college students.

Although all efforts were made to limit bias and preserve the objectivity within all research procedures, it is suspected that there are limitations to the level of objectivity in procedures when the researcher administered the research instrument to student participants at the researcher's institution of employment. The research's inquiry was limited to 2-year rural community college students' perceptions of their own level of involvement in college sponsored activities, rates of academic achievement, and rates of departure. The extents to which the 2-year, rural community college students' perceptions are expressed were limited by the capabilities of the research instrument's capacity to accurately capture the true meaning of student participants' responses. The extent to which the research's findings were analyzed, interpreted, and discussed was limited by the quality of the researcher's abilities and expertise to conduct the research.

CHAPTER IV

RESULTS

A total of 1,192 potential participants contacted for possible participation in this study were from three rural Alabama community colleges: 316 from College A, 540 from College B, and 336 from College C. Levels of student participation in the online CCSEQ survey varied at each institution: 109 participants or 34.50% from College A, 105 participants or 19.40% from College B, and 19 participants or 5.70% from College C (n = 233 or 19.5% of N = 1,192). The data analysis and discussion of findings excluded College C because of its low level of student participation. The levels of student participation at College C on the CCSEQ were inadequate and an unacceptable level of participation from which to describe patterns or trends about the variables supported by the data related to the surveyed population. The resulting initial sample size, of the study's sample size using only College A and College B, was n = 214 before continued cleaning of the data.

An assessment of data from Colleges A and B (n = 214) revealed a number of concerns that excluded additional participants from the data analysis process. Participants of an ethnic identification other than African American excluded eight participants from the study (two American Indians, one Hispanic, one White, one Not Applicable, two Native American, one No). A failure to indicate a racial or ethnic identification excluded three additional participants from the study. The resulting number of participants was n = 203. Biracial individuals who indicated African-American heritage as part of their ancestry remained as participants in the study: one African American/Spanish and one Filipino/African American. The researcher acknowledges that no pure races/lineages of people exist and that the two biracial participants share the

experiences of individuals exhibiting predominant African-American traits. Participants allowed were biracial individuals listing African-American heritage as one half of their lineage.

Further assessment and cleaning of the data revealed occasional missing values for responses to questions. Missing data values (questions not answered) within the range of questions used to derive sums and data analyses related to the study's research questions resulted in the removal of the data set and the exclusion of the participants in the study. The final sample of student participants ended at $n = 127$. The strength of the study rested in the acquisition of a reliable research instrument, the CCSEQ, for the collection of data and the researcher's ability to acquire a sufficient number of African-American rural community college student participants.

The SPSS Version 19 for Windows statistical software coded and calculated the participants' responses for the data analysis procedure. This program maximized the numbers of individuals participating in the research study, ensured the integrity of the data, and provided unbiased results obtained through data analyses. Research data codes for the CCSEQ established by the owners of the CCSEQ, Pace and Murrell, and administered by the Center for Research in Educational Policy (CREP) at The University of Memphis in Memphis, Tennessee, are in Appendix N.

Descriptive analyses of demographic data collected for participants attending College A and College B ($n = 127$) are in Appendix O. Data collected in the Background, Work, and Family section of the CCSEQ supported the Tinto (1993) theory of student departure theoretical grounding of the study, which assumes that individuals enter college with different family backgrounds, socioeconomic statuses, levels of academic preparation and commitment, and unique skills and abilities. Data indicated that the majority of participants in the study were transfer students (73.20%), age 20 to 22 years old (37.60%), female (74.20%), primary speakers

of the English language (97.8%), non-workers on a job for pay (52.70%), ones whose family responsibilities take some time from their college work/studies (37.60%), and nonparticipant in a work-study program and a first-generation college student (53.80%).

Data collected indicated that participants' levels of academic preparation varied in college level English and math courses. Student participants requiring developmental English (to prepare for college level English) were 22.00% required no remediation, 31.50% needed one remedial English class, 42.50% required more than one remedial English class, and 5 (3.90%) students left the question unanswered. Student participants requiring developmental math (to prepare for college level math) were 30.70% required no remediation, 37.80% required one remedial math class, 30.70% required more than one remedial math class, and 1 (0.80%) left the question unanswered.

Student participants committed themselves to different levels of completion of academic and technical programs: 34.6% anticipated earning an Associate of Arts degree, 55.90% an Associate of Science degree, 24.40% a diploma, 24.40% a certificate, 73.20% planned to transfer to a 4-year college or university, and 14.20% were students enrolled in an occupational/ vocational program. The most important reasons that student participants attended Colleges A and B were the following: 52% wanted to prepare for transfer to a 4-year college or university; 29.9% wanted to gain skills necessary for a new job or occupation; 15.70% wanted to gain skills necessary to retrain, remain abreast, or advance in a current job or occupation; and 1.60% wanted to satisfy a personal interest. Two individuals (0.80%) left the question unanswered.

Data collection for this research project occurred during a 12-week period of time using varied, sequential data collection methods including: (a) e-mailing of initial requests for participation, biweekly reminders, thank you appreciations to participants, and announcements

regarding procedures; (b) two mass postal mailings to contact potential participants and appreciations for research participation; and (c) three full day visits to each of the three colleges in person to invite student participation in the study by completing the questionnaire. A description of the findings of the results related to the quantitative research questions of the study follow. The research questions for which findings are presented are listed first:

1. What is the relationship of estimate of gains on African-American students' quality of effort as they attend rural community colleges in the state of Alabama?
2. What is the relationship of the college environment on African-American students' quality of effort as they attend rural community colleges in the state of Alabama?
3. Does age have an influence on African-American students' estimate of gains and quality of effort when attending rural community colleges in the state of Alabama?
4. Is there an institutional effect between the college environments on the quality of effort for African-American students attending rural community colleges in the state of Alabama?

The independent variables in the study were the estimate of gains for Research Question 1, college environment for Research Question 2, age for Research Question 3, and college environment for Research Question 4. Quality of effort was the dependent variable in all four research questions investigated. Both estimate of gains and quality of effort are treated as dependent variables in Research Questions 3. Both college environment and quality of effort functioned as dependent variables in Research Question 4 as the institutional effect was investigated.

The CCSEQ investigated the independent variables of the study in various ways:

- Estimate of Gains scale: Sums were calculated and defined using values assigned to Likert-type scaled responses in Questions EG37-Q1 to EG37-Q25 (Appendix N). The possible responses to the Estimate of Gains scale as coded using the CCSEQ were *very little* = 1 point, *some* = 2 points, *quite a bit* = 3 points, or *very much* = 4 points. Estimate of gains involves student participants reporting how much they have gained or made progress toward a series of 25 important educational goals. The goals range from acquiring knowledge and skills applicable to a specific job or type of work to writing clearly and effectively to becoming clearer about their own values and ethical standards. Although the estimate of gains are most often examined and interpreted on an item-by-item basis, a number of the items are related to one another. Pearson *r* correlation coefficients were calculated for items spread across the four response choices, and inter-item correlations are in Appendix P.
- College Environment: Means were calculated for college environment correlation of research participants' responses to Questions CE38-Q1, CE38-Q2, CE38-Q3, CE38-Q4, CE38-Q4, CE38-Q5, CE38-Q6, CE38-Q7, and CE38-Q8 to describe and measure the degree of association between variables. The CCSEQ determined the college environment with eight items of three varied response types (ordinal) from the section's subgroup of questions. Question CE38-Q1 investigated whether the student would choose to attend the same college again. Participants responded to the question by selecting one of the coded choices, *yes* = 1 point, *maybe* = 2 points, or *no* = 3 points. Questions CE38-Q2, CE 38-Q3, CE38-Q4, and CE38-Q5 investigated respondents' views on whether (a) students were friendly and supportive; (b)

instructors were approachable, helpful, and supportive; (c) counselors, advisors, and department staff were helpful, considerate, and knowledgeable; and (d) courses were challenging, stimulating, and worthwhile. Respondents answered each question (CE38-Q2, CE 38-Q3, CE38-Q4, and CE38-Q5) by selecting one of the coded choices: *yes* = 1 point, *most* = 2 points, *some* = 3 points, or *few or none* = 4 points. Questions CE38-Q6 investigated whether respondents believed the college was a stimulating and exciting place to be. Respondents selected one of the coded choices: *all of the time* = 1 point, *most of the time* = 2 points, *some of the time* = 3 points, or *rarely or never* = 4 points. Questions CE38-Q7 and CE38-Q8 investigated whether respondents believed that (a) places were on campus to meet and study with other students, and (b) places were on campus to use computers and technology. Respondents selected one of the coded choices for each question: *yes, ample places* = 1 point; *yes, few places* = 2 points; or *no* = 3 points. Calculation of Spearman Rho correlation coefficients provide subgroup items investigated for inter-item correlations and were tabulated for the research question investigated (Appendix Q).

- Age: Age-variable data defined in the Background, Work, and Family sections of the CCSEQ in Question D8-Q1 as ordinal level data correlated with dependent variables accordingly when investigating research question inquiries, estimate of gains, and quality of effort. Respondents identified their age range from one of the coded choices: *18-19 or younger* = 1 point, *20-22* = 2 points, *23-27* = 3 points, *28-39* = 4 points, *40-55* = 5 points, or *Over 55* = 6 points.
- Institutional Effect: For College A and College B data, isolated and analyzed separately, and for college environment on quality of effort for research participants,

the study used SPSS Version19 with institutional codes *College A* = 1 point, *College B* = 2 points. Research data selected per institutional codes used SPSS Version 19 to determine inter-item correlation effects of subgroups investigated by research questions.

The CCSEQ investigated the independent college environment variable and the dependent variable quality of effort in the following manner:

- College Environment: Means were calculated for college environment correlation of research participants' responses to questions CE38-Q1, CE38-Q2 , CE38-Q3, CE38-Q4, CE38-Q4, CE38-Q5, CE38-Q6, CE38-Q7, and CE38-Q8 to describe and measure the degree of association between variables.
- Quality of Effort scales: Sums were calculated and defined using values assigned to Likert-type scaled responses in Questions QE18-Q1, QE18-Q2, QE18-Q3, QE18-Q4, QE24-Q5, QE24-Q6, QE24-Q7, QE24-Q8, QE32-Q9, QE32-Q10, QE37-Q11, QE37-Q12, QE37-Q13, QE37-Q23, QE37-Q25, QE37-Q14, QE37-Q15, QE37-Q16, QE37-Q17, QE37-Q19, QE37-Q18, QE37-Q20, QE37-Q21, and QE37-Q22. Four coded responses measured the quality of effort scales: *never* = 1 point, *occasionally* = 2 points, *often* = 3 points, and *very often* = 4 points. A list of Quality of Effort scales are in Table 1. The sum of means of questions located in several sections of the questionnaire that include Course Activities; Library Activities; Faculty, Student Acquaintances; Art Music and Theater Activities; Writing Activities; Science Activities; Career/Occupational Skills; Computer Technology; Clubs/Organizations; and Counseling and Career Planning defined the quality of effort scales of the CCSEQ. Any omitted item within a scale resulted in no scale score computed for that

student for that particular scale. Quality of effort is the amount, scope, and quality of effort students put into taking advantage of the opportunities the college offered to them (Pace, 1979; Pearson et al., 2009). The quality of effort is measured in the CCSEQ identifying how often students engaged in varied activities during the school year and semester of study as related to the use of campus resources measured the quality of effort revealed by the CCSEQ. Different numbers of items in the various Quality of Effort scales resulted in differing ranges between scales in subsections of study. The scaled scores representing the quality of effort that student participants put into their college experiences added together and the means computed represented the group's quality of effort. The college experience investigated for groups of student participants determined whether some groups of students were more involved than others.

Research Question 1

The Pearson *r* correlation examines relationships between the estimate of gain on the quality of effort for African-American students attending rural community colleges in the state of Alabama. Positive correlations between variables of the estimate of gains scales and the quality of effort scales appeared for members of the sample population ($n = 127$). The Pearson *r* data analyses determined a description of the relationships presented in Appendix O. Specific significant correlations were found between the estimate of gain scales and the quality of effort scales (Table 2).

Positive correlations found between scale measures of the estimate of gain (independent variable) and the quality of effort (dependent variable) at the $p < .05$ of evaluation indicate

- Library activities correlate with student career preparations;

Table 2

Significant Pearson r Correlation Findings of the CCSEQ Estimate of Gains on Quality of Effort Scales Derived From College A and College B Participant Responses

	Variables with significant levels of association	
	Independent	Dependent
Level of significance	Estimate of gain	Quality of effort
1	Career preparations	Course activities
	Computer technology	Library activities
	Personal and social development	Writing activities
	Math, science, and technology	Art, music, and theater
	Perspectives of the world	Writing activities
2	Career preparations	Course activities
	Career preparations	Faculty
	Career preparations	Student acquaintances
	Career preparations	Writing activities
	Career preparations	Science activities
	Career preparations	Career /occupational skills
	Career preparations	Computer technology

(continued)

Table 2: *Significant Pearson r Correlation Findings of the CCSEQ Estimate of Gains on Quality of Effort Scales Derived From College A and College B Participant Responses* (continued)

	Variables with significant levels of association	
	Independent	Dependent
Level of significance	Estimate of gain	Quality of effort
	Arts and communication	Course activities
	Arts and communication	Library activities
	Arts and communication	Faculty
	Arts and communication	Student acquaintances
	Arts and communication	Art, music, and theater
	Arts and communication	Science activities
	Arts and communication	Career/occupational skills
	Arts and communication	Computer technology
2	Computers	Course activities
	Computers	Faculty
	Computers	College writing
	Computers	Career/occupational skills
	Computers	Computer technology

(continued)

Table 2: *Significant Pearson r Correlation Findings of the CCSEQ Estimate of Gains on Quality of Effort Scales Derived From College A and College B Participant Responses* (continued)

	Variables with significant levels of association	
	Independent	Dependent
Level of significance	Estimate of gain	Quality of effort
	Personal and social development	Course activities
	Personal and social development	Library activities
	Personal and social development	Faculty
	Personal and social development	Student acquaintances
	Personal and social development	Science activities
	Personal and social development	Career/occupational skills
	Personal and social development	Computer technology
	Math, science, and technology	course activities
	Math, science, and technology	Library activities
	Math, science, and technology	Faculty
	Math, science, and technology	Student acquaintances
	Math, science, and technology	Writing activities
	Math, science, and technology	Science activities
	Math, science, and technology	Career/occupational skills

(continued)

Table 2: *Significant Pearson r Correlation Findings of the CCSEQ Estimate of Gains on Quality of Effort Scales Derived From College A and College B Participant Responses* (continued)

	Variables with significant levels of association	
	Independent	Dependent
Level of significance	Estimate of gain	Quality of effort
	Math, science, and technology	Computer technology
	Perspectives of the world	Course activities
	Perspectives of the world	Library activities
	Perspectives of the world	Faculty
	Perspectives of the world	Student acquaintances
	Perspectives of the world	Art, music, and theater courses
	Perspectives of the world	Science activities
	Perspectives of the world	Career/occupational skills
	Perspectives of the world	Computer technology

Note. Intercorrelations for African-American participants (n = 127) are presented.
Level 1 = *$p < .05$, two-tailed.
Level 2 = **$p < .01$, two-tailed.

- Computer usage correlates with library activities;
- Writing activities correlate with student personal and social development;
- Art, music, and theater activities correlate with math, science, and technology activities; and
- Writing activities correlate with student perspectives of the world.

Positive correlations found between scale measures of the estimate of gain (independent variable) and the quality of effort (dependent variable) at the $p < .01$ of evaluation indicate that

- Career preparations correlated with course activities, faculty, student acquaintances, writing activities, science activities, career/occupational skills, and computer technology;
- Art communications correlated with course activities, library activities, faculty, student acquaintances, art, music, and theater, science activities, career/occupational skills, and computer technology;
- Computers correlated with course activities, faculty, college writing, career/occupational skills, and computer technology;
- Personal and social development correlated with course activities, library activities, faculty, student acquaintances, science activities, career/occupational skills, and computer technology;
- Math, science, and technology correlated with course activities, library activities, faculty, student acquaintances, writing activities, science activities, career/occupational skills, and computer technology; and

- Perspectives of the world correlated with course activities, library activities, faculty, student acquaintances, art, music, and theater courses, science activities, career/occupational skills, and computer technology.

Table 2 indicates the categories correlated between estimate of gain and quality of effort variables. Table 3 and Table 4 indicate correlation patterns derived from research analyses of data analyses at the $p < .05$ level and $p < .01$ level, respectively.

Research Question 2

The relationship between college environments on the quality of effort employed the Spearman Rho correlation analysis to result in findings (Appendix R). Positive correlations between variables of the estimate of gains scales and the quality of effort scales were detected for members of the sample population ($n = 127$). A description of the relationships revealed by the Spearman Rho data analyses at the $p < .05$ and at the $p < .01$ significant levels is presented in Table 5.

Positive and negative correlations are associated with Spearman Rho correlations between measures of the independent variable of college environment and the dependent variable of quality of effort at the $p < .05$ and the $p < .01$ level analyses. Spearman Rho correlations demonstrated only one positive independent correlation in the college environment as related to the dependent quality of effort variable at both the .05 and at the .01 level of analyses: The student will choose to attend the same college again (college environment) correlated positively with art, music, and theater activities (quality of effort). All other significant correlations are found to be negative. Negative correlations found between aspects of the college environment

Table 3

Significant Pearson r Correlation Trends at the p < .05 Level for Findings of the CCSEQ Estimate of Gains and Quality of Effort Scales Derived From College A and College B Participant Responses

Estimate of gain categories	Quality of effort correlated areas								
	Course activities	Faculty	Career/ occupational skills	Computer technology	Student acquaintances	Science activities	Library activities	Writing activities	Art, music, theater
Career preparations							X		
Arts and Communication									
Computers							X		
Personal and social development								X	
Math, science, technology									X
Perspectives of the world								X	

Note. Intercorrelations for African-American participants (n = 127) are presented.
$p < .05$, two-tailed.

Table 4

Significant Pearson r Correlation Trends at the p < .01 Level for Findings of the CCSEQ Estimate of Gains and Quality of Effort Scales Derived From College A and College B Participant Responses

Estimate of gain categories	Quality of Effort Correlated Areas								
	Course activities	Faculty	Career/ occupational skills	Computer technology	Student acquaintances	Science activities	Library activities	Writing activities	Art, music, theater
Career preparations	X	X	X	X	X	X		X	
Arts and communication	X	X	X	X	X	X	X		X
Computers	X	X	X	X				X	
Personal and social development	X	X	X	X	X	X	X		
Math, science, technology	X	X	X	X	X	X	X	X	
Perspectives of the world	X	X	X	X	X	X	X		X

Note. Intercorrelations for African-American participants (n = 127) are presented.
$p < .01$, two-tailed.

Table 5

Significant Spearman Rho Correlations for the CCSEQ College Environment on Quality of Effort Scales for College A and College B Participant Responses

		Variables with significant levels of association	
		Independent variable	Dependent variable
Level of significance	Type	College environment	Quality of effort
1	Positive	Attend same college again	Art, music, theater
	Negative	Friendly, supportive students	Career/occupational skills
		Helpful, supportive instructors	Library activities
		Helpful, supportive instructors	Writing activities
		Helpful, knowledgeable counselors	Library activities
		Helpful, knowledgeable counselors	Career/occupational skills
		Stimulating and exciting college	Student acquaintances
		Stimulating and exciting college	Writing activities
		Stimulating and exciting college	Science activities
		Stimulating and exciting college	Career/occupational skills

(continued)

Table 5: *Significant Spearman Rho Correlations for the CCSEQ College Environment on Quality of Effort Scales for College A and College B Participant Responses* (continued)

		Variables with significant levels of association	
		Independent variable	Dependent variable
Level of significance	Type	College environment	Quality of effort
		Sufficient places to meet and study	Faculty
		Sufficient places to meet and study	Student acquaintances
		Sufficient places to meet and study	Computer technology
2	Negative	Friendly, supportive students	Course activities
		Friendly, supportive students	Library activities
		Friendly, supportive students	Faculty
		Friendly, supportive students	Student acquaintances
		Friendly, supportive students	Art, music, theater
2	Negative	Friendly, supportive students	Writing Activities
		Friendly, supportive students	Science Activities
		Friendly, supportive students	Computer technology
		Helpful, supportive instructors	Course activities

(continued)

Table 5: *Significant Spearman Rho Correlations for the CCSEQ College Environment on Quality of Effort Scales for College A and College B Participant Responses* (continued)

		Variables with significant levels of association	
		Independent variable	Dependent variable
Level of significance	Type	College environment	Quality of effort
		Helpful, supportive instructors	Faculty
		Helpful, supportive instructors	Student acquaintances
		Helpful, supportive instructors	Computer technology
		Helpful, knowledgeable counselors	Course activities
		Helpful, knowledgeable counselors	Faculty
		Helpful, knowledgeable counselors	Student acquaintances
		Helpful, knowledgeable counselors	Computer technology
		Courses are challenging	Computer technology
		Stimulating and exciting college	Course activities
		Stimulating and exciting college	Library activities
		Stimulating and exciting college	Faculty
		Stimulating and exciting college	Art, music, theater

(continued)

Table 5: *Significant Spearman Rho Correlations for the CCSEQ College Environment on Quality of Effort Scales for College A and College B Participant Responses* (continued)

		Variables with significant levels of association	
		Independent variable	Dependent variable
Level of significance	Type	College environment	Quality of effort
		Stimulating and exciting college	Computer technology
		Sufficient places to meet and study	Art, music, theater

Note. Intercorrelations for African-American participants (n = 127) are presented.
Level 1 = *$p < .05$, two-tailed.
Level 2 = **$p < .01$, two-tailed.

independent variable and the quality of effort dependent variable at the $p < .05$ assessment level are indicated below.

- Students are friendly and supportive of each other correlated with career/occupational skills.
- Instructors are approachable, helpful, and supportive correlated with library activities and with writing activities.
- Counselors, advisors, and support staff are helpful, considerate, and knowledgeable correlated with library activities and career/occupational skills.
- The college is a stimulating and exciting place to be correlated with student acquaintances, writing activities, science activities, and career/occupational skills.
- There are sufficient places to meet and study with other students correlated with faculty, student acquaintances, and computer technology.

Negative correlations found between aspects of the college environment (independent variable) and the quality of effort (dependent variable) at the $p < .01$ assessment level are indicated below.

- Students are friendly and supportive of each other correlated with course activities, library activities, faculty, student acquaintances, art, music, and theater, writing activities, science activities, and computer technology.
- Instructors are approachable, helpful, and supportive correlated with course activities, faculty, student acquaintances, and computer technology.
- Counselors, advisors, and support staff are helpful, considerate, and knowledgeable correlated with course activities, faculty, student acquaintances, and computer technology.

- Courses are challenging, stimulating, and worthwhile correlated with computer technology.
- The college is a stimulating and exciting place to be correlated with course activities, library activities, faculty, art, music, and theater, and computer technology.
- There are sufficient places to meet and study with other students correlated with art, music, and theater activities.

Correlation patterns were predominately negatively oriented to college environment with regard to the quality of effort put forth by research participants. Table 6 and Table 7 illustrate correlation patterns derived from research analyses of data at the $p < .05$ and at the $p < .01$, respectively.

Research Question 3

The relationships between age as an influence on the estimate of gains and on the quality of effort of African-American students attending rural community colleges in the state of Alabama were investigated. The parametric statistics of the one-way ANOVA analyzed the effects of the independent variable, age, on the estimate of gains and on the quality of effort. The SPSS Version 19 software was used to analyze and measure the variance of age on estimate of gains and on quality of effort at the $p < .05$ level (two-tailed) test.

A one-way ANOVA tested for the relationships of research participants' age with regard to the six aspects of the estimate of gains scales for students at Colleges A and B. No significant differences appeared with regard to age across six aspects of the estimate of gains scales: $F(5, 121) = .89$, $p = .49$; $F(5, 121) = .51$, $p = .77$; $F(5, 121) = .89$, $p = .49$; $F(5, 121) = .88$, $p = .50$; $F(5, 121) = .64$, $p = .67$; $F(5, 121) = .55$, $p = .74$, for African-American students attending rural community colleges in the state of Alabama. Results of the one-way ANOVA investigating the

Table 6

Summary of Spearman Rho Correlations Trends at the p < .05 Level for CCSEQ College Environment Questions and Quality of Effort Scales for College A and College B Participant Responses

Variable College environment	Categories of Quality of Effort scale measures								
	QECOURS	QELIB	QEFAC	QESTACQ	QEAMT	QEWRITE	QESCI	QEOCC	QECOMP
S38Q1					X				
S38Q2								-X	
S38Q3		-X				-X			
S38Q4		-X						-X	
S38Q5									
S38Q6				-X		-X	-X	-X	
S38Q7			-X	-X					-X
S38Q8									

Note. Intercorrelations for African-American participants (n = 127) are presented. College Environment Question Codes indicate aspects of the college environment investigated. S38Q1 = the student would choose to attend the same college again; S38Q2 = students are friendly and supportive of each other; S38Q3 = instructors are approachable, helpful, and supportive; S38Q4 = counselors, advisors, and sport staff are helpful, considerate, and knowledgeable; S38Q5 = courses are challenging, stimulating, and worthwhile; S38Q6 = the college is a stimulating and exciting place to be; S38Q7 = there are sufficient places to meet and study with other students; S38Q8 = there are places on campus to use computer technology; QE = Quality of Effort Scale; QECOURS = Course Activities; QELIB = Library Activities; QEFAC = Faculty; QESTACQ = Student Acquaintances; QEAMT = Art, Music, and Theater Activities; QEWRIT = Writing Activities; QESCI = Science Activities, Athletic Activities; QEOCC = Career/Occupational Skills; QECOMP = Computer Technology, Clubs/Organizations, Counseling and Career Planning.
$p < .05$, two-tailed.

Table 7

Summary of Spearman Rho Correlations Trends at the p < .01 Level for CCSEQ College Environment Questions and Quality of Effort Scales for College A and College B Participant Responses

Variable College environment	Categories of Quality of Effort scale measures								
	QECOURS	QELIB	QEFAC	QESTACQ	QEAMT	QEWRITE	QESCI	QEOCC	QECOMP
S38Q1									
S38Q2	-X	-X	-X	-X	-X	-X	-X		-X
S38Q3	-X		-X	-X					-X
S38Q4	-X		-X	-X					-X
S38Q5									-X
S38Q6	-X	-X	-X		-X				-X
S38Q7					-X				
S38Q8									

Note. Intercorrelations for African-American participants (n = 127) are presented. College Environment Question Codes indicate aspects of the college environment investigated. S38Q1 = the student would choose to attend the same college again; S38Q2 = students are friendly and supportive of each other; S38Q3 = instructors are approachable, helpful, and supportive; S38Q4 = counselors, advisors, and support staff are helpful, considerate, and knowledgeable; S38Q5 = courses are challenging, stimulating, and worthwhile; S38Q6 = the college is a stimulating and exciting place to be; S38Q7 = there are sufficient places to meet and study with other students; S38Q8 = there are places on campus to use computer technology; QE = Quality of Effort Scale; QECOURS = Course Activities; QELIB = Library Activities; QEFAC = Faculty; QESTACQ = Student Acquaintances; QEAMT = Art, Music, and Theater Activities; QEWRIT = Writing Activities; QESCI = Science Activities, Athletic Activities; QEOCC = Career/Occupational Skills; QECOMP = Computer Technology, Clubs/Organizations, Counseling and Career Planning. p < .0.01, two-tailed.

variance of the between groups and the within groups means and the *F* statistic are presented in Table 8.

Table 8

The Determination of Age Influences on the Estimate of Gains Scales for Research Participants Using a One-way ANOVA Data Analysis

Sum of Estimate of Gains variables		*SS*	*df*	*MS*	*F*	Sig.
Career Prep	Between groups	42.33	5	8.47	.89	.49
	Within groups	1146.03	121	94.47		
	Total	1188.36	126			
Arts and Communication	Between groups	25.63	5	5.13	.51	.77
	Within groups	1214.31	121	10.04		
	Total	1239.94	126			
Computers	Between groups	11.40	5	2.28	.89	.49
	Within groups	311.64	121	2.58		
	Total	323.04	126			
Personal and Social Development	Between groups	57.76	5	11.55	.88	.50
	Within groups	1595.74	121	13.19		
	Total	1653.50	126			
Math , Science, Technology	Between groups	43.95	5	8.79	.64	.67
	Within groups	1669.47	121	13.8		
	Total	1713.42	126			
Perspectives of the World	Between groups	34.22	5	6.84	.55	.74
	Within groups	1520.71	121	12.57		
	Total	1554.93	126			

A one-way ANOVA tested for the relationships of research participants' age with regard to the nine variable scales of the quality of effort for students at Colleges A and B. No significant differences appeared with regard to age across 10 variables of the quality of effort scales: $F(5, 121) = 1.46$, $p = .21$; $F(5, 121) = 1.49$, $p = .20$; $F(5, 121) = .46$, $p = .81$; $F(5, 121) = .99$, $p = .43$; $F(5, 121) = .85$, $p = .52$; $F(5, 121) = 1.20$, $p = .31$; $F(5, 121) = .85$, $p = .52$; $F(5, 121) = .71$, $p = .62$; $F(5, 121) = .67$, $p = .64$, for African-American students attending rural community colleges in the state of Alabama. Results of the one-way ANOVA investigating the variance of the between groups and the within groups means and the *F* statistic are presented in Table 9.

Table 9

The Determination of Age Influences on the Quality of Effort Scales for Research Participants Using a One-way ANOVA Data Analysis

Sum of Quality of Effort scales		*SS*	*df*	*MS*	*F*	Sig.
Art, music, and theater	Between groups	256.82	5	51.36	1.46	.21
	Within groups	4262.20	121	35.23		
	Total	4519.02	126			
Career/Occupational Skills	Between groups	468.32	5	93.66	1.49	.20
	Within groups	7610.51	121	62.90		
	Total	8078.84	126			
Computer	Between groups	65.90	5	13.18	.46	.81
	Within groups	3477.57	121	28.74		
	Total	3543.47	126			

(continued)

Table 9: *The Determination of Age Influences on the Quality of Effort Scales for Research Participants Using a One-way ANOVA Data Analysis* (continued)

Sum of Quality of Effort scales		*SS*	*df*	*MS*	*F*	Sig.
Course Learning	Between groups	188.23	5	37.65	.99	.43
	Within groups	4621.26	121	38.19		
	Total	4809.50	126			
Faculty	Between groups	170.78	5	34.16	.85	.52
	Within groups	4845.02	121	40.04		
	Total	5015.80	126			
Library	Between groups	153.16	5	30.63	1.20	.31
	Within groups	3092.92	121	25.56		
	Total	3246.08	126			
Science	Between groups	398.43	5	79.69	.85	.52
	Within groups	11381.76	121	94.06		
	Total	11780.19	126			
Student Acquaintances	Between groups	96.41	5	19.28	.71	.62
	Within groups	3271.53	121	27.04		
	Total	3367.94	126			
Writing	Between groups	78.29	5	15.66	.67	.64
	Within groups	2814.23	121	23.26		
	Total	2892.52	126			

Research Question 4

The investigation examined whether an institutional effect between college environments on the quality of effort for African-American students attending rural community colleges in the state of Alabama existed. Two separate Spearman Rho correlations conducted on data collected from College A and College B determined whether or not an institutional effect between college environments on the quality of rural African-American research participants' quality of efforts existed (Appendixes S and T). A number of significant differences surfaced (Tables 10 and 11) in the correlations at the $p < .05$ and at the $p < .01$ of the sample populations of College A ($n = 66$) and College B ($n = 61$). Trends in data collected and analyzed from College A and College B are presented in Tables 12 and 13 at the $p < .05$ and in Tables 14 and 15 at the $p < .01$ level of analyses.

An institutional effect with regard to college environments on the quality of effort for African-American students attending rural community colleges in the state of Alabama exists. All but one significant finding are determined to be negative Spearman Rho correlations for Colleges A and B. The only positive correlation is at College A, at the $p < .05$ level, the student would choose to attend the same college again, is positively correlated with art, music, and theater activities. All other significant correlations at the two college locations are negative.

Differences in College A and College B environments varied at the $p < .05$ level of analyses based on Spearman Rho correlations. College A research participants' quality of effort correlated with the college environment are compared with College B research participants in the following manners:

- The quality of effort for College A's student participations in art, music, and theater activities correlated positively with Variable S38Q1 of the college environment, the

Table 10

Findings of the Spearman Rho Correlations on CCSEQ College Environment on Quality of Effort Questions for College A and College B Participant Responses

	College environment variables with significant levels of association	
College	Estimate of gain	Quality of effort
A	The student would choose to attend the same college again	Art, music, theater activities
	Students are friendly and supportive of each another	Writing activities
	Counselors, advisors, and support staff are helpful, considerate and knowledgeable	Library activities
	Counselors, advisors, and support staff are helpful, considerate and knowledgeable	Science activities
	The college is a simulating and exciting place to be	Library activities
	There are sufficient places to meet and study with other students	Art, music, theater activities
	There are places on campus to use computer technology	Faculty interactions
	There are places on campus to use computer technology	Computer technology, clubs/organizations, counseling and career planning
B	Students are friendly and supportive of each other	Student acquaintances Science activities
	Instructors, are approachable, helpful, and supportive	Writing activities

(continued)

Table 10: *Findings of the Spearman Rho Correlations on CCSEQ College Environment on Quality of Effort Questions for College A and College B Participant Responses* (continued)

	College environment variables with significant levels of association	
College	Estimate of gain	Quality of effort
B	Instructors, are approachable, helpful, and supportive	Computer technology, clubs/organizations, counseling and career planning
	Counselors, advisors, and support staff are helpful, considerate, and knowledgeable	Course activities
	Counselors, advisors, and support staff are helpful, considerate, and knowledgeable	Computer technology, clubs/organizations, counseling and career planning
	The college is a stimulating and exciting place to be	Library activities
	The college is a stimulating and exciting place to be	Faculty interactions
	The college is a stimulating and exciting place to be	Art, music, and theater activities
	The college is a stimulating and exciting place to be	Computer technology, clubs/organizations, counseling and career planning
	There are sufficient places to meet and study with other students	Faculty interactions
	There are sufficient places to meet and study with other students	Student acquaintances
	There are sufficient places to meet and study with other students	Career/occupational skills

Note. Intercorrelations for African-American participants attending College A ($n = 66$) and College B ($n = 61$) are presented.
Level 1 = *$p < .05$, two-tailed.

Table 11

Summary of Spearman Rho Correlations Trends for CCSEQ College Environment Questions and Quality of Effort Scales for College A Participant Responses

Variable College environment	Categories of Quality of Effort scale measures								
	QECOURS	QELIB	QEFAC	QESTACQ	QEAMT	QEWRITE	QESCI	QEOCC	QECOMP
S38Q1					X				
S38Q2						-X			
S38Q3									
S38Q4		-X					-X		
S38Q5									
S38Q6		-X							
S38Q7					-X				
S38Q8			-X						-X

Note. Intercorrelations for African-American Participants (n = 127) are presented. College Environment Question Codes indicate aspects of the college environment investigated. S38Q1 = the student would choose to attend the same college again; S38Q2 = students are friendly and supportive of each other; S38Q3 = instructors are approachable, helpful, and supportive; S38Q4 = counselors, advisors, and support staff are helpful, considerate, and knowledgeable; S38Q5 = courses are challenging, stimulating, and worthwhile; S38Q6 = the college is a stimulating and exciting place to be; S38Q7 = there are sufficient places to meet and study with other students; S38Q8 = there are places on campus to use computer technology; QE = Quality of Effort Scale; QECOURS = Course Activities; QELIB = Library Activities; QEFAC = Faculty; QESTACQ = Student Acquaintances; QEAMT = Art, Music, and Theater Activities; QEWRITE = Writing Activities; QESCI = Science Activities, Athletic Activities; QEOCC = Career/Occupational Skills; QECOMP = Computer Technology, Clubs/Organizations, Counseling and Career Planning. p <.05, two-tailed.

Table 12

Summary of Spearman Rho Correlations Trends for CCSEQ College Environment Questions and Quality of Effort Scales for College B Participant Responses

Variable College environment	Categories of Quality of Effort scale measures								
	QECOURS	QELIB	QEFAC	QESTACQ	QEAMT	QEWRITE	QESCI	QEOCC	QECOMP
S38Q1									
S38Q2				-X			-X		
S38Q3						-X			-X
S38Q4	-X								-X
S38Q5									
S38Q6		-X	-X		-X				-X
S38Q7			-X	-X				-X	
S38Q8									

Note. Intercorrelations for African-American Participants (n = 127) are presented. College Environment Question Codes indicate aspects of the college environment investigated. S38Q1 = the student would choose to attend the same college again; S38Q2 = students are friendly and supportive of each other; S38Q3 = instructors are approachable, helpful, and supportive; S38Q4 = counselors, advisors, and support staff are helpful, considerate, and knowledgeable; S38Q5 = courses are challenging, stimulating, and worthwhile; S38Q6 = the college is a stimulating and exciting place to be; S38Q7 = there are sufficient places to meet and study with other students; S38Q8 = there are places on campus to use computer technology; QE = Quality of Effort Scale; QECOURS = Course Activities; QELIB = Library Activities; QEFAC = Faculty; QESTACQ = Student Acquaintances; QEAMT = Art, Music, and Theater Activities; QEWRITE = Writing Activities; QESCI = Science Activities, Athletic Activities; QEOCC = Career/Occupational Skills; QECOMP = Computer Technology, Clubs/Organizations, Counseling and Career Planning. $p < .05$, two-tailed.

Table 13

Findings of the Spearman Rho Correlations for CCSEQ College Environment on Quality of Effort Questions for College A and College B Participant Responses

	College environment variables with significant levels of association	
College	Estimate of gain	Quality of effort
A	Students are friendly and supportive of each other	Course activities
	Students are friendly and supportive of each other	Library activities
	Students are friendly and supportive of each other	Faculty interactions
	Students are friendly and supportive of each other	Student acquaintances
	Students are friendly and supportive of each other	Art, music, and theater activities
	Students are friendly and supportive of each other	Science activities
	Students are friendly and supportive of each other	Computer technology, clubs/organizations, counseling and career planning
	Instructors are approachable, helpful, and supportive	Course activities
	Instructors are approachable, helpful, and supportive	Student acquaintances
	Instructors are approachable, helpful, and supportive	Computer technology, clubs/organizations, counseling and career planning
	Counselors, advisors, and support staff are helpful, considerate, and knowledgeable	Course activities

(continued)

Table 13: *Findings of the Spearman Rho Correlations for CCSEQ College Environment on Quality of Effort Questions for College A and College B Participant Responses* (continued)

College	College environment variables with significant levels of association	
	Estimate of gain	Quality of effort
A	Counselors, advisors, and support staff are helpful, considerate, and knowledgeable	Faculty interactions
	Counselors, advisors, and support staff are helpful, considerate, and knowledgeable	Student acquaintances
	Counselors, advisors, and support staff are helpful, considerate, and knowledgeable	Career/occupational skills
	Counselors, advisors, and support staff are helpful, considerate, and knowledgeable	Computer technology, clubs/organizations, counseling and career planning
	The college is a stimulating and exciting place to be	Course activities
	The college is a stimulating and exciting place to be	Faculty interactions
	The college is a stimulating and exciting place to be	Computer technology, clubs/organizations, counseling and career planning
B	Students are friendly and supportive of each other	Library activities
	Students are friendly and supportive of each other	Faculty interactions
	Students are friendly and supportive of each other	Writing activities

(continued)

Table 13: *Findings of the Spearman Rho Correlations for CCSEQ College Environment on Quality of Effort Questions for College A and College B Participant Responses* (continued)

	College environment variables with significant levels of association	
College	Estimate of gain	Quality of effort
B	The college is a stimulating and exciting place to be	Writing activities
	There are sufficient places to meet and study with other students	Writing activities

Note. Intercorrelations for African-American participants (n = 61) are presented.
Level 2 = **p < .01, two-tailed.

Table 14

Summary of Spearman Rho Correlations Trends for CCSEQ College Environment Questions and Quality of Effort Scales for College A Participant Responses

Variable College environment	Categories of Quality of Effort scale measures								
	QECOURS	QELIB	QEFAC	QESTACQ	QEAMT	QEWRITE	QESCI	QEOCC	QECOMP
S38Q1									
S38Q2	-X	-X	-X	-X	-X		-X		-X
S38Q3	-X			-X					-X
S38Q4	-X		-X	-X				-X	-X
S38Q5									-X
S38Q6	-X		-X						-X
S38Q7									
S38Q8									

Note. Intercorrelations for African-American Participants (n = 127) are presented. College Environment Question Codes indicate aspects of the college environment investigated. S38Q1 = the student would choose to attend the same college again; S38Q2 = students are friendly and supportive of each other; S38Q3 = instructors are approachable, helpful, and supportive; S38Q4 = counselors, advisors, and support staff are helpful, considerate, and knowledgeable; S38Q5 = courses are challenging, stimulating, and worthwhile; S38Q6 = the college is a stimulating and exciting place to be; S38Q7 = there are sufficient places to meet and study with other students; S38Q8 = there are places on campus to use computer technology; QE = Quality of Effort Scale; QECOURS = Course Activities; QELIB = Library Activities; QEFAC = Faculty; QESTACQ = Student Acquaintances; QEAMT = Art, Music, and Theater Activities; QEWRITE = Writing Activities; QESCI=Science Activities, Athletic Activities; QEOCC = Career/Occupational Skills; QECOMP = Computer Technology, Clubs/Organizations, Counseling and Career Planning. $p < .01$, two-tailed.

Table 15

Summary of Spearman Rho Correlations Trends for CCSEQ College Environment Questions and Quality of Effort Scales for College B Participant Responses

Variable College environment	Categories of Quality of Effort scale measures								
	QECOURS	QELIB	QEFAC	QESTACQ	QEAMT	QEWRITE	QESCI	QEOCC	QECOMP
S38Q1									
S38Q2		-X	-X			-X			
S38Q3									
S38Q4									
S38Q5									
S38Q6						-X			
S38Q7						-X			
S38Q8									

Note. Intercorrelations for African-American Participants (n = 127) are presented. College Environment Question Codes indicate aspects of the college environment investigated. S38Q1 = the student would choose to attend the same college again; S38Q2 = students are friendly and supportive of each other; S38Q3 = instructors are approachable, helpful, and supportive; S38Q4 = counselors, advisors, and support staff are helpful, considerate, and knowledgeable; S38Q5 = courses are challenging, stimulating, and worthwhile; S38Q6 = the college is a stimulating and exciting place to be; S38Q7 = there are sufficient places to meet and study with other students; S38Q8 = there are places on campus to use computer technology; QE = Quality of Effort Scale; QECOURS = Course Activities; QELIB = Library Activities; QEFAC = Faculty; QESTACQ = Student Acquaintances; QEAMT = Art, Music, and Theater Activities; QEWRITE = Writing Activities; QESCI = Science Activities, Athletic Activities; QEOCC = Career/Occupational Skills; QECOMP = Computer Technology, Clubs/Organizations, Counseling and Career Planning. $p < .01$, two-tailed.

student would choose to attend the same college again. No significant differences occurred at College B between the quality of effort scales and Variable S38Q1of the college environment, whether the student would choose to attend the same institution again.

- The quality of effort for College A's student participations in writing activities (WRITE) correlated negatively with Variable S38Q2, students are friendly and supportive of each other. The quality of effort for College B's student participations in student acquaintances (STACQ) and science activities (SCI) correlated negatively with Variable S38Q2, students are friendly and supportive of each other.
- No quality of effort variable at College A proved to have significant correlations with the college environment Variable S38Q3, instructors are approachable, helpful, and supportive, at the $p < .05$ level analyses. The quality of effort for College B's student participations in writing activities (WRITE) and computer technology clubs/organizations, counseling and career planning (COMP) correlated negatively with Variable S38Q3, instructors are approachable, helpful, and supportive.
- The quality of effort for College A's student participations in library activities (LIB) and science activities (SCI) correlated negatively with Variable S38Q4, counselors, advisors, and support staff are helpful, considerate, and knowledgeable. The quality of effort for College B's student participations in course activities (COURS) and computer technology clubs/organizations, counseling and career planning (COMP) correlated negatively with Variable S38Q4, counselors, advisors, and support staff are helpful, considerate, and knowledgeable.

- No quality of effort variable at College A or at College B proved to have significant correlations with the college environment Variable S38Q5, courses are challenging, stimulating, and worthwhile, at the $p < .05$ level analyses.
- The quality of effort for College A's student participations in library activities (LIB) correlated negatively with Variable S38Q6, the college is a stimulating and exciting place to be. The quality of effort for College B's student participations in library activities (LIB), faculty interactions (FAC), art, music, and theater activities (AMT), and computer technology, clubs/organizations, counseling and career planning (COMP), correlated negatively with Variable S38Q6, courses are challenging, stimulating, and worthwhile.
- The quality of effort for College A's student participations in art, music, and theater activities (AMT) correlated negatively with S38Q7, there are sufficient places to meet and study with other students. The quality of effort for College B's student participations in faculty interactions (FAC), student acquaintances (STACQ), and career/occupational skills (QEOCC) correlated negatively with S38Q7, there are sufficient places to meet and study with other students.
- The quality of effort for College A's student participations in faculty interactions (FAC), and computer technology, clubs/organizations, counseling and career planning (COMP) correlated negatively with Variable S38Q8, there are places on campus to use computer technology. No quality of effort variable at College B had significant correlations with the college environment Variable S38Q8, there are places on campus to use computer technology, at the $p < .05$ level analyses.

The only commonality between Spearman Rho correlations of College A and College B data was that the quality of effort put forth by student research participants in library activities (LIB) correlated negatively with S38Q6, the college is a stimulating and exciting place to be, at the $p < .05$ level analyses. The only positive correlation found was at College A, on the $p < .05$ level of analyses, the student would choose to attend the same college again positively correlated with art, music, and theater activities. All other significant findings at the two different campus locations proved to be negative.

Specific differences in College A and College B college environments varied at the $p < .01$ level of analyses using the Spearman Rho correlation data analyses. College A research participants' quality of effort correlation findings with college environment compared with College B research participants' quality of effort with college environment in the following manners:

- The quality of effort for College A's student participations in art, music, and theater activities (AMT) correlated positively with Variable S38Q1 of the college environment, the student would choose to attend the same college again. No significant differences occurred at College B between the quality of effort scales and Variable S38Q1 of the college environment, whether the student would choose to attend the same institution again.
- The quality of effort for College A's student participations in course activities (COURS), library activities (LIB), faculty interactions (FAC), student acquaintances (STACQ), art, music, and theater activities (AMT), science activities (SCI), and computer technology, clubs/organizations, counseling and career planning (COMP) correlated negatively with Variable S38Q2, students are friendly and supportive of

each other. The quality of effort for College B's student participations in library activities (LIB), faculty interactions (FAC), and writing activities (WRITE) correlated negatively with college environment Variable S38Q2, students are friendly and supportive of each other.

- The quality of effort for College A's student participations in course activities (COURS), student acquaintances (STACQ), and computer technology, clubs/organizations, counseling and career planning (COMP), correlated negatively with the college environment Variable S38Q3, instructors are approachable, helpful, and supportive. No significant difference occurred at College B between the quality of effort scales and Variable S38Q3of the college environment, instructors are approachable, helpful, and supportive.
- The quality of effort for College A's student participations in course activities (COURS), faculty interactions (FAC), student acquaintances (STACQ), career/occupational skills (OCC), and computer technology, clubs/organizations, counseling and career planning (COMP) correlated negatively with the college environment Variable S38Q4, counselors, advisors, and support staff are helpful, considerate, and knowledgeable. No significant difference occurred at College B between the quality of effort scales and Variable S38Q4 of the college environment, counselors, advisors, and support staff are helpful, considerate, and knowledgeable.
- The quality of effort for College A's student participations with computer technology, clubs/organizations, counseling and career planning (COMP), correlated negatively with the college environment Variable S38Q5, courses are challenging, stimulating, and worthwhile. No significant difference occurred at College B between the quality

of effort scales and Variable S38Q5 of the college environment, courses are challenging, stimulating, and worthwhile.

- The quality of effort for College A's student participations in course activities (COURS), faculty interactions (FAC), and computer technology, clubs/organizations, counseling and career planning (COMP), correlated negatively with the college environment Variable S38Q6, the college is a stimulating and exciting place to be. The quality of effort for College B's student participations in writing activities (WRITE) correlated negatively with the college environment Variable S38Q6, the college is a stimulating and exciting place to be.
- No quality of effort variable at College A had significant correlations with the college environment Variable S38Q7, there are sufficient places to meet and study with other students. The quality of effort for College B's student participations in writing activities (WRITE) correlated negatively with Variable S38Q7, there are sufficient places to meet and study with other students.
- No quality of effort variable at College A or at College B had significant correlations with the college environment Variable S38Q8, there are places on campus to use computer technology, at the $p < .01$ level analyses.

The only commonalities between Spearman Rho correlations of College A and College B data analyses proved that the quality of effort put forth by student research participants in library activities (LIB) and in faculty interactions (FAC) correlated negatively with the college environment Variable S38Q2, students are friendly and supportive of each other, at the $p < .05$ level analyses. The only positive correlation was at College A, on the $p < .01$ level of analyses the student would choose to attend the same college again positively correlated with art, music,

and theater activities. All other significant findings at the two different campus locations proved to be negative. Based on the presented findings, there appeared to be an institutional effect found between the college environments on the quality of effort for African-American Students attending rural community colleges in the state of Alabama.

Other Related Findings

Data collected in the study supported information related to the primary research questions and, also, provided valuable insights into other aspects of the topic discussed in the review of the literature. Additional items of interest discussed in the literature review yet not directly discussed by the research questions include the following:

- The CCSEQ allowed student research participants the opportunity to indicate the level of physical and psychological energy that they invested into their academic and personal development experiences during this research study at Colleges A and B (Astin, 1999; Pearson et al., 2009).
- Different student participants indicated their level of involvement, based on the mean scores compared in the CCSEQ's estimate of gains and quality of effort scaled scores. Thereby, different students' varied mean scores were able to be included separately, yet analyzed and discussed collectively (Astin, 1999; Pearson et al., 2009).
- The CCSEQ allowed for quantitative measures of student participants' levels of involvement, academic and developmentally, on rural Alabama community college campuses to be recorded and from which the researcher collected qualitative findings and conclusions (Astin, 1999; Pearson et al., 2009).

- Descriptive, inferential, correlation, and one-way ANOVA statistical analyses of data analyses identified students' level of satisfaction with the services their college provides collectively and by demographic areas.
- Library activities quality of effort scales positively correlated with the career preparations and the computer scales of the estimate of gain variable for research participants at the $p < .05$ level analyses. Writing activities quality of effort scales had positive, significant correlations with personal and social development scales of the estimate of gain variable for research participants at the $p < .05$ level analyses. Faculty interactions quality of effort scales had positive correlations with all seven aspects of the estimate of gains categories at the $p < .01$ level analyses. Library activities quality of effort scales had correlations with four aspects of the estimate of gain categories (arts and communication, personal and social development, math, science, and technology, and perspectives of the world) at the $p < .01$ level analyses. Writing activities quality of effort scales had correlations with three categories of the estimate of gain at the $p < .01$ level analyses (Douzenis, 1994; Haplin, 1990).
- Student acquaintances of the quality of effort scales positively correlated with every category of the estimate of gain variable except with the computer usage category at the $p < .01$ level analyses.
- The greatest number of research participants were full-time students (49.60% in 12 to 15 credits or greater, 9.40% in more than 15 credits status). The remaining research participants were part-time students (9 to 11, 6 to 8, or less than 6 credit hours).

The majority of research participants (52.8%) were unemployed. A large percentage of the research participants (44.8%) worked between 1 to 30 hours a week. Only ll.80% of the

research participants worked a full time job each week. Only 2.4% of the research participants worked more than 40 hours a week. A majority of research participants (58.30%) reported that a job does not interfere with their college work because they were unemployed. Some research participants (18.10%) reported that their job presented no interference with their completing college work. A total of 18.90% of research participants indicated that their job took some time away from their college work. A total of 6% of research participants reported that their job took considerable time away from their college work. Only 11.80% of research participants participated in a work-study program, while 88.20% did not. Approximately 35.40% of research participants worked on jobs away from the campus setting.

First generation student research participants totaled 73 participants, or 57.40% of the student participants. The majority of the first generation student participants were full-time students (46.60% enrolled in 12 to 15 credits), or greater (13.70% enrolled in more than 15 credits). The remaining students were part-time (8.20% enrolled in less than 6 credit hours; 9.60% enrolled in 6 to 8 credit hours; and 20.50% in 9 to 11 credit hours). The first generation student research participants were evenly distributed across the range of credits for completion of programs (21.90% had taken 1 to 15 cumulative credits; 30.10% had taken 16 to 30 credits; 19.20% had taken 31 to 45 credits; and 28.80% had taken 46 or more credits).

First generation research participants attended classes during the day and the evening (54.80%). Others attended class only during the day (38.40%). The smallest numbers of first generation research participants attended class only in the evenings (6.80%).

The majority of first generation research participants reported earned grades were between the A- and C+ levels (31.50% reported A-, B+; 17.80% reported B; and 27.40% report B-, C+). The remaining students reported grades in other grade levels (9.60% reported A; 6.80%

reported C, C-; 1.40% reported grades lower than C-; and 5.50% reported no grades since they were first term enrollees). The majority of first generation research participants reported that they spent between 1 to 5 hours a week studying or preparing for classes (46.50%), between 6 to 10 hours a week studying or preparing for classes (27.40%), or between 11 to 15 hours per week studying or preparing for classes (16.40%).

Most first generation research participants spent 1 to3 hours on campus a week, not counting the time they were in class (43.80%). The numbers of first generation research participants' time on campus, not counting the time they were in class, varied: 11.00% spent no additional hours on campus; 17.80% spent 4 to 6 hours on campus; 15.10% spent 7 to 9 hours on campus; 1.40% spent 10 to 12 hours on campus; and 11.00% spend more than 12 hours on campus. The majority of first generation research participants takes took classes in the in-person (face-to-face) only format (46.60%) or in the in-person and online formats (24.70%). The least preferred class formats for first generation research participants were online only (1.40%), hybrid (some face-to-face and some online elements) only (1.40%), and online and hybrid (1.40%).

The most important reasons first generation research participants reported attending college at this time were to prepare for transfer to a 4-year college or university (54.8%); to gain skills necessary to enter a new job or occupation (32.9%); to gain skills necessary to retrain, remain current, or advance (9.6%); and to satisfy a personal cultural or social interest (1.40%). One participant omitted answering the question. Table 16 indicates data collected regarding categories of research participants (first generation students and the sample population of research participants) participating in this study.

Table 16

College Programs and College Courses Percentages as Related to All Research Participants and First Generation Students at College A and College B

	Item	Group: All students	Group: First generation
College program			
1.	How many credits are you taking this term?		
	Less than 6	6.3	8.2
	6 to 8	17.3	9.6
	9 to 11	16.5	20.5
	12-15	49.6	46.6
	More than 15	9.4	13.7
	Data missing	0.8	1.4
2.	Including the credits you are not taking, what is the total number of courses credits you have taken at this college?		
	1-15 credits	22.8	21.9
	16-30 credits	32.3	30.1
	31-45 credits	19.7	19.2
	46 or more credits	24.4	28.8
3.	When do the classes you are now taking meet?		
	Day only	49.6	38.4
	Evening only	6.3	6.8
	Some day and some evening	44.1	54.8
4.	Up to now, what have most of your grades been at this college?		
	A	6.3	9.6
	A-, B+	33.1	31.5

(continued)

Table 16: *College Programs and College Courses Percentages as Related to All Research Participants and First Generation Students at College A and College B* (continued)

	Item	Group: All students	Group: First generation
	B	17.3	17.8
	B-, C+	28.3	27.4
	C, C-	8.7	6.8
	Lower than C-	0.8	1.4
	No grades, this is my first term	4.7	5.5
5.	About how many hours a week do you usually spend studying or preparing for class?		
	1 to 5 hours	47.2	46.6
	6 to 10 hours	29.9	27.4
	11 to 15 hours	15.0	16.4
	16 to 20 hours	4.7	5.5
	More than 20 hours	1.6	2.7
	Missing data		1.4
6.	About how many hours a week do you usually spend on the college campus, not counting time attending classes?		
	None	10.2	11.0
	1 to 3 hours	40.9	43.8
	4 to 6 hours	22.8	17.8
	7 to 9 hours	14.2	15.1
	10 to 12 hours	3.1	1.4
	More than 12 hours	8.7	11.0
7.	What is the most important reason you are attending THIS COLLEGE at this time" (Mark ONLY ONE answer.)		

(continued)

Table 16: *College Programs and College Courses Percentages as Related to All Research Participants and First Generation Students at College A and College B* (continued)

	Item	Group: All students	Group: First generation
	To prepare for transfer to four-year college or university	52.0	54.8
	To gain skills necessary to enter a new job or occupation	29.9	32.9
	To gain skills necessary to retrain, remain current, or advance in a current job or occupation	15.7	9.6
	To satisfy a personal interest (cultural, social).	1.6	1.4
	To improve my English, reading, or math skills.		
	Data missing	.8	1.4
8.	Including this term, I have taken classes in the following format(s):		
	In-person (fact-to-face) only	46.5	46.6
	Online only	0.8	1.4
	Hybrid (some face-to-face and some online elements) only	3.1	1.4
	In-person and online	28.3	24.7
	In-person and hybrid	8.7	12.3
	Online and hybrid	0.8	1.4
	In-person, online, and hybrid	11.8	12.3
Answer each of the following questions			
1.	Are you working for an AA degree?		
	Yes	34.6	28.8
	No	63.0	69.9

(continued)

Table 16: *College Programs and College Courses Percentages as Related to All Research Participants and First Generation Students at College A and College B* (continued)

	Item	Group: All students	Group: First generation
	Missing data	2.4	1.4
2.	Are you working for an AS degree?		
	Yes	55.9	57.5
	No	43.3	42.5
	Missing data	0.8	
3.	Are you working for a diploma?		
	Yes	24.4	15.1
	No	71.7	83.6
	Missing data	3.9	1.4
4.	Are you working for a certificate?		
	Yes	24.4	21.9
	No	71.7	76.7
	Missing data	3.9	1.4
5.	Do you plan to transfer to a four year college or university?		
	Yes	73.2	68.5
	No	23.6	28.8
	Missing data	3.1	2.7
6.	Are your currently enrolled in an occupational/vocational program?		
	Yes	14.2	13.7
	No	83.5	80.9
	Missing data	2.4	1.4

(continued)

Table 16: *College Programs and College Courses Percentages as Related to All Research Participants and First Generation Students at College A and College B* (continued)

Item	Group	
	All students	First generation
If you were enrolled in a vocational program, which of the following categories best describes your occupational/technical program? (MARK ONE)		
I am not enrolled in an occupational/technical program.	53.5	52.1
Agriculture (such as agricultural business, management, mechanics, or productions)	2.4	2.7
Business (such as accounting; bookkeeping; data processing; office supervision; personnel and training; secretarial programs; etc.)	7.9	9.6
Management and Distribution (such as real estate; fashion merchandising; small business management; financial services marketing; food marketing; marketing management; institutional management; etc.)	0.8	1.4
Health (such as dental services; diagnostic and treatment services; medical laboratory technologies; mental health & human services; nursing services; rehabilitation services; etc.)	15.0	13.7
Technical and Communications (such as computer programming; educational media technology; radio and television technology; architectural technology; civil technology; electrical and electronic technology; environmental control technology; industrial technology; engineering technology and robotics; etc.)	3.9	2.7
Trade and Industrial (such as cosmetology; law enforcement; construction trades; heating and air conditioning; industrial equipment maintenance;	0.8	1.4

(continued)

Table 16: *College Programs and College Courses Percentages as Related to All Research Participants and First Generation Students at College A and College B* (continued)

Item	Group	
	All students	First generation
aircraft mechanics; auto body repair; automotive mechanics; architectural, civil, or mechanical drafting; commercial art; commercial photography; truck and bus driving; tool and dye making; welding; etc.)		
Other occupational/technical programs not listed above	0.8	
Missing data	15.0	16.4
College environment		
If you could start over again would you go to this college		
Yes	62.2	71.2
Maybe	29.1	23.3
No	8.7	5.5

Note. All students (n = 127) participants. First generation college students (n = 73) participants.

Levels of student satisfaction with the education and services provided by their 2-year educational institution are calculated using data collected by the CCSEQ and analyses using SPSS Version 19. Table 17 indicates that 100% of student participants in the sample (n = 127) were included in the analyses. Table 18 identifies the level of satisfaction calculated for each group of participants included in the study.

The CCSEQ satisfaction scale used calculations of mean scores to discuss levels of student satisfaction with their education institution and services. The overall sample's (n = 127) level of satisfaction with the services received from Colleges A and B mean score was 11.80 with standard deviations of 2.85. A standard deviation of 2.85 placed the lower and upper range

Table 17

Student Participants Cases of Inclusions and Exclusions for Student Satisfaction Scales Calculations at College A and College B

Satisfaction scale	Cases					
	Included		Excluded		Total	
	N	%	*N*	%	*N*	%
Sample population	127	100	0	0	127	100

Table 18

CCSEQ Level of Student Satisfaction Scale for Student Research Participants at College A and College B

				Range	
Category	*n*	*M*	*SD*	Lower	Upper
Sample population	127	11.80	2.85	8.95	14.64
College A	66	11.58	3.11	8.46	14.69
College B	61	12.03	2.54	9.50	14.57

of the measure at 8.95 and 14.64 respectively. College A level of satisfaction mean score was 11.58 with a standard deviation of 3.11. The lower and upper ranges of College A's level of satisfaction measure was 8.46 and 14.69, respectively. College B student research participants' level of satisfaction mean score is 12.03 with a standard deviation of 2.54. The lower and upper ranges of College B's level of satisfaction measures were 9.50 and 14.57, respectively. The mean scores were relatively close in value, yet the standard deviations resulted in more varied lower and upper range scores. The researcher determined cross tabs for considerations in discussing the differences in student research participants' levels of satisfactions.

The researcher also conducted cross tabulations to identify the specific origins of organizational satisfaction scale scores for the sample population, College A, and College B. Data collected are in Table 19.

Summary

A total of 233 rural African-American students attending three rural Alabama community colleges (A, B, and C) participated in this study during the Spring Semester 2011 by completing the online CCSEQ. Inadequate numbers of research participants at College C resulted in the institution's participants being excluded from the data analyses, findings, and discussion phases of the study. Cleaning of the data resulted in the inclusion of participants from two rural Alabama community colleges, College A and College B, and a sample population of $n = 127$ resulted as participants in the study.

For investigation, four research questions were used to describe and measure the relationships between the independent variables (estimate of gain, college environment, age on college environment, and the determination of an institutional effect) on the dependent variable (quality of effort) for African-American students attending two rural community colleges in Alabama. Quantitative statistical analyses of the data revealed a number of significant differences at the $p < .05$ and the $p < .01$ level tests of evaluation. Inferential statistics employed to determine the common variance between variables investigated were the following:

- Research Question 1: The relationship of estimate of gains possessed a positive influence on the quality of effort that research participants put forth in order to reach their educational goals at rural community colleges in Alabama. Positive correlations at the $p < .05$ level analyses were associated with the independent categories of the estimate of gain to include career preparations, computers, personal and social

Table 19

Organizational Satisfaction Scale Cross Tabulations for College A and College B Research Participant Responses

	Satisfaction scale													
Institution	4	5	6	7	8	9	10	11	12	13	14	15	16	Total
A	1	3	2	2	5	3	2	7	17	3	8	8	5	66
B	0	0	0	2	5	6	4	7	8	9	9	6	5	61
Total	1	3	2	4	10	9	6	14	25	12	17	14	10	127

Note: $n = 127$.

development, math, science, technology, and perspectives of the world related to the quality of effort scales of Colleges A and B, library activities, writing activities, and art, music, and theater activities. Significant correlations trends at the $p < .01$ level analyses were numerous, occurring within almost every estimate of gain category and quality of effort scale.

- Research Question 2: The relationships between college environments on the quality of effort, employed the Spearman Rho correlation analysis to indicate findings in Table 5. Predominately negative, correlations were determined at the $p < .05$ level and at the $p < .01$ level analyses across the full range of categories of college environment on scaled measures of quality of effort at Colleges A and B.
- Research Question 3: The relationship between age as an influence on the estimate of gain and on the quality of effort, utilized the one-way ANOVA on age and estimate of gain, and on age and quality of effort in Tables 8 and 9. The variable of age had no significant relationships with the six quality of effort scales, career prep arts and communication, computers, personal and social development, math, science and technology, and perspectives of the world. The one-way ANOVA indicated no significant findings at the $p < .05$ level test for age on quality of effort scales including art, music, and theater; career/occupational skills; computer; course learning; faculty; library; science; student acquaintances; and writing.
- Research Question 4: An investigation into whether an institutional effect existed between the college environments of College A and College B was conducted. Spearman Rho correlations were used to compare College A and College B college environments on quality of student efforts at the $p < .05$ and at the $p < .01$ assessment

levels (Tables 10, 11, 12, 13, 14, 15, and 16). Several positive, significant differences for college environment and for quality of effort were in the correlations between the variables for members of the sample populations (n = 66 at College A and n = 61 at College B) when considered separately. Data analyses of both colleges being analyzed together revealed a number of negative correlations from one institution to the other. A correlation of -0.3 existed between College A and College B as related to a number of college environment's factors impacted the quality of effort at each institution.

- Other aspects of the data collected supported and discredited the purpose of this research project with regard to student involvement's relationships with their levels of academic achievement, retention, and departure.

CHAPTER V

DISCUSSION

The current research project helped to extend educational research into the rural community college environments located in the Southeastern U.S., a region traditionally not included in critical educational research studies. The study used research questions to help focus the quality of research efforts and methods when framing the approach for study of the relationships between student involvement, student success, and the relationships of the findings with credible literature of student services education professionals.

Research Question 1

What is the relationship of estimate of gains on African-American students' quality of effort as they attend rural community colleges in the state of Alabama? A positive, Pearson *r* correlation at the $p < .05$ level relationship existed between African-American student research participants' estimate of gain on how much they perceived their gains and progress on the amount, scope and quality of effort that they put forth to take advantage of opportunities offered them by the college. Specifically, research participants' estimate of gain at the $p < .05$ level on quality of effort indicated significant findings that their (a) career preparations gains are related to the quality of their library activities; (b) computer skills gains related to the quality of their library activities; (c) personal and social development gains related to the quality of their writing activities; (d) math, science, and technology gains related to the quality of their art, music, and theater efforts; and (f) perspectives of the world gains related to their quality of effort in writing activities.

Astin (1999) asserted that the theory of student involvement provided a link between the variables emphasized in the subject matter, resources, and individualization approaches for

instruction. The researcher explained that in order for an educational program to achieve its intended outcomes, it must engage enough student effort and investment of energy to achieve the desired levels of learning and development. The findings demonstrated that students' knowledge of career preparations, computer skills (a word processor and data processor), and academics (math, science, and technology applied to student efforts in arts, music, and theater) supported students' efforts and development in the library searching for knowledge, writing cognitively about their experiences, and specifically to their unique perspectives of the world.

Many positive Pearson *r* correlations do exist at the $p < .01$ level of assessment. All six scaled categories of the estimate of gain related positively with four quality of effort scales, course activities, faculty, career/occupational skills, and computer technology (Table 4). Five of the six categories of the estimate of gain (except computers) had positive, significant correlations with two quality of effort scales (student acquaintances and science activities) at the $p < .01$ level analyses. Four of the six categories of the estimate of gain scales had positive, significant correlations with one quality of effort scales (library activities) at the $p < .01$ level analyses. Three of the six categories of the estimate of gain had positive, significant correlations with one quality of effort scales (writing activities) at the $p < .01$ level analyses. Only two of the six categories of the estimate of gain (career preparations and perspectives of the world) had positive, significant correlations with one quality of effort scales (art, music, theatre activities) at the $p < .01$ level analyses.

The research findings supported postulates of Astin's (1999) student involvement theory. The research findings showed that the physical and psychological concept of student behavior related to the levels of involvement. Involvement occurred along a continuum, as different students exhibited different degrees of involvement in a given object, and the same students

manifested different degrees of involvement in different objects at different times. According to Astin, "The amount of student learning and personal development associated with any educational program was directly proportional to the quality and quantity of student involvement in that program" (p. 519).

African-American student research participants' estimate of gains in career preparations had significant, positive associations with all scales of students' quality of effort except with library activities and art, music, and theater. Arts and communications estimate of gain had significant, positive relationships with all scales of the quality of effort except with writing activities. Student computer activities related positively with all scales of the quality of life except with student acquaintances, science activities, library activities, and art, music, and theater. Research participants' personal and social development related positively with all quality of effort scales except with writing activities and art, music, and theater activities. Research participants' math, science, and technology activities related positively with all scales of the quality of effort except with art, music, and theater activities. Research participants' perspectives of the world related positively with all scales of the quality of effort except with writing activities. Students' estimate of gain had the least positive impact on their quality of efforts in writing activities and in art, music, and theater scales. Astin (1999) noted that how effectively an institution and a student managed student experiences while on campus was especially important when stimulating academic performance of community college students, both inside and outside the classroom setting.

Research Question 2

What is the relationship of the college environment on African-American students' quality of effort as they attend rural community colleges in the state of Alabama? African-

American student research participants whose estimate of gain indicated they will choose to attend the same college again had positive relations with their quality of effort in art, music, and theater activities at the $p < .05$ level analyses. Other significant Spearman Rho correlations at the $p < .05$ level analyses found negative relationships with the quality of effort scales with regard to African-American student research participants (Table 6). The study's negative research findings indicated that African-Americans attending rural community colleges in the state of Alabama noted that

- Students were not friendly and supportive of each other with regard to the quality of their effort to acquire career/occupational skills;
- Instructors were not approachable, helpful, and supportive with regard to the quality of effort students put forth in library activities and writing activities;
- Counselors, advisors, and support staff were not helpful, considerate, and knowledgeable with regard to the quality of effort students put forth with library activities and with career/occupational skills;
- The college was not a stimulating and exciting place to be with regard to the quality of effort students put forth with student acquaintances, writing activities, science and athletic activities, and with student career/occupational skills; and
- There were not sufficient places to meet and study with other students with regard to the quality of effort students put forth with faculty, student acquaintances, and the use of computer technology, clubs/organizations, counseling and career planning.

Only negative significant Spearman Rho correlations were at the $p < .01$ level analyses with regard to the relationship of the rural community college environment gains on African-

American students' quality of effort as they pursued educational goals. Aspects of the rural community college environment with significant negative $p < .01$ level findings existed.

- Students were not friendly and supportive of each other with regard to the quality of effort they put forth in their course activities, library activities, faculty interactions, student acquaintances, art/music/theater activities, writing activities, science activities, and computer technology, clubs/organizations, counseling and career planning activities.
- Instructors were not approachable, helpful, and supportive with regard to the quality of effort students put forth with course activities, faculty, student acquaintances, and with computer technology, clubs/organizations, counseling and career planning activities.
- Counselors, advisors, and support staff were not helpful, considerate, and knowledgeable with regard to the quality of effort students put forth with course activities, faculty, student acquaintances, and with computer technology, clubs/organizations, counseling and career planning activities.
- Courses were not challenging, stimulating, and worthwhile with regard to the quality of effort students put forth with computer technology, clubs/organizations, counseling and career planning activities.
- The college was not a stimulating and exciting place to be with regard to the quality of effort students put forth with library activities, faculty, art/music/theater activities, and computer technology, clubs/organizations, counseling and career planning activities.

- There were not sufficient places to meet and study with other students with regard to the quality of effort put forth with art/music/theater activities.

The negative Spearman Rho correlations at both the $p < .05$ and the $p < .01$ level analyses had a great impact on the discussions about the influences that the rural Alabama community college campus environments had on the quality of efforts put forth by African-American students (Tables 6 and 7). The $p < .01$ level analyses showed the most impressive trends regarding the rural community college environments. Specifically, African-American research participants estimate of gains, that students are not friendly and supportive of each other, related negatively to all but one category of the quality of effort scale measures, career/occupational skills. Career/occupational skills are negatively correlated with students are not friendly and supportive of each other at the $p < .05$ level analyses.

This finding indicated the rural community college environments at College A and College B were not supportive of one criteria of Tinto's (1993) theory of student departure, that student persistence in educational programs is dependent on the extent to which educational communities structured and constructed college programs and classrooms, such that students integrate into the dynamic social and intellectual life of the institution. The unfriendly and unsupportive estimate of gain at campus environments of College A and College B had resulted in negative, significant findings (impact) with regard to course activities, library activities, faculty interactions, student acquaintances, art/music/theater activities, writing activities, science activities, computer technology, clubs/organizations, counseling and career planning.

The Spearman Rho data analyses for college environment on quality of effort at the $p < .01$ level analyses trends related to Astin's (1999) student involvement theory five categories of involvement: academic involvement, faculty involvement, involvement with peers,

involvement with work, and involvement elsewhere. Astin stated that student involvements in these categories were positively related to improving students' persistence and success at completing college. Astin noted that faculty/student involvement was the most important and had the greatest ability to influence student accomplishments (categories historically minimized at community colleges). Research data findings for the estimate of gain categories (a) students were not friendly and supportive of each other; (b) instructors are not approachable, helpful, and supportive; and (c) counselors, advisors, and support staff were not helpful, considerate, and knowledgeable, had significant negative relationships with African-American student participants' quality of efforts with regard to their course activities, faculty interactions, student acquaintances, and computer technology, clubs/organizations, counseling and career planning (Table 7). A final category of estimate of gain, S38Q6, the college is a stimulating and exciting place to be, has negative significant relationships with course activities, library activities, faculty interactions, art/music/theater activities and computer technology, clubs,/organizations, and counseling and career planning.

Although the research findings for this study were negative with regard to African-American students' estimate of gain on quality of effort, it was consistent with the review of the literature. The research of Astin (1999), Brown et al. (2000), Berger and Malaney (2003), Caboni et al. (2002), Chaves (2006), Chickering and Gamson (1987), Gallo and Odu (2009), and Ullah and Wilson (2007) recommend that campuses with improved levels of student-faculty interaction had greater potential for retaining productive student populations. Chang (2005) emphasized that faculty-student interaction traditionally had been acknowledged as a form of involvement, although many community college faculty members tended to view in-class activities as academic involvement, separate and independent from out-of-class student

involvements. Astin identified faculty-student involvement as most important with the greatest ability to influence student accomplishments and as a category historically minimized at community colleges. College A and College B conformed to the findings of Chang and Astin that (a) faculty-student interaction was minimized at the two rural community colleges and (b) the two rural community colleges were missing out on the greatest opportunity to influence student accomplishments through improved faculty-student interaction, thereby grounding decisions for providing educational programs and services in critical educational theory.

Research Question 3

Does age have an influence on African-American students' estimate of gains and quality of effort when attending rural community colleges in the state of Alabama? A total of 127 African-American students participated in this study relating estimate of gain on the quality of effort. The age ranges of student research participants were widely distributed: 33.90% were 18 to 19 or younger; 33.90% were 20 to 22; 11.8% were 23 to 27; 15.70% were 28 to 39; 3.90% were 40 to 55; and 0.80% were over 55 years of age (Appendix O). The one-way ANOVA revealed the effects of age on separate combinations of the dependent variables, estimate of gain and quality of effort, at the $p < .05$ level analyses of research participants at College A and College B.

The one-way ANOVA test for research participants' age against the six scales of the estimate of gain (career preparations, arts and communication, computers, personal and social development, math/science/technology, and perspectives of the world) found no significant differences across estimate of gain, $F(5, 121) = .89$, $p = .49$; $F(5, 121) = .51$, $p = .77$; $F(5, 121) = .89$, $p = .49$; $F(5, 121) = .88$, $p = .50$; $F(5, 121) = .64$, $p = .67$; $F(5, 121) = .55$, $p = .74$, for African-American students attending college on rural community college campuses in the state

of Alabama (Table 8). No difference existed with regard to research participants' age on the estimate of gain accomplished by African-American students attending rural community colleges in the state of Alabama when career preparations, arts and communications, usage of computers, personal and social development, math/science/technology skills, and perspectives of the world were points of consideration.

The one-way ANOVA test for research participants' age against the nine quality of effort scales (art, music, theater activities, career/occupational skills, computer technology, clubs/organizations, counseling and career planning, course activities, faculty, library activities, science activities/athletic activities, student acquaintances, writing) found no significant differences across quality of effort, effort scales, $F(5, 121) = 1.46$, $p = .21$; $F(5, 121) = 1.49$, $p = .20$; $F(5, 121) = .46$, $p = .81$; $F(5, 121) = .99$, $p = .43$; $F(5, 121) = .85$, $p = .52$; $F(5, 121) = 1.20$, $p = .31$; $F(5, 121) = .85$, $p = .52$; $F(5, 121) = .71$, $p = .62$; $F(5, 121) = .67$, $p = .64$ for African-American students attending rural community colleges in the state of Alabama (Table 9). No difference existed with regard to the research participants' age on the quality of effort accomplished by African-American students attending rural community colleges in the state of Alabama when music, theater activities, career/occupational skills, computer technology, clubs/organizations, counseling and career planning, course activities, faculty, library activities, science activities/athletic activities, and student acquaintances were points of consideration.

The findings supported Tinto's (1993) theory of student departure that students interacted with their institutions in social and educational communities and in ways that helped them integrate into new environments (Rendon et al., 2000). African-American students of all ages viewed the rural community college campus environment in a similar fashion. The findings showed that age was not an influencing factor in affecting African-American students' estimate

of gain, nor in their quality of effort. Age neither significantly affected the physical nor psychological aspects of the rural community college campus's impact of the quality of students' estimate of gains nor the quality of effort that these students put forth toward their education and personal development.

Research Question 4

Is there an institutional effect between the college environments on the quality of effort for African-American students attending rural community colleges in the state of Alabama? Two separate Spearman Rho correlation analyses conducted on data collected from College A and College B indicated whether or not there was an institutional effect between college environments on the quality of rural African-American research participants' efforts. Several significant differences were identified in the correlations using the sample populations, $n = 66$ at College A and $n = 61$ at College B (Tables 10 and 11). The dynamics of College A and College B college environments varied as determined by the CCSEQ inquiry and significant Spearman Rho correlations on student quality of effort at the $p < .05$ and the $p < .01$ level analyses. There were both negative and positive efforts in several aspects of each institution. College A's environment had significant Spearman Rho correlations on African-American students' quality of effort at the $p < .05$ level in the areas noted in the following findings. The only positive significant finding at College A is stated first; all other significant college environment on quality of effort findings follow and are negative correlations.

- The student would choose to attend the same college again with regard to the quality of effort the student puts forth in their art, music, and theater activities.

- College counselors, advisors, and support staff were not helpful, considerate, and knowledgeable with regard to the quality of effort students put forth with library activities.
- The college was not a stimulating and exciting place to be with regard to the quality of effort students put forth with library activities.
- Instructors were not approachable, helpful, and supportive with regard to the quality of effort African-American students put forth with faculty interactions.
- There were not enough places on campus to use computer technology with regard to the quality of effort students put forth with faculty interactions.
- There were not sufficient places for students to meet and study with other students with regard to the quality of effort students put forth with art, music, and theater activities.
- Students were not friendly and supportive of each other with regard to the quality of effort students put forth with writing activities.
- Counselors, advisors, and support staff were not helpful, considerate, and knowledgeable with regard the quality of effort students put forth with science activities.
- There were not enough places on campus to use computer technology with regard to the quality of effort students put forth with computer technology, clubs/organizations, and counseling and career planning activities.

College A college environment had significant Spearman Rho correlations on African-American students' quality of effort at the $p < .05$ level in common estimate of gain scaled categories.

- The quality of African-American student research participants' efforts when engaging in library activities related to aspects of the college environmental that included (a) counselors, advisors, and support personnel were not being helpful, considerate, and knowledgeable and (b) the college was not a stimulating and exciting place to be.
- The quality of African-American student research participants' efforts to engage in faculty interactions related to (a) instructors not being approachable, helpful, and supportive and (b) there not being places on campus to use computer technology.
- The quality of African-American student research participants' efforts to participate in art, music, and theater activities were related to their decision to choose to attend the same college again and (b) the lack of having sufficient places to meet and study with other students.
- The quality of African-American student research participants' efforts to engage in writing activities related to students not being friendly and supportive of each other.
- The quality of African-American student research participants' efforts to engage in science activities related to counselors, advisors, and support staff not being helpful, considerate, and knowledgeable.
- The quality of African-American student research participants' efforts to participate/use computer technology, clubs/organizations, counseling and career planning related to there being no places on campus to use computer technology.

College B's college environment had significant Spearman Rho correlations on African-American students' quality of effort at the $p < .05$ level in the areas noted in the following findings. All significant college environment on quality of effort findings follow and are negative correlations.

- Counselors, advisors, and support staff were not helpful, considerate, and knowledgeable with regard to the quality of effort students put forth with course activities.
- The college was not a stimulating and exciting place to be with regard to the quality of effort students put forth with library activities.
- The college was not a stimulating and exciting place to be with regard to the quality of effort students put forth with faculty interactions.
- There were not sufficient places to meet and study with other students with regard to the quality of effort students put forth with faculty interactions.
- Students were not friendly and supportive of each other with regard to the quality of effort students put forth in student acquaintances.
- There were not sufficient places to meet and study with other students with regard to the quality of effort students put forth in student acquaintances.
- The college was not a stimulating and exciting place to be with regard to the quality of effort students put forth with art, math, and theater activities.
- Instructors were not approachable, helpful, and supportive with regard to the quality of effort students put forth with writing activities.
- Students were not friendly and supportive of each other with regard to the quality of effort students put forth with science and athletic activities.
- There were not sufficient places to meet and study with other students with regard to the quality of effort students put forth with career/occupational skills.

- Instructors were not approachable, helpful, and supportive with regard to the quality of effort students put forth with computer technology, clubs/organizations, counseling and career planning.
- Counselors, advisors, and support staff were not helpful, considerate, and knowledgeable with regard to the quality of effort students put forth with computer technology, clubs/organizations, counseling and career planning.
- The college was not a stimulating and exciting place to be with regard to the quality of effort students put forth with computer technology, clubs/organizations, counseling and career planning.

College A's college environment proved to have significant Spearman Rho correlations on African-American students' quality of effort at the $p < .01$ level in the areas noted in the following findings. All significant college environment on quality of effort findings follow and are negative correlations.

- Students were not friendly and supportive to each other with regard to the quality of effort students put forth in course activities.
- Instructors were not approachable, helpful, and supportive with regard to the quality of effort students put forth in course activities.
- Counselors, advisors, and support staff were not helpful, considerate, and knowledgeable with regard to the quality of effort put forth in course activities.
- The college was not a stimulating and exciting place to be with regard to the quality of effort students put forth in course activities.
- Students were not friendly and supportive of each other with regard to the quality of effort put forth by students with library activities.

- Students were not friendly and supportive of each other with regard to the quality of effort put forth by students with faculty interactions.
- Counselors, advisors, and support staff were not helpful, considerate, and knowledgeable with regard to the quality of effort put forth by students with faculty interactions.
- The college was not a stimulating and exciting place to be with regard to the quality of effort put forth by students with faculty interactions.
- Students were not friendly and supportive of each other with regard to the quality of effort put forth by students with student acquaintances.
- Instructors were not approachable, helpful, and supportive with regard to the quality of effort students put forth with student acquaintances.
- Counselors, advisors, and support staff were not helpful, considerate, and knowledgeable with regard to the quality of effort put forth by students with student acquaintances.
- Students were not friendly and supportive of each other with regard to the quality of effort put forth by students with art, music, and theater activities.
- Students were not friendly and supportive of each other with regard to the quality of effort put forth by students with science activities.
- Counselors, advisors, and support staff were not helpful, considerate, and knowledgeable with regard to the quality of effort students put forth with career/occupational skills.

- Students were not friendly and supportive of each other with regard to the quality of effort students put forth with computer technology, clubs/organizations, counseling and career planning.
- Instructors were not approachable, helpful, and supportive with regard to the quality of effort students put forth with computer technology, clubs/organizations, counseling and career planning.
- Counselors, advisors, and support staff were not helpful, considerate, and knowledgeable with regard to the quality of effort students put forth computer technology, clubs/organizations, counseling and career planning.
- Courses were not challenging, stimulating, and worthwhile with regard to the quality of effort students put forth with computer technology, clubs/organizations, counseling and career planning.
- The college was not a stimulating and exciting place to be with regard to the quality of effort students put forth with computer technology, clubs/organizations, counseling and career planning.

Research data supported the institutional findings associated with the college environment at College A at the $p < .01$ level of analyses.

- Findings indicated that students were not friendly and supportive of each other with regard to the quality of their efforts related to their course activities, library activities, faculty interactions, student acquaintances, art/music/theater activities, science activities and computer technology, clubs/organizations, counseling and career planning.

- The quality of the African-American student research participants' efforts in course activities related to (a) students not being friendly and supportive of each other; (b) instructors not being approachable, helpful, and supportive; and (c) counselors, advisors, and support staff not being helpful, considerate, and knowledgeable.
- The quality of African-American student research participants' efforts to make student acquaintances is related to (a) students not being friendly and supportive of each other; (b) instructors not being approachable, helpful, and supportive; and (c) counselors, advisors, and support staff not being helpful, considerate, and knowledgeable.
- The quality of African-American student research participants' efforts in computer technology, clubs/organizations, counseling and career planning related to (a) students not being friendly and supportive of each other; (b) instructors not being approachable, helpful, and supportive; (c) counselors, advisors, and support staff not being helpful, considerate, and knowledgeable; (d) courses not being challenging, stimulating, and worthwhile; and (e) the college not being a stimulating and exciting place to be.

College B's college environment had significant Spearman Rho correlations on African-American students' quality of effort at the $p < .01$ level in common estimate of gain scaled categories. All significant college environments on quality of effort findings follow and are negative correlations.

- Students were not friendly and supportive of each other with regard to the quality of effort students put forth with library activities.

- Students were not friendly and supportive of each other with regard to the quality of effort students put forth with faculty interactions.
- Students were not friendly and supportive of each other with regard to the quality of effort students put forth with writing activities.
- The college was not a stimulating and exciting place to be with regard to the quality of effort students put forth with writing activities.
- There were not sufficient places to meet and study with other students with regard to the quality of effort students put forth with writing activities.

Research data supported the institutional findings associated with the college environment at College B at the $p < .01$ level of analyses. Findings indicated that students are not friendly and supportive of one another with regards to their quality of efforts when engaging in library activities, faculty interactions, and writing activities. College B African-American research participants indicated that the college was not a stimulating and exciting place to be and that there were not sufficient places to meet and study with other students when engaging in writing activities.

Data analyses indicated that there was an institutional effect brought about by the two college campus environments for the estimate of gain on the quality of effort for African-Americans students attending rural community college at the $p < .05$ and at the $p < .01$ level of analyses. College A data trends were more distinct at the $p < .01$ level analyses. The College A estimate of gain, students are not friendly and supportive of each other; instructors are not approachable, helpful, and supportive; counselors, advisors, and supportive personnel are not helpful, considerate and knowledgeable; and the college is not a stimulating and exciting place to be were found to be negatively impacted by eight of the nine quality of effort scale measures.

College B $p < .01$ level quality of gains, students are not friendly and supportive of each other; the college is not a stimulating and exciting place to be; and there are not sufficient places to meet and study with other students negatively impacted only three of the nine quality of effort scale measures.

College A data trends were less distinct at the $p < .05$ level analyses level than College B data trends. College A $p < .01$ level estimate of gain, the student would choose to attend the same college again; students are not friendly and supportive of each other; instructors are not approachable, helpful, and supportive; counselors, advisors, and support staff are not helpful, considerate, and knowledgeable; the college is not a stimulating and exciting place to be; and there are not places on campus to use computer technology impacted six of the nine quality of effort scaled measures. College B $p < .01$ level estimate of gains scale measures, students are not friendly and supportive of each other; instructors are not approachable, helpful, and supportive; counselors, advisors, and support staff are not helpful, considerate, and knowledgeable; the college is not a stimulating and exciting place to be; and there are not sufficient places to meet and study with other students negatively impacted all of the nine quality of effort scaled measures of the quality of effort variable. College A possessed more and stronger negative significant correlations for the institutional effect for college environment on student quality of effort than College B at the $p < .01$ level of analyses. College B had more significant correlations for the institutional effect of estimate of gain on student quality of effort than College A at the $p < .05$ level of analyses, though more closely correlated (more inverse they were related) and not as numerous as the $p < .01$ level relationships.

The researcher feels that the ethnicity of College A and College B campuses failed to impact the institutional effect of the findings for African-American students enrolled in rural

community college environments in Alabama. Chang et al.'s (2004) research with cross-racial student-peer involvements demonstrated that students' of color intellectual, social, and civic development remained unaffected by the opportunities brought about by the frequency of cross-racial, student-peer interactions made available by diverse campus environments.

Other Related Findings

Trends in the research data provided vital information for consideration when answering the primary research questions investigated by the study. The data collected provided additional insights into other related topics mentioned in the review of the literature. Data collected with the CCSSEQ research instrument extended the research knowledge and findings of the study in a number of ways. Data collected were appropriate for the study because of the fact that the CCSSEQ allowed student research participants' responses to be coded, analyzed, and discussed in formats that interpreted them in terms advocated by Astin's (1999) theory of student involvement postulates.

- Participant responses demonstrated students' varying investments of physical and psychological energy into in-class and out-of-class activities while on campus on rural community college campuses in the state of Alabama.
- Data collected followed a continuum in nearly all questions asked in such a way that measures of each student research participant got to register his/her level of involvement in different objects of interest from one time to another.
- Data collected possessed both quantitative and qualitative measures. Students' measures of involvement, quantitatively, were ultimately correlated with some qualitative student outcome measure(s).

- The quality and quantity of student learning and maturation of personal development related with the quality of student involvement in their particular program-of-study.
- Although the associations of student involvements associated with student research participants' academic achievement measures, abilities/desires to continue in an educational program (retention), and departures from the college, neither of the participating institutions in the study possessed an established educational policy that directly described procedures adopted by the institution for encouraging and increasing student involvements on campus.
- None of the participating educational institutions identified specific educational theories on which to base their efforts in order to engage and involve students on campus.
- Positive correlations between estimate of gain variables and quality of effort variables inside the classroom and outside the classroom supported researchers' findings that a more engaged and involved student had a greater potential to be retained and to be a program completer (Astin, 1999; Tinto, 1999). Research data at the $p < .05$ level analyses identified significant relationships between estimate of gain and quality of effort for research participants and indicated positive correlations between library activities and career preparations, writing activities and student personal and social development, faculty interactions, and every aspect of estimate of gain. An increased number of positive relationships were at the $p < .01$ level analyses. Findings of the data poised African-American students in rural community college campus environments to become more successful when transferring to 4-year colleges and universities.

- Student acquaintances of the quality of effort scales positively correlated with every category of the estimate of gain variable except with the computer usage category at the $p < .01$ level analyses (Pascarella & Terenzini, 1991, Ullah & Wilson, 2007), yet negative trends in the data appeared when college environment correlated with the quality of student effort, students are not friendly and supportive of one another across all but one aspect (career/occupational skills) of the quality of student effort variable.
- Research participants' demographics were not all typical of those noted in the literature (Table 16). Research participants did not work on campus, or rarely participated in work-study; only 11.80% participated in the Federal PELL Grant Program, the majority (54.80%) plan to transfer to a 4-year college or university; are not enrolled in an occupational program; and generally have no family responsibilities or responsibilities do not interfere with their school work. The Alabama Commission on Higher Education (n.d.) described the average profile of a community college student as an Alabama resident, 26.47 years old, 59.99% female/40.01% male, 33.00% minority, 55.00% full time, and 63.90% qualified for financial aid.
- First generation student research participants (56.06%) in this study demonstrated similar characteristics as other typical students who are not first generation students (Table 16). First generation student research participants tended to be full-time students enrolled in 12 to 15 credit hours, had completed 16 to 30 credit hours, attended class primarily in the day and evening, earned grades of A-, B+, studied 1 to 5 hours a week, spent 1 to 3 nonclass time hours a week on campus, took most of

their courses in-person (fact-to-face) only, and were working to complete an academic nonvocational Associate in Science Degree in order to transfer to a 4-year college or university. Most first generation student research participants (71.2 %) would go to the same college again if they could start over again.

- CCSEQ Level of Satisfaction scales for student research participants demonstrated that research participants on average were generally satisfied with the education and services received from the rural community colleges they attended in the state of Alabama. Student research participants at College B were slightly more satisfied with their institution than those at College A. Levels of satisfaction at College A changed greater in both positive and negative directions than at College B as indicated with standard deviation scores at each institution referenced.
- The Satisfaction scale values ranged from 4.00 to 16.00. The mean score for the sample population ($N = 127$) was 11.80 with a standard deviation of 2.85. The mean score for College A ($n = 66$) was 11.58 with a standard deviation of 3.11. The mean score for College B ($n = 61$) was 12.03 with a standard deviation of 2.54. The mean student satisfaction scores for each group were relatively close, about the 72% to 75% range of the satisfaction scale. Standard deviations made the differences in the lower and upper ranges of each group's measures. Levels of satisfaction scale standard deviations were greater for College A research participants than for College B. Participants' levels of satisfaction opinions varied greater from individual to individual at College A than at College B. This finding resulted in the sample population's satisfaction scale standard deviations located between the standard deviation scores of College A and College B (Table 18).

- Cross tabulations of the satisfaction scale per institution indicated that College B student research participants failed to rate their institution negatively in the scale's lowest three levels 4.00, 5.00, and 6.00 (Table 19). College A had six research participants that rated the institution on the lowest three levels of the satisfaction scale. Research participants rated College A and College B the same on four levels of the satisfaction scale, 7, 8, 11, and 16. College B rated higher than College A on four satisfaction levels of the satisfaction scale levels 9, 10, 13, and 14. College A rated higher than College B on two satisfaction levels of the satisfaction scale, 12, and 15.

Summary

The findings of the current research indicate that the rural African-American community college students participating in the study basically benefited from their educational interactions with the institutions studied (Table 4). The fact that a diverse group of student participants enrolled and participated in the courses and services offered by the two colleges helped to validate the results, positive and negative significant differences in the quality of educational and personal lives reported by research participants. The current levels of educational research experiences provided by the two community colleges made some positive influences on student success with regard to academics, yet also negative significant findings for variables that result in higher order behaviors, writing activities, art, music, theater, library activities, science activities, and development of student acquaintances. The demonstrated estimate of students' educational and personal developmental gains are significantly related to the quality of effort that the students put forth.

The quality of the colleges' environments is important when considering the quality of students' efforts. The personal experiences acquired by student participation in college art,

music, and theater activities significantly influenced their desire to want to attend the college again. When the community colleges failed to create environments that do not (a) foster a friendly and supportive population of students with which to interact; (b) employ instructors that are approachable, helpful, and supportive of student needs; (c) provide counselors, advisors, and support staff that are helpful, considerate, and knowledgeable; (d) offer courses that are challenging, stimulating, and worthwhile; (e) create college environments that are stimulating and exciting places for students to be; (f) provide sufficient places for students to meet and study with other students; and (g) provide places on campus for students to use computer technology, there were significantly negative relationships that resulted between aspects of the college environment and the quality of student research participants' educational efforts (Table 6 and Table 7). Aspects of the quality of the community colleges' campus environments studied related negatively with the quality of efforts put forth by the rural African-American community college research participants. The responses provided by research participants at College A indicate that educators at College A have more work to do for improving the quality of the college environment than at College B.

The college environment of College A was found to be different from that of College B. More negative correlations were found to be present in the college environment of College A than at College B (Table 14 and Table 15). Research data indicate that students were found not to be friendly and supportive of each other at both institutions yet to a greater degree at College A than at College B. The findings brought about by the differences between the college environments of College A and College B were further confirmed by the use of student satisfaction scales calculations. African-American student research participants possessed a much lower level of satisfaction with College A's college environment than African-American

student research participants attending College B (Table 29). The age of the research participants had no significant impact on the responses provided by research participants. The findings of this research project provide support for Astin's (1999) theory of student involvement and Tinto's (1993) theory of student departure for African-American students enrolled at two rural community colleges in the state of Alabama.

Implications for the Future

Rural community colleges in the state of Alabama are currently doing a good job of providing a college education for a segment of the American population that would normally not be served or trained beyond high school level instruction. Since the state of Alabama has aggressively pursued and continues to seek out a global agenda of business and industry, the demand for highly-skilled, competent workers will increase as new businesses move to the state. Community colleges have been targeted to provide worker training and educational programs via the state's training for business and industry programs. Therefore, community colleges must improve upon their professional efforts to train, retrain, and advance the education of workers for new jobs and evolving career opportunities being created by a struggling local, national, and volatile global economy.

The future of student services (practitioners' efforts to effectively enhance student educational and developmental outcomes) at the community college and senior college/university levels relies heavily on educational leaders' willingness to embrace and associate traditional pedagogical theories into the application of current educational methods in order to bring about credible educational methods for serving a rapidly evolving and increasingly demanding global job market. Educational program integrity, credibility, desired educational outcomes, cost effectiveness, and applicability of program completers' acquired skills were simultaneous

assessments employed by patrons of college and university programs today. Student services professionals have little time to reinvent valuable educational truths related by traditional pedagogical theories. They are held accountable to validate (justify) that the educational truths actually support the educational administrative decisions they make to lead professional efforts into the future. The quality of student efforts correlated with academic performance and with levels of student involvement, two areas of concern used by accreditation agents to evaluate educational practitioners' efforts at community colleges and senior universities in order to determine if effective educational methods used by institutions are providing high quality educational services to students.

Recommendations for Future Research

Aspects of the study recommended for future research investigations are several. Investigate more completely the

- Spacing effect theory and student academic success as related to scheduling classes and the amount of time that students spend on campus (Gallo & Odu, 2009);
- Concept of positionality and the significance influences that community college instructors' ethnicity, diversity, and cultural perspectives have upon student success (Brown et al., 2000); and
- Influences of gender and peer relationships upon college students' academic achievements (Ullah & Wilson, 2007).

Recommendations

Researcher recommendations were made in a number of categories regarding community college educators in the state of Alabama efforts to engage African-American students enrolled in rural community college environments.

- Colleges A and B should prioritize the implementation of policies, procedures, and personnel in-service training programs and agendas that improve on instructional methods and student support services of the college environment to better serve minority student populations in positive ways.
- Colleges A and B should plan and implement an assertive agenda of student development programs and activities to encourage students to be more friendly and supportive of one another and their educational efforts.
- Colleges A and B should plan, develop, and implement an agenda of in-service programs and instructional practices to better equip students to become friendlier and more supportive of one another inside and outside classroom environments—College A more than College B.
- Rural community college educators must begin to ground the institution's policies and procedures as well as their professional work efforts in critical social theory in such a way that it validates their work efforts.
- Community college personnel and instructional and support staff members must began to work collaboratively in effective ways to facilitate not only the academic needs but also the personal development, social, and psychological welfare of students.
- Community college educators must modify traditional modes of instruction to incorporate creative nontraditional educational services for an ever increasing nontraditional student population.

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APPENDIXES

Appendix A

Alabama Community College System Chancellor's Permission Letter

Dr. Freida H. Hill
Chancellor

Department of Postsecondary Education
Post Office Box 302130
Montgomery, AL 36130-2130
t 334.293.4500
f 334.293.4505
www.accs.cc

January 26, 2011

Mr. Maurice Moore
P. O. Box 334
Atmore, Alabama 36504-0334

Dear Mr. Moore:

I am in receipt of your letter regarding the data collection phase of your dissertation entitled *A Study of the Relationship between Student Involvement, Academic Performance, Rates of Retention, and Rates of Departure for African American Students Enrolled at Three Alabama Community Colleges*. Your request to conduct quantitative research at Alabama Southern Community College, Jefferson Davis Community College, and Wallace State Community College-Hanceville, is approved. Please contact the presidents below to schedule your campus visit.

Mrs. Kathleen Hall, Interim President, Jefferson Davis Community College
251-809-1530

Dr. Vicki Hawsey, President, Wallace State Community College-Hanceville
256-352-8130

Dr. Reginald Sykes, President, Alabama Southern Community College
251-575-3156

I believe this is a worthwhile endeavor and look forward to reviewing your findings when you are finished. Thank you.

Sincerely,

Susan Y. Price, Vice Chancellor
Instructional and Student Services

tj

cc: Dr. Freida Hill
Dr. Glenn Deibert
Mrs. Kathleen Hall
Dr. Vicki Hawsey
Dr. Reginald Sykes

Appendix B

College A President's Permission Letter

JEFFERSON DAVIS
COMMUNITY COLLEGE

March 3, 2011

Mr. Maurice Moore
Post Office Box 334
Atmore, AL 36504

Dear Maurice

I hereby grant permission for you to collect data for your doctoral dissertation research at Jefferson Davis Community College during the Spring Semester 2011.

Your research regarding student involvement, academic performance, rates of retention, and rates of departure for African American students enrolled in rural community colleges is very interesting. I wish you well in your data collection.

Sincerely

Kathleen V. Hall

Kathleen V. Hall
Interim President

Appendix C

College B President's Permission Letter

ALABAMA SOUTHERN

Community College

March 24, 2011

Mr. Maurice Moore
Post Office Box 334
Atmore, Alabama 36504-0334

Dear Mr. Moore:

Alabama Southern Community College is pleased to assist you as you collect data for your doctoral dissertation research during the Spring Semester 2011.

I'm sure your research regarding student involvement, academic performance, retention, and rates of departure for African American students enrolled in rural community colleges will contribute valuable information to each component of this multi-faceted problem facing our society. I look forward to reading your results.

Sincerely,

Reginald Sykes
President

Thomasville Campus • P.O. Box 2000 • Thomasville, Alabama 36784 • (334) 636-9642 • FAX: (334) 637-3201

Appendix D

College C President's Permission Letter

WALLACE STATE
HANCEVILLE
Office of the President

March 23, 2011

Mr. Maurice Moore
P.O. Box 334
Atmore, AL 36504

Dear Mr. Moore:

I have received your request to collect data at Wallace State Community College – Hanceville as part of the completion requirements for your doctoral degree.

Dr. Tomesa Smith, Vice President for Students, will serve as your liaison. Contact information for Dr. Smith is listed below.

Dr. Tomesa Smith
256.352.8233
tomesa.smith@wallacestate.edu

Should you need any additional information, please feel free to contact me.

Sincerely,

Vicki P. Hawsey

Vicki P. Hawsey
President

hwm

cc: Dr. Tomesa Smith

801 Main Street NW • PO Box 2000 • Hanceville, AL 35077-2000
256.352.8130 • Fax 256.352.8276

Appendix E

The University of West Florida Institutional Review Board Approval Letter

University of West Florida

Research and Sponsored Programs
11000 University Parkway, Bldg. 11
Pensacola, FL 32514-5750

Mr. Maurice Moore
P.O. Box 334
Atmore, AL 36504-0334

November 09, 2010

Dear Mr. Moore:

The Institutional Review Board (IRB) for Human Research Participants Protection has completed its review of your proposal titled "A Study of the Relationship Between Student Involvement, Academic Performance, Rates of Retention, and Rates of Departure for African American Students Enrolled at Three Alabama Community Colleges," as it relates to the protection of human participants used in research, and granted approval for you to proceed with your study on 11-09-2010. As a research investigator, please be aware of the following:

* You will immediately report to the IRB any injuries or other unanticipated problems involving risks to human participants.
* You acknowledge and accept your responsibility for protecting the rights and welfare of human research participants and for complying with all parts of 45 CFR Part 46, the UWF IRB Policy and Procedures, and the decisions of the IRB. You may view these documents on the Research and Sponsored Programs web page at http://www.research.uwf.edu/internal. You acknowledge completion of the IRB ethical training requirements for researchers as attested in the IRB application.
* You will ensure that legally effective informed consent is obtained and documented. If written consent is required, the consent form must be signed by the participant or the participant's legally authorized representative. A copy is to be given to the person signing the form and a copy kept for your file.
* You will promptly report any proposed changes in previously approved human participant research activities to Research and Sponsored Programs. The proposed changes will not be initiated without IRB review and approval, except where necessary to eliminate apparent immediate hazards to the participants.
* **You are responsible for reporting progress of approved research to Research and Sponsored Programs at the end of the project period 11-09-2011. If the data phase of your project continues beyond the approved end date, you must receive an extension approval from the IRB.**

Good luck in your research endeavors. If you have any questions or need assistance, please contact Research and Sponsored Programs at 850-857-6378 or irb@uwf.edu.

Sincerely,

Dr. Richard S. Podemski, Associate
Vice President for Research
And Dean of the Graduate School

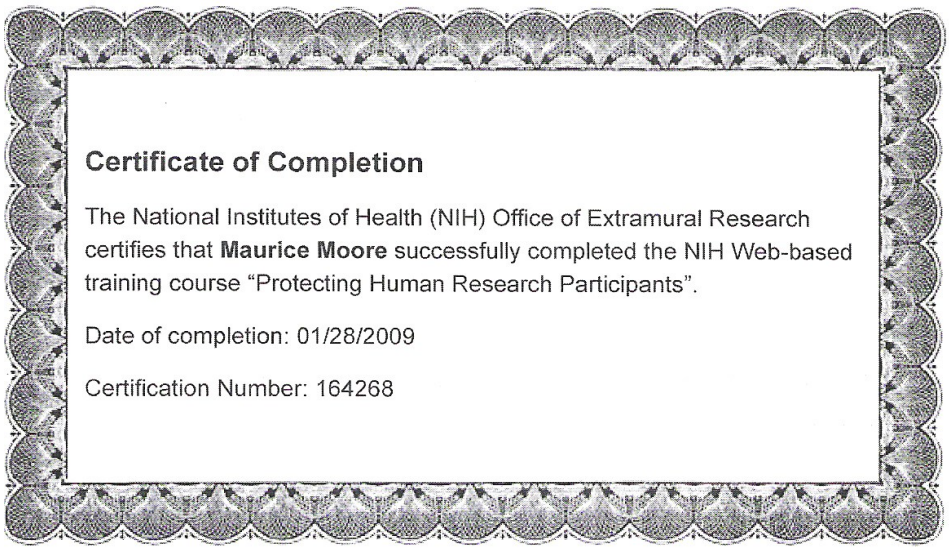
Dr. Carla Thompson, Chair
IRB for the Protection of Human
Research Participants

CC: Joyce Nichols

850.474.2824 fax 850.474.2802
research.uwf.edu

Appendix F

The National Institutes of Health Office of Extramural Research Certificate of Completion



Certificate of Completion

The National Institutes of Health (NIH) Office of Extramural Research certifies that **Maurice Moore** successfully completed the NIH Web-based training course "Protecting Human Research Participants".

Date of completion: 01/28/2009

Certification Number: 164268

Appendix G

Informed Consent Form

(Reproduced as used)

Informed Consent Form

A Study of the Relationship between Student Involvement, Academic Performance, Rates of Retention, and Rates of Departure for African American Students Enrolled at Three Rural Alabama Community Colleges

I. Federal and university regulations require us to obtain signed consent for participation in research involving human participants. After reading the statements in section II through IV below, please indicate your consent by signing and dating this form.

II. **Statement of Procedure:** Thank you for your assistance in helping me to complete this research project to complete the dissertation for the Educational Doctorate in Administrative Studies at The University of West Florida. Hopefully, the introductory letter enclosed with this consent form explains the dissertation project. You will find a summary of the major aspects of the study being described below, including the risks and benefits of participating. This stage of the dissertation research project involves collecting survey data from a minimum of 80 African American students enrolled in class(es) at three rural Alabama Community Colleges. Participants may be asked to participate in a follow-up reliability procedure within 10 days of this initial survey administration. Every effort will be made to survey students during available times on their class days.

Carefully read the information provided below. If you wish to participate in this study, sign your name and write the date. Any information you provide to us will be kept in strict confidence. If you have any questions or concerns regarding this project, please contact Dr. Janet Pilcher, The University of West Florida at (850) 474-2148, or (janet.pilcher@studergroup.com)

I understand that:

(1) Participation in the survey is strictly voluntary, and that all responses will be held confidential. Further, that only member of the research team will have access to responses.
(2) I may discontinue participation in this study at any time without penalty or repercussions.

III. Potential Risks of the Study: There are no foreseeable risks involved with the study.

IV. Potential Benefits of the Study:
(1) Data obtained from the study may prove helpful in beginning to understand how African American students' participation in college sponsored activities help to enhance the quality of grades earned, encourage educational progress in college, and support success rates for accomplishing their educational goals in rural community college environments.

(2) Hopefully, findings of the study will stimulate and encourage Alabama's community College student affairs practitioners to ground college-sponsored student development activities in critical theory to more effectively serve rural, minority, student populations.

V. I certify that I have read and fully understand the Statement of Procedure given above and agree to participate as a subject in the research project described therein. Permission is given voluntarily and without coercion or undue influence. It is understood that I may discontinue participation at any time without penalty or loss of any benefits to which I may otherwise be entitled. I will be provided a copy of this consent form.

_____
Participant's Name (Please Print)

_____ _____
Participant's Signature Date

An honorarium in the amount of $5.00 will be provided to each participant upon the completion of the research questionnaire.

Maurice Moore, Graduate Student, The University of West Florida (251-363-0981)

Appendix H

Table H1: Percentages of Ethnic Populations Attending Rural 2-Year Public Community Colleges During Fall Semesters 2002-2007

Table H1

Percentages of Ethnic Populations Attending Rural 2-Year Public Community Colleges During Fall Semesters 2002-2007

	Ethnic population					
Year	White	Black	Hispanic	Native American	Asian	Other
2007-2008	74.5	21.0	1.5	1.1	0.7	1.1
2006-2007	75.1	21.0	1.2	1.0	0.7	0.9
2005-2006	74.3	29.3	1.2	1.1	0.6	1.0
2004-2005	74.3	21.5	1.1	1.2	0.7	1.3
2003-2004	77.0	19.0	1.1	1.0	0.6	1.2
2002-2003	69.2	28.2	0.6	0.9	0.5	0.6
Average	74.1	23.3	1.1	1.1	0.6	1.0

Note. Data compiled from *Institutional Student Profiles,* Alabama Commission on Higher Education, n.d. Retrieved from http://www.ache.alabama.gov/profiles

Appendix I

Community College Student Experiences Questionnaire (CCSEQ)

Print 0% Complete

Community College Student Experiences Questionnaire

Survey Name:

Organization:

State:

Today's Date: Apr 06, 2011

The main purpose of asking you to complete this questionnaire is to learn more about how community college students spend their time. The information obtained from you and from other community college students from all over the country will help administrators and faculty members provide programs which will benefit student learning and development within the college experience.

At first glance, you may think it will take a long time to fill out this questionnaire, but you can actually complete it in 20 to 30 minutes. You will find when you have finished it, that your answers provide a kind of self-portrait of what you have been giving and getting in your college experience.

The ultimate benefit from this or any other survey depends on the thoughtful responses and willing participation of those who are asked to help. Your willingness to participate is important and very much appreciated.

We do not ask you to enter your name on the questionnaire. On the last page there is space for a student identification number if it is requested by your college.

DIRECTIONS: Indicate your responses by filling in the appropriate space under each question.

BACKGROUND, WORK, FAMILY

1. Age
   - ○ 18-19 or younger
   - ○ 20-22
   - ○ 23-27
   - ○ 28-39
   - ○ 40-55
   - ○ Over 55
2. Gender
   - ○ Male
   - ○ Female
3. What is your racial or ethnic identification?
   - ○ American Indian or Alaska Native
   - ○ Asian
   - ○ Black or African American
   - Hispanic or Latino

- White
- Other/Multiracial

4. Is English your native language?
   - Yes
   - No
5. During the time college is in session, about how many hours a week do you usually spend working on a job for pay?
   - None, I don't have a job
   - 1-10 hours
   - 11-20 hours
   - 21-30 hours
   - 31-40 hours
   - More than 40 hours
6. If you have a job, how does it affect your college work?
   - I don't have a job
   - My job does not interfere with my college work
   - My job takes some time from my college work
   - My job takes a lot of time from my college work
7. If you have family responsibilities, how does this affect your college work?
   - I don't have family responsibilities
   - Those responsibilities do not interfere with my college work
   - Those responsibilities take some time from my college work
   - Those responsibilities take a lot of time from my college work
8. Are you in a work-study program?
   - Yes
   - No
9. Do you consider yourself a first generation college student (neither parent attended college)?
   - Yes
   - No

Comment

1. You chose "Other/Multiracial" as your ethnic identification. Please describe here.

COLLEGE PROGRAM

1. How many credits are you taking THIS term?
   - Less than 6
   - 6 to 8
   - 9 to 11
   - 12 to 15
   - More than 15
2. Including the credits you are now taking, what is the total number of course credits you have taken at this college?
   - 1-15 credits
   - 16-30 credits
   - 31-45 credits

- ○
- ○ 46 or more credits

3. When do the classes you are now taking meet?
   - ○ Day only
   - ○ Evening only
   - ○ Some day and some evening
4. Up to now, what have most of your grades been at this college?
   - ○ A
   - ○ A-, B+
   - ○ B
   - ○ B-, C+
   - ○ C, C-
   - ○ lower than C-
   - ○ No grades, this is my first term
5. About how many hours a week do you usually spend studying or preparing for your classes?
   - ○ 1 to 5 hours
   - ○ 6 to 10 hours
   - ○ 11 to 15 hours
   - ○ 16 to 20 hours
   - ○ more than 20 hours
6. About how many hours a week do you usually spend on the college campus, not counting time attending classes?
   - ○ none
   - ○ 1 to 3 hours
   - ○ 4 to 6 hours
   - ○ 7 to 9 hours
   - ○ 10 to 12 hours
   - ○ more than 12 hours
7. What is the most important reason you are attending THIS COLLEGE at this time? (Mark ONLY ONE answer.)
   - ○ To prepare for transfer to four-year college or university.
   - ○ To gain skills necessary to enter a new job or occupation.
   - ○ To gain skills necessary to retrain, remain current, or advance in a current job or occupation.
   - ○ To satisfy a personal interest(cultural, social).
   - ○ To improve my English, reading, or math skills.
8. Including this term, I have taken classes in the following format(s):
   - ○ In-person (face-to-face) only
   - ○ Online only
   - ○ Hybrid (some face-to-face and some online elements) only
   - ○ In-person and online
   - ○ In-person and hybrid
   - ○ Online and hybrid
   - ○ In-person, online, and hybrid

COLLEGE COURSES

DIRECTIONS: Indicate whether you have taken (or are now taking) any courses in the	**More**	**One**	**None**

following areas:	than 1		
1. College Math (not remedial math)	○	○	○
2. Computer/Technology Literacy	○	○	○
3. English Class or Classes (to prepare you to take a college level English composition course)	○	○	○
4. English Composition (not remedial English)	○	○	○
5. Fine Arts (such as music, theater, dance)	○	○	○
6. Foreign Languages	○	○	○
7. Humanities (such as history, literature, philosophy, etc.)	○	○	○
8. Math Class or Classes (to prepare you to take a college level math course)	○	○	○
9. Physical or Health Education	○	○	○
10. Sciences (such as astronomy, biology, physics, chemistry, geology, etc.)	○	○	○
11. Social Sciences (such as psychology, political science, sociology, economics, ethnic studies, etc.)	○	○	○
12. Speech, Communications	○	○	○

DIRECTIONS: Answer each of the following questions:	Yes	No
1. Are you working for an AA degree?	○	○
2. Are you working for an AS degree?	○	○
3. Are you working for a diploma?	○	○
4. Are you working for a certificate?	○	○
5. Do you plan to transfer to a four year college or university?	○	○
6. Are you currently enrolled in an occupational/vocational program?	○	○

DIRECTIONS: Answer the following question:

1. If you are enrolled in a vocational program, which of the following categories best describes your occupational/technical program? (MARK ONE)
   - ○ I am not enrolled in an occupational/technical program.
   - ○ Agriculture (such as agricultural business, management, mechanics, or production; animal science; horticulture; landscaping; conservation; etc.)
   - ○ Business (such as accounting; bookkeeping; data processing; office supervision; personnel and training; secretarial programs; etc.)
   - ○ Management and Distribution (such as real estate; fashion merchandising; small business management; financial services marketing; food marketing; marketing management; institutional management; etc.)
   - ○ Health (such as dental services; diagnostic and treatment services; medical laboratory technologies; mental health & human services; nursing services; rehabilitation services; etc.)
   - ○ Home Economics (such as interior design; clothing and textiles; food and nutrition; food production; child care; etc.)
   - ○ Technical and Communications (such as computer programming; educational media technology; radio and television technology; architectural technology; civil technology; electrical and electronic technology; environmental control technology; industrial technology; engineering technology and robotics; etc.)
   - ○ Trade and Industrial (such as cosmetology; law enforcement; construction trades; heating

and air conditioning; industrial equipment maintenance; aircraft mechanics; auto body repair; automotive mechanics; architectural, civil, or mechanical drafting; commercial art; commercial photography; truck and bus driving; tool and dye making; welding; etc.)

○ Other occupational/technical programs not listed above.

LEARNING AND STUDY SKILLS

How much OUT-OF-CLASS instruction have you received at the college in each of the following learning and study skills areas?	A lot	Some	None
1. Memory skills	○	○	○
2. Note taking skills	○	○	○
3. Listening skills	○	○	○
4. Speaking skills	○	○	○
5. Writing skills	○	○	○
6. Reading skills	○	○	○
7. Test taking skills	○	○	○
8. Time management skills	○	○	○
9. Problem solving skills	○	○	○

DIRECTIONS: In your experience at this college DURING THE CURRENT SCHOOL YEAR, about how often have you done each of the following? Indicate your responses by filling in one of the circles to the right of each activity.

COURSE ACTIVITIES	Very Often	Often	Occasionally	Never
1. Participated in class discussions.	○	○	○	○
2. Worked on a paper or project which combined ideas from different sources of information.	○	○	○	○
3. Summarized major points and information from readings or notes.	○	○	○	○
4. Tried to explain the material to another student.	○	○	○	○
5. Did additional readings on topics that were introduced and discussed in class.	○	○	○	○
6. Asked questions about points made in class discussions or readings.	○	○	○	○
7. Studied course materials with other students.	○	○	○	○
8. Applied principles and concepts learned in class to understand other problems or situations.	○	○	○	○
9. Compared and contrasted different points of view presented in a course.	○	○	○	○
10. Considered the accuracy and credibility of information from different sources.	○	○	○	○

LIBRARY ACTIVITIES	Very Often	Often	Occasionally	Never
1. Used the library as a quiet place to read or study material you brought with you.	○	○	○	○
2. Read newspapers, magazines, or journals				

located in the library or on-line.				
3. Checked out books and other materials to read at home.				
4. Used the computer to find materials the library had on a topic.				
5. Prepared a bibliography or set of references for a term paper or report.				
6. Asked the librarian for help in finding materials on some topic.				
7. Found some interesting material to read just by browsing in the stacks.				

FACULTY	Very Often	Often	Occasionally	Never
1. Asked an instructor for information about grades, make-up work, assignments, etc.				
2. Talked briefly with an instructor after class about course content.				
3. Made an appointment to meet with an instructor in his/her office.				
4. Discussed ideas for a term paper or other class project with an instructor.				
5. Discussed your career and/or educational plans, interests, and ambitions with an instructor.				
6. Discussed comments an instructor made on a test or paper you wrote.				
7. Talked informally with an instructor about current events, campus activities, or other common interests.				
8. Discussed your school performance, difficulties or personal problems with an instructor.				
9. Used e-mail to communicate with your instructor.				

STUDENT ACQUAINTANCES	Very Often	Often	Occasionally	Never
1. Had serious discussions with students who were much older or much younger than you.				
2. Had serious discussions with students whose ethnic or cultural background was different from yours.				
3. Had serious discussions with students whose philosophy of life or personal values were very different from yours.				
4. Had serious discussions with students whose political opinions were very different from yours.				
5. Had serious discussions with students whose religious beliefs were very different from yours.				
6. Had serious discussions with students from a country different from yours.				

COLLEGE ACTIVITIES

DIRECTIONS: In your experience at this college DURING THE CURRENT SCHOOL YEAR, about how often have you done each of the following? Indicate your responses by filling in one of the circles to the right of each activity.

ART, MUSIC, THEATRE ACTIVITIES	Very Often	Often	Occasionally	Never
1. Talked about art (painting, sculpture, architecture, artists, etc.) with other students at the college.	○	○	○	○
2. Talked about music (classical, popular, musicians, etc.) with other students at the college.	○	○	○	○
3. Talked about theatre (plays, musicals, dance, etc.) with other students at the college.	○	○	○	○
4. Attended an art exhibit on the campus.	○	○	○	○
5. Attended a concert or other musical event at the college.	○	○	○	○
6. Attended a play, dance, concert, or other theatre performance at the college.	○	○	○	○
7. Participated in an art exhibit, musical event, or theatre performance at the college.	○	○	○	○
8. Attended an OFF-CAMPUS art exhibit, musical event, or theatre performance for course credit.	○	○	○	○
9. Participated in an OFF-CAMPUS art exhibit, musical event, or theatre performance for course credit.	○	○	○	○

WRITING ACTIVITIES	Very Often	Often	Occasionally	Never
1. Used a dictionary [or computer spell-check/thesaurus] to look up the proper meaning, definition, and/or spelling of words.	○	○	○	○
2. Prepared an outline to organize the sequence of ideas and points in a paper you were writing.	○	○	○	○
3. Thought about grammar, sentence structure, paragraphs and word choice as you were writing.	○	○	○	○
4. Wrote a rough draft of a paper or essay and revised it before handing it in.	○	○	○	○
5. Used a computer to write a paper.	○	○	○	○
6. Asked other people to read something you wrote to see if it was clear to them.	○	○	○	○
7. Spent at least 5 hours or more writing a paper.	○	○	○	○
8. Asked an instructor for advice and help to improve your writing or about a comment he/she made on a paper	○	○	○	○

you wrote.

SCIENCE ACTIVITIES	Very Often	Often	Occasionally	Never
1. Memorized formulas, definitions, technical terms.	○	○	○	○
2. Practiced to improve your skills in using laboratory equipment.	○	○	○	○
3. Showed a classmate how to use a piece of scientific equipment.	○	○	○	○
4. Attempted to explain an experimental procedure to a classmate.	○	○	○	○
5. Tested your understanding of some scientific principle by seeing if you could explain it to another student.	○	○	○	○
6. Completed an experiment/project using scientific methods.	○	○	○	○
7. Talked about social and ethical issues related to science and technology such as energy, pollution, chemicals, genetics, etc.	○	○	○	○
8. Used information you learned in a science class to understand some aspect of the world around you.	○	○	○	○
9. Tried to explain to someone the scientific basis for environmental concerns about pollution, recycling, alternative forms of energy, etc.	○	○	○	○
10. Did paid or volunteer work OFF-CAMPUS to help the environment after learning about environmental issues in class.	○	○	○	○
11. Applied information or skills you learned in a science class to work (either volunteer or paid) outside of class.	○	○	○	○

ATHLETIC ACTIVITIES	Very Often	Often	Occasionally	Never
1. Followed a regular exercise program on campus.	○	○	○	○
2. Sought athletic instruction.	○	○	○	○
3. Attended an athletic event on campus.	○	○	○	○
4. Coached or assisted with youth athletic programs on campus.	○	○	○	○
5. Coached or assisted with OFF-CAMPUS youth athletic programs for course credit.	○	○	○	○
6. Participated in a sport on campus.	○	○	○	○

COLLEGE ACTIVITIES

DIRECTIONS: In your experience at this college DURING THE CURRENT SCHOOL YEAR, about how often have you done each of the following? Indicate your responses by filling in one of the circles to the right of each activity.

CAREER/OCCUPATIONAL SKILLS

DIRECTIONS: If you are enrolled in a career/occupational program or a course in which you learn occupational skills, answer the following items.	Very Often	Often	Occasionally	Never
1. Read about how to perform a procedure (occupational task, vocational skill).	○	○	○	○
2. Listened to an instructor explain how to do a procedure.	○	○	○	○
3. Watched an instructor demonstrate how to do a procedure.	○	○	○	○
4. Practiced a procedure while being monitored by an instructor or other student.	○	○	○	○
5. Practiced a procedure without supervision.	○	○	○	○
6. Identified that there was a problem and located information from an instructor or other resource about what to do.	○	○	○	○
7. Diagnosed a problem and carried out the appropriate procedure without having to consult any resource.	○	○	○	○
8. Applied occupational skills learned in class to a job situation outside of class.	○	○	○	○
9. Participated in an internship, cooperative, practicum, etc. with a local business, facility, or organization for course credit.	○	○	○	○

COMPUTER TECHNOLOGY	Very Often	Often	Occasionally	Never
1. Used E-mail to communicate with an instructor or other students about a course.	○	○	○	○
2. Used the Internet (or other computer network) to get information for a class project or paper.	○	○	○	○
3. Used a computer tutorial to learn material for a course or remedial program.	○	○	○	○
4. Used computers in a group (cooperative) learning situation in class.	○	○	○	○
5. Used a computer for some type of database management.	○	○	○	○
6. Used a computer to analyze data for a class project.	○	○	○	○
7. Used a computer to create graphs or charts for a class paper or project.	○	○	○	○
8. Wrote an application using existing software or programming languages.	○	○	○	○
9. Used social media (e.g., Facebook) to communicate with other students.	○	○	○	○
10. Used computer technology (e.g., Facebook or Wikis) as part of a course.	○	○	○	○

CLUBS AND ORGANIZATIONS	Very Often	Often	Occasionally	Never
1. Looked for notices about campus events and student organizations.	○	○	○	○
2. Read or asked about a student club or				

organization.	○	○	○	○
3. Attended a meeting of a student club or organization.	○	○	○	○
4. Assumed a leadership role (held an office, headed a committee, etc.) in a student organization or club.	○	○	○	○
5. Participated in a campus project or event sponsored by a student organization or club.	○	○	○	○
6. Participated in a project or event OFF-CAMPUS which was sponsored by a student organization or club.	○	○	○	○
7. Participated in a project or event OFF-CAMPUS which was not sponsored by a student organization or club.	○	○	○	○

COUNSELING AND CAREER PLANNING	Very Often	Often	Occasionally	Never
1. Talked with a counselor/advisor about courses to take, requirements, educational plans.	○	○	○	○
2. Discussed your vocational interests, abilities and ambitions with a counselor/advisor.	○	○	○	○
3. Read information about a particular 4-year college or university that you were interested in attending.	○	○	○	○
4. Read materials about career opportunities.	○	○	○	○
5. Made an appointment with a counselor or an advisor to discuss your plans for transferring to a 4-year college or university.	○	○	○	○
6. Identified courses needed to meet the general education requirements of a 4-year college or university you are interested in attending.	○	○	○	○
7. Talked with a counselor/advisor about personal matters related to your college performance.	○	○	○	○
8. Have taken interest inventories or surveys (e.g., Strong-Campbell Interest Inventory, Kuder Occupational Interest Survey, etc.) to help you direct your career goals.	○	○	○	○

ESTIMATE OF GAINS

DIRECTIONS: In thinking over your experiences in this college up to now, to what extent do you think you have gained or made progress in each of the following areas? (Please mark one response for each item.)

I have gained or made progress in:	Very Much	Quite a bit	Some	Very Little
1. Acquiring knowledge and skills applicable to a specific job or type of work.	○	○	○	○
2. Gaining information about career opportunities.	○	○	○	○
3. Developing clearer career goals.	○	○	○	○
4. Becoming acquainted with different fields of knowledge.	○	○	○	○
5. Developing an understanding and	○	○	○	○

enjoyment of art , music, and theatre.				
6. Developing an understanding and enjoyment of literature (novels, stories, essays, poetry, etc.)	○	○	○	○
7. Writing clearly and effectively.	○	○	○	○
8. Presenting ideas and information effectively in speaking to others.	○	○	○	○
9. Acquiring skills needed to use computers to access information from the library or the Internet.	○	○	○	○
10. Acquiring skills needed to use computers to produce papers, reports, graphs, charts, tables, or data analysis.	○	○	○	○
11. Becoming aware of different philosophies, cultures, and ways of life.	○	○	○	○
12. Becoming clearer about my own values and ethical standards.	○	○	○	○
13. Understanding myself-my abilities and interests.	○	○	○	○
14. Understanding mathematical concepts such as probabilities, proportions, etc.	○	○	○	○
15. Understanding the role of science and technology in society.	○	○	○	○
16. Putting ideas together to see relationships, similarities, and differences between ideas.	○	○	○	○
17. Developing the ability to learn on my own, pursue ideas, and find information I need.	○	○	○	○
18. Developing the ability to speak and understand another language.	○	○	○	○
19. Interpreting information in graphs and charts I see in newspapers, textbooks, on TV, or on the Internet.	○	○	○	○
20. Developing an interest in political and economic events.	○	○	○	○
21. Seeing the importance of history for understanding the present as well as the past.	○	○	○	○
22. Learning more about other parts of the world and other people (Asia, Africa, South America, etc.).	○	○	○	○
23. Understanding other people and the ability to get along with different kinds of people.	○	○	○	○
24. Developing good health habits and physical fitness.	○	○	○	○
25. Developing the ability to get along with others in different kinds of situations.	○	○	○	○

COLLEGE ENVIRONMENT

1. If you could start over again would you go to this college?
   - ○ yes
   - ○ maybe

- no

2. How many of the students you know are friendly and supportive of one another?
   - all
   - most
   - some
   - few or none
3. How many of your instructors at this college do you feel are approachable, helpful, and supportive?
   - all
   - most
   - some
   - few or none
4. How many of the college counselors, advisors, and department staff you have had contact with would you describe as helpful, considerate, knowledgeable?
   - all
   - most
   - some
   - few or none
5. How many of your courses at this college would you describe as challenging, stimulating, and worthwhile?
   - all
   - most
   - some
   - few or none
6. Do you feel that this college is a stimulating and often exciting place to be?
   - all of the time
   - most of the time
   - some of the time
   - rarely or never
7. Are there places on the campus for you to meet and study with other students?
   - yes, ample places
   - yes, a few places
   - no
8. Are there places on the campus for you to use computers and technology?
   - yes, ample places
   - yes, a few places
   - no

Thank you for your participation in this survey.

Preview Print

Note: Click on the Preview button to confirm your responses. Then you can submit the responses.

Appendix J

Tables J1-J3: Enrollment History of Institutions A, B, and C by Gender and Race for Fall Semesters 2003 to 2009

Table J1

Enrollment History of College A by Gender and Race for Fall Semesters 2003 to 2009

Year	# of Students	Male: Female ratio	Enrollment by race Number of students (percentage) White	African American	Hispanic	Native American	Asian	Other	Total minority enrolled
2009	1,434	603 831 (1:1.4)	778 (54.25)	458 (31.94)	19 (1.32)	58 (4.04)	19 (1.32)	102 (7.11)	656 (45.75)
2008	1,239	537 702 (1:1.3)	674 (54.49)	352 (28.29)	17 (1.37)	57 (4.61)	13 (1.05)	126 (10.19)	565 (45.60)
2007	1,298	609 689 (1:1.1)	795 (61.25)	349 (26.89	17 (1.31)	63 (4.85)	15 (1.16)	59 (4.55)	503 (38.75)
2006	1,173	550 623 (1:1.1)	721 (61.47)	329 (28.05)	15 (1.28)	29 (2.47)	6 (0.51)	73 (6.22)	452 (38.53)
2005	1,180	535 645 (1:1.2)	723 (61.27)	352 (29.83)	10 (0.85)	38 (3.22)	5(0.42)	52 (4.41)	457 (38.73)
2004	1,504	743 761 (1:1.0)	806 (53.59)	541 (35.97)	12 (0.80)	39 (2.59)	2 (0.13)	104 (6.91)	698 (46.41)
2003	1,442	607 835 (1:1.4)	880 (61.02)	434 (30.10)	10 (0.69)	38 (2.64)	7 (0.49)	73 (5.06)	562 (38.97)
Total	6,597		3,925	2,005	64	207	35	36	2,672

Note. Data compiled from *Institutional Student Profiles,* Alabama Commission on Higher Education, n.d. Retrieved from http://www.ache.alabama.gov/profiles

Table J2

Enrollment History of College B by Gender and Race for Fall Semesters 2003 to 2009

Year	# of students	Male: Female ratio	Enrollment by race Number of students (percentage) White	African American	Hispanic	Native American	Asian	Other	Total minority enrolled
2009	1,431	532 / 899 (1:1.7)	782 (54.65)	592 (41.37)	9 (0.63)	7 (0.49)	4 (0.28)	37 (2.59)	649 (45.35)
2008	1,318	485 / 833 (1:1.7)	715 (54.25)	498 (37.7)	16 (1.21)	7 (0.53)	3 (0.23)	79 (5.99)	603 (45.75)
2007	2,327	843 / 1,484 (1:1.8)	1,045 (44.91)	1,236 (53.12)	9 (0.39)	15 (0.65)	10 (0.43)	12 (0.52)	1,282 (55.10)
2006	2,548	862 / 1,686 (1:2.0)	1,134 (44.51)	1,363 (53.49)	13 (0.51)	12 (0.47)	11 (0.43)	15 (0.59)	1,414 (55.49)
2005	2,809	940 / 1,869 (1:2.0)	1,228 (43.72)	1,534 (54.61)	12 (0.43)	18 (0.68)	5 (0.18)	12 (0.43)	1,581 (56.28)
2004	1,946	653 / 1,293 (1:2.0)	940 (48.30)	951 (48.87)	10 (0.51)	7 (0.36)	6 (0.31)	32 (1.64)	1,006 (51.70)
2003	1,490	569 / 921 (1:1.6)	916 (61.48)	548 (36.78)	5 (0.33)	11 (0.74)	4 (0.27)	6 (0.40)	574 (38.52)
Total	11,120		5,263	5,632	49	63	36	77	5,857

Note. Data compiled from *Institutional Student Profiles,* Alabama Commission on Higher Education, n.d. Retrieved from http://www.ache.alabama.gov/profiles

Table J3

Enrollment History of College C by Gender and Race for Fall Semesters 2003 to 2009

Year	# of students	Male: Female ratio	Enrollment by race Number of students (percentage) White	African American	Hispanic	Native American	Asian	Other	Total minority enrolled
2009	6,312	2,314 3,998 (1:1.7)	5,752 (91.13)	288 (4.56)	75 (1.9)	57 (0.90)	26 (0.41)	114 (1.81)	560 (8.87)
2008	5,548	1,946 3,602 (1:1.9)	5,043 (90.90)	231 (4.16)	83 (1.50)	52 (0.94)	18 (0.32)	121 (2.18)	505 (9.10)
2007	5,251	1,858 3,393 (1:1.8)	4,835 (92.08)	253 (4.82)	58 (1.10)	44 (0.84)	20 (0.38)	41 (0.78)	416 (7.92)
2006	6,132	2,256 3,876 (1:1.7)	5,658 (92.27)	314 (5.12)	59 (0.96)	40 (0.65)	25 (0.41)	36 (0.54)	474 (7.73)
2005	5,917	2,141 3,776 (1:1.8)	5,491 (92.80)	281 4.75)	57 (0.96)	28 (0.47)	15 (0.25)	45 (0.76)	426 (7.20)
2004	5,837	2,179 3,658 (1:1.7)	5,447 (93.32)	262 (4.49)	48 (0.82)	37 (0.63)	23 (0.39)	20 (0.34)	390 (6.68)
2003	5,739	2,137 3,602 (1:1.7)	5,462 (95.17)	181 (3.15)	52 (0.91)	22 (0.38)	21 (0.37)	1 (0.02)	277 (4.83)
Total	28,875		26,893	1,291	274	171	104	143	1,983

Note. Data compiled from *Institutional Student Profiles,* Alabama Commission on Higher Education, n.d. Retrieved from http://www.ache.alabama.gov/profiles

Appendix K

Table K1: College-sponsored Student Activities Located on Campuses of Colleges A, B, and C

Table K1

College-sponsored Student Activities Located on the Campuses of Colleges A, B, and C

Activity	College		
	A	B	C
Student Government Association (SGA)	X		X
Honors Program	X	X	
Phi Theta Kappa Honor Society (PTK)	X	X	X
National Association of Nursing Students	X	X	X
Tech Prep Program	X		
Psi Beta National Honor Society (Psychology)	X		
Student Support Services	X	X	X
Free Tutorial Services	X	X	
Men baseball	X	X	X
Women softball	X	X	X
Men basketball	X	X	X
Women basketball		X	X
Women volleyball	X		X
Golf			X
Soccer			X
Cheerleaders			X
On Campus College Owned Dormitory Resident	X		X
Participate in a College Work-Study Program	X	X	X

(continued)

Table K1: *College-sponsored Student Activities Located on the Campuses of Colleges A, B, and C* (continued)

Activity	College		
	A	B	C
ACT WorkKeys Skills Training System	X	X	
Guidance and Counseling Services	X	X	X
On-campus Food Services	X	X	X
Computer Lab Support Services	X	X	
Workforce Development Program	X	X	X
Baptist Campus Ministries	X	X	X
Fellowship of Christian Students	X		X
Upward Bound (UB)	X	X	X
Talent Search Program		X	X
Alabama Writers Symposium		X	
Art Scholars Organization		X	
College Ambassadors Program		X	
Student Leadership Association		X	
College Stage Music Group/Jazz		X	X
College Pep Band Auxiliaries			X
Phi Beta Lambda Technical Honor Society (PBL)		X	X
Vocational Industrial Clubs of America (VICA)			X
Sigma Kappa Delta-English Honor Society			X
Students in Free Enterprise (SIFE)		X	

(continued)

Table K1: *College-sponsored Student Activities Located on the Campuses of Colleges A, B, and C* (continued)

Activity	College		
	A	B	C
Technical Association of the Pulp and Paper Industry (TAPPI)		X	
Training for Existing Business and Industry			X
Continuing Education and Certification Programs			X
Career Planning and Placement Service Center			X
Heads Up Program			X
Concert Choir			X
Commercial Foods Club			X
Computer Science Club			X
Cosmetology Club			X
Human Services Club			X
Newspaper Staff			X
Lambda Beta-Respiratory Therapy Club			X
Lex Adjutor Majus-Paralegal Club			X
Lex Corpus-Law Enforcement Club			X
Math and Physics Club			X
Sonograph Club-Diagnostic Medical Sonography Club			X
Southeastern Horticulture Club			X
Student Dental Assistants' Club			X
Student Physical Therapy Organization			X

(continued)

Table K1: *College-sponsored Student Activities Located on the Campuses of Colleges A, B, and C* (continued)

Activity	College A	B	C
The Talking Hands Club			X
Drama Club			X
Upholstery Club			X
College Beauty Pageant			X
Basketball Homecoming Activities			X

Appendix L

Table L1: Estimates of Reliability for College Activity Scales for the Community College Student Experiences Questionnaire (CCSEQ)

Table L1

Estimates of Reliability for College Activity Scales for the Community College Student Experiences Questionnaire (CCSEQ)

Scale	Cronbach's alpha
College activities	.86
Library activities	.86
Faculty	.86
Student acquaintances	.91
Art, Music, and Theater	.82
Writing activities	.90
Science activities	.93
Career/Occupational skills	.93
Computer technology	.86

Appendix M

Table M1: Research Questions Related to Community College Student Experiences

Questionnaire Questions as Designated by Instrument Coding

Table M1

Research Questions Related to Community College Student Experiences Questionnaire Questions as Designated by Instrument Coding

Research question	Related variable	Section	Related questionnaire question by coding label
Q1ACR	College environment	College program	UNITSNOW, UNISTOT, MEETWHEN, GRADES, TIMESCH, TIMECAM, RET
		College courses	COURSE1, COURSE2, COURSE3, COURSE4, COURSE5, COURSE6, COURSE7, COURSE8, COURSE9, COURSE10, MEMORY, NOTETAKING, LISTENING, SPEAKING, WRITING, READING, TESTTAKING, TIMEMANAGEMENT, PROBLEMSOLVING
		College activities	CLASS1, CLASS2, CLASS3, CLASS4, CLASS5, CLASS6, CLASS7, CLASS8, CLASS9, CLASS10, LIB1, LIB2, LIB3, LIB4, LIB5, LIB6, LIB7, FAC1, FAC2, FAC3, FAC4, FAC5, FAC6, FAC7, FAC8, FAC9, STACQ1, STACQ2, STACQ3, STACQ4, STACQ5, STACQ6, AMT1, AMT2, AMT3, AMT4, AMT5, AMT6, AMT7, AMT8
Q1ACR	College environment	College activities	AMT9, WRITE1, WRITE2, WRITE3, WRITE4, WRITE5, WRITE6, WRITE7, WRITE8, SCI1, SCI2, SCI3, SCI4, SCI5, SCI6, SCI10, SCI11, ATHL1, ATL2, ATL3, ATL4, ATL5, ATL6, VOC1, VOC2, VOC3, VOC4, VOC5, VOC6, VOC7, VOC8, VOC9, CLUBS1, CLUBS2, CLUBS3, CLUBS4, CLUBS5, CLUBS6, COUNS6, COUNS7, COUNS8
Q2DPT	Estimate of gains	Estimates of gains	GAIN1, GAIN2, GAIN3, GAIN4, GAIN5, GAIN6, GAIN7, GAIN8, GAIN9, GAIN10, GAIN11, GAIN12, GAIN13, GAIN14, GAIN15, GAIN16, GAIN17, GAIN18, GAIN19, GAIN20, GAIN21, GAIN22, GAIN23, GAIN24, GAIN25, ENVINST, ENVCOUNS, ENVCOURSE, ENVCOLL, ENVMEET, ENVTECH

(continued)

Table M1: *Research Questions Related to Community College Student Experiences Questionnaire Questions as Designated by Instrument Coding* (continued)

Research question	Related variable	Section	Related questionnaire question by coding label
		Additional question	ORGMEM
Q2DPT	Estimate of gains	College program	REASON, AADEGREE, ASDEGREE, DIPLOMA, CERTIFICATE, TRANSFER, VOCENROLL, VOCPGRM, SCI7, SCI8, SCI9, ATHL14, ATH15
Q3AGE	Age	Background, work, family	AGE
Q4EFT	Institutional effects	A, B, C institutional effects	Q1ACA, Q2RET, Q3DPT, Q4AGE

Appendix N

Table N1: Sections, Variables, Names, and SPSS Value Codes Associated With the Community College Student Experience Questionnaire

Table N1

Sections, Variables, Names, and SPSS Value Code Labels Associated With the Community College Student Experience Questionnaire

Section	Variable	Name	Value label
Background, Work, Family	Age	Age of student	1 = 18-19 or younger 2 = 20-22 3 = 23-27 4 = 28-39 5 = 40-55 6 = over 55
	Sex	Sex of student	1 = male 2 = female
	Race	Ethnicity	1 = Native American 2 = Asian or Pacific Islander 3 = Black, African American 4 = Hispanic, Latino 5 = White 6 = Other, what?
	Lang	Native Language	1 = Yes 2 = No

(continued)

Table N1: *Sections, Variables, Names, and SPSS Value Code Labels Associated With the Community College Student Experience Questionnaire* (continued)

Section	Variable	Name	Value label
Background, Work, Family (continued)	Timework	Time spent working on a job	1 = None, I don't have a job 2 = 1-10 hours 3 = 11-20 hours 4 = 21-30 hours 5 = 31-40 hours 6 = More than 40 hours
	Job	The effect of job responsibilities on college work	1 = No family Responsibilities 2 = Does not interfere with school work 3 = Takes some time from school work 4 = Takes a lot of time from school work
	Family	The effect of family responsibilities on college work	1 = does not have a job 2 = Does not interfere with school work 3 = Takes some time from school work 4 = Takes a lot of time from school work
	Workstudy	Currently in a work-study program	1 = Yes 2 = No
College Program	Unitsnow	Units taken this term	1 = less than 6 2 = 6 to 8 3 = 9 to 11 4 = 12 to 15

(continued)

Table N1: *Sections, Variables, Names, and SPSS Value Code Labels Associated With the Community College Student Experience Questionnaire* (continued)

Section	Variable	Name	Value label
College Program (continued)	Unitstot	Total units taken at this college	1 = 1-15 2 = 16-30 3 = 31-45 4 = 46 or more credits
	Meetwhen	When classes meet	1 = Day only 2 = Evening only 3 = Some day and some evening
	Grades	Most grades at this college	1 = A 2 = A-, B+ 3 = B 4 = B-, C+ 5 = C, C- 6 = lower than C- 7 = No grades
	Timesch	Time spent studying	1 = 1 to 5 hours 2 = 6 to 10 hours 3 = 11 to 15 hours 4 = 16 to 20 hours 5 = more than 20 hours
	Timecam	Time on campus not in class	1 = None 2 = 4 to 6 hours 3 = 7 to 9 hours 4 = 10 to 12 hours 5 = more than 12 hours

(continued)

Table N1: *Sections, Variables, Names, and SPSS Value Code Labels Associated With the Community College Student Experience Questionnaire* (continued)

Section	Variable	Name	Value label
College Program (continued)	Reason	Most important reason for attending	1 = Prepare to transfer 2 = Skills for new job 3 = Stay current/advance 4 = Personal interest 5 = Improve basic skills
College Courses	Course1	Number of courses: Math	1 = None 2 = One 3 = More than 1
	Course 2	Number of courses: Computer literacy	1 = None 2 = One 3 = More than 1
	Course 3	Number of courses: English class or classes	1 = None 2 = One 3 = More than 1
	Course 4	Number of courses: English composition	1 = None 2 = One 3 = More than 1
	Course 5	Number of courses: Fine arts	1 = None 2 = One 3 = More than 1

(continued)

Table N1: *Sections, Variables, Names, and SPSS Value Code Labels Associated With the Community College Student Experience Questionnaire* (continued)

Section	Variable	Name	Value label
College Courses (continued)	Course 6	Number of courses: Foreign languages/humanities	1 = None 2 = One 3 = More than 1
	Course 7	Number of courses: Math class or classes	1 = None 2 = One 3 = More than 1
	Course 8	Number of courses: Physical or health education sciences	1 = None 2 = One 3 = More than 1
	Course 9	Number of courses: Social sciences	1 = None 2 = One 3 = More than 1
	Course 10	Number of courses: Speech/ Communications	1 = None 2 = One 3 = More than 1
	AA Degree	Working for AA degree	1 = Yes 2 = No
	AS Degree	Working for AS degree	1 = Yes 2 = No
	Diploma	Working for diploma	1 = Yes 2 = No

(continued)

Table N1: *Sections, Variables, Names, and SPSS Value Code Labels Associated With the Community College Student Experience Questionnaire* (continued)

Section	Variable	Name	Value label
College Courses (continued)	Certificate	Working for certificate	1 = Yes 2 = No
	Transfer	Plan to transfer for 4-year school	1 = Yes 2 = No
	Vocenroll	Enrolled in vocational program	1 = Yes 2 = No
	Vocpgrm	Name of vocational program	1 = Not enrolled 2 = Agricultural 3 = Business 4 = Marketing 5 = Health 6 = Home Ec 7 = Tech and Communications 8 = Trade and Industrial 9 = Other
	Studyskills	Memory	1 = None 2 = Some 3 = A lot
		Note taking	1 = None 2 = Some 3 = A lot

(continued)

Table N1: *Sections, Variables, Names, and SPSS Value Code Labels Associated With the Community College Student Experience Questionnaire* (continued)

Section	Variable	Name	Value label
College Courses (continued)	Studyskills	Listening	1 = None 2 = Some 3 = A lot
		Speaking	1 = None 2 = Some 3 = A lot
		Writing	1 = None 2 = Some 3 = A lot
		Reading	1 = None 2 = Some 3 = A lot
		Test taking	1 = None 2 = Some 3 = A lot
		Time management	1 = None 2 = Some 3 = A lot
		Problem solving	1 = None 2 = Some 3 = A lot

(continued)

Table N1: *Sections, Variables, Names, and SPSS Value Code Labels Associated With the Community College Student Experience Questionnaire* (continued)

Section	Variable	Name	Value label
College Activities	Class1	Participate in class discussion	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Class2	Work on paper combining ideas	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Class3	Summarized major points in reading	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Class4	Explained material to other student	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Class5	Did additional readings	1 = Never 2 = Occasionally 3 = Often 4 = Very often

(continued)

Table N1: *Sections, Variables, Names, and SPSS Value Code Labels Associated With the Community College Student Experience Questionnaire* (continued)

Section	Variable	Name	Value label
College Activities (continued)	Class6	Asked questions about points	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Class 7	Studied with other students	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Class8	Applied concepts to other problems	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Class9	Compared-contrasted points of view	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Class10	Considered accuracy of information	1 = Never 2 = Occasionally 3 = Often 4 = Very often

(continued)

Table N1: *Sections, Variables, Names, and SPSS Value Code Labels Associated With the Community College Student Experience Questionnaire* (continued)

Section	Variable	Name	Value label
College Activities (continued)	Lib1	Used library as quiet place	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Lib 2	Read newspapers, etcetera, located in library	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Lib3	Checked out books	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Lib4	Used card catalogue	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Lib5	Prepared references for paper	1 = Never 2 = Occasionally 3 = Often 4 = Very often

(continued)

Table N1: *Sections, Variables, Names, and SPSS Value Code Labels Associated With the Community College Student Experience Questionnaire* (continued)

Section	Variable	Name	Value label
College Activities (continued)	Lib6	Asked librarian for help	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Lib7	Found material by browsing	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Fac1	Asked instructor for information	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Fac2	Talked briefly with instructor	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Fac3	Made appointment to meet with instructor	1 = Never 2 = Occasionally 3 = Often 4 = Very often

(continued)

Table N1: *Sections, Variables, Names, and SPSS Value Code Labels Associated With the Community College Student Experience Questionnaire* (continued)

Section	Variable	Name	Value label
College Activities (continued)	Fac4	Discussed paper ideas with instructor	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Fac5	Discussed career plans with instructor	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Fac6	Discussed comments made on test or paper	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Fac7	Talked informally with instructor	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Fac8	Discussed personal issues with instructor	1 = Never 2 = Occasionally 3 = Often 4 = Very often

(continued)

Table N1: *Sections, Variables, Names, and SPSS Value Code Labels Associated With the Community College Student Experience Questionnaire* (continued)

Section	Variable	Name	Value label
College Activities (continued)	Fac9	Used e-mail to communicate with instructor	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Stacq1	Talked with students (different age)	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Stacq2	Talked with students (different ethnicity)	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Stacq3	Talked with students (different values)	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Stacq4	Talked with students (different politics)	1 = Never 2 = Occasionally 3 = Often 4 = Very often

(continued)

Table N1: *Sections, Variables, Names, and SPSS Value Code Labels Associated With the Community College Student Experience Questionnaire* (continued)

Section	Variable	Name	Value label
College Activities (continued)	Stacq5	Talked with students (different religions)	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Stacq6	Talked with students (different countries)	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Amt1	Talked about art with other students	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Amt2	Talked about music with other students	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Amt3	Talked about theater with other students	1 = Never 2 = Occasionally 3 = Often 4 = Very often

(continued)

Table N1: *Sections, Variables, Names, and SPSS Value Code Labels Associated With the Community College Student Experience Questionnaire* (continued)

Section	Variable	Name	Value label
College Activities (continued)	Amt4	Attended art exhibit on campus	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Amt5	Attended concert on campus	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Amt6	Attended theater on campus	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Amt7	Participated in a fine arts performance on campus	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Amt8	Attended off-campus fine arts performance for course credit	1 = Never 2 = Occasionally 3 = Often 4 = Very often

(continued)

Table N1: *Sections, Variables, Names, and SPSS Value Code Labels Associated With the Community College Student Experience Questionnaire* (continued)

Section	Variable	Name	Value label
College Activities (continued)	Amt9	Participated in off-campus fine arts performance for course credit	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Write1	Use dictionary or thesaurus	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Write2	Prepared outline to organize ideas	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Write3	Thought about grammar, etcetera, when writing	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Write4	Wrote rough draft and revisited it	1 = Never 2 = Occasionally 3 = Often 4 = Very often

(continued)

Table N1: *Sections, Variables, Names, and SPSS Value Code Labels Associated With the Community College Student Experience Questionnaire* (continued)

Section	Variable	Name	Value label
College Activities (continued)	Write5	Used computer to write or type paper	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Write6	Asked other people to read something	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Write7	Spent 5 hours writing paper	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Write8	Ask instructor for advice on writing	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Sci1	Memorized formulas, definitions, etcetera	1 = Never 2 = Occasionally 3 = Often 4 = Very often

(continued)

Table N1: *Sections, Variables, Names, and SPSS Value Code Labels Associated With the Community College Student Experience Questionnaire* (continued)

Section	Variable	Name	Value label
College Activities (continued)	Sci2	Practiced using laboratory equipment	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Sci3	Showed another how to use equipment	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Sci4	Explained experimental procedure	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Sci5	Explained scientific principle	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Sci6	Used scientific method	1 = Never 2 = Occasionally 3 = Often 4 = Very often

(continued)

Table N1: *Sections, Variables, Names, and SPSS Value Code Labels Associated With the Community College Student Experience Questionnaire* (continued)

Section	Variable	Name	Value label
College Activities (continued)	Sci7	Talked about social-ethical issues	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Sci8	Used science information to understand	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Sci9	Explained environmental concerns	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Athl1	Followed exercise schedule on campus	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Athl2	Got help to improve athletic performance	1 = Never 2 = Occasionally 3 = Often 4 = Very often

(continued)

Table N1: *Sections, Variables, Names, and SPSS Value Code Labels Associated With the Community College Student Experience Questionnaire* (continued)

Section	Variable	Name	Value label
College Activities (continued)	Athl3	Attended athletic event on campus	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Athl4	Assisted with youth athletic program on campus	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Athl5	Assisted with off-campus youth athletic program for course credit	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Athl6	Participated in a sport on campus	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Voc1	Read about how to perform procedure	1 = Never 2 = Occasionally 3 = Often 4 = Very often

(continued)

Table N1: *Sections, Variables, Names, and SPSS Value Code Labels Associated With the Community College Student Experience Questionnaire* (continued)

Section	Variable	Name	Value label
College Activities (continued)	Voc2	Listen to instructor explain procedure	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Voc3	Watch demonstration	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Voc4	Practice procedure while monitored	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Voc5	Practice procedure without supervision	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Voc6	Identify problem, located information	1 = Never 2 = Occasionally 3 = Often 4 = Very often

(continued)

Table N1: *Sections, Variables, Names, and SPSS Value Code Labels Associated With the Community College Student Experience Questionnaire* (continued)

Section	Variable	Name	Value label
College Activities (continued)	Voc7	Diagnosed problem, carried out procedure	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Voc8	Applied occupational skills from class to a job outside class	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Voc9	Participated in an internship, or practicum with a local business for course credit	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Clubs1	Looked for notices about campus events	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Clubs2	Got information about club-organization	1 = Never 2 = Occasionally 3 = Often 4 = Very often

(continued)

Table N1: *Sections, Variables, Names, and SPSS Value Code Labels Associated With the Community College Student Experience Questionnaire* (continued)

Section	Variable	Name	Value label
College Activities (continued)	Clubs3	Attended meeting of club or organization	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Clubs4	Assumed leadership role in student organization	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Clubs5	Participated in a campus project sponsored by a student organization	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Clubs6	Participated in an off-campus project sponsored by a student organization	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Clubs7	Participated in an off-campus project not sponsored by a student organization	1 = Never 2 = Occasionally 3 = Often 4 = Very often

(continued)

Table N1: *Sections, Variables, Names, and SPSS Value Code Labels Associated With the Community College Student Experience Questionnaire* (continued)

Section	Variable	Name	Value label
College Activities (continued)	Counsl	Talked with counselor-courses, ed. Plans	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Couns2	Discussed vocational interests	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Couns3	Read information about 4-year college	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Couns4	Read about career opportunities	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Couns5	Made appointment to discuss transfer	1 = Never 2 = Occasionally 3 = Often 4 = Very often

(continued)

Table N1: *Sections, Variables, Names, and SPSS Value Code Labels Associated With the Community College Student Experience Questionnaire* (continued)

Section	Variable	Name	Value label
College Activities (continued)	Couns6	Identified general education requirements	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Couns7	Discussed personal matters	1 = Never 2 = Occasionally 3 = Often 4 = Very often
	Couns8	Taken interest inventories to direct career	1 = Never 2 = Occasionally 3 = Often 4 = Very often
Estimate of Gains	Gain1	Applied for a specific job	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much
	Gain2	Gaining info about career opportunities	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much

(continued)

Table N1: *Sections, Variables, Names, and SPSS Value Code Labels Associated With the Community College Student Experience Questionnaire* (continued)

Section	Variable	Name	Value label
Estimate of Gains (continued)	Gain3	Developing clearer career goals	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much
	Gain4	Learning about diff. fields of knowledge	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much
	Gain5	Understanding art, music, theater	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much
	Gain6	Developing understanding of literature	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much
	Gain7	Writing clearly and effectively	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much

(continued)

Table N1: *Sections, Variables, Names, and SPSS Value Code Labels Associated With the Community College Student Experience Questionnaire* (continued)

Section	Variable	Name	Value label
Estimate of Gains (continued)	Gain8	Presenting ideas effectively in speaking	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much
	Gain9	Acquiring ability to use computers	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much
	Gain10	Acquiring skills to use computers to complete assignments	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much
	Gain11	Becoming aware of different philosophies, etcetera	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much
	Gain12	Clarifying own values	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much

(continued)

Table N1: *Sections, Variables, Names, and SPSS Value Code Labels Associated With the Community College Student Experience Questionnaire* (continued)

Section	Variable	Name	Value label
Estimate of Gains (continued)	Gain13	Understanding own abilities and interests	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much
	Gain14	Understanding mathematical concepts	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much
	Gain15	Understanding role of science and technology	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much
	Gain16	Putting ideas together	1=Very little 2=Some 3=Quite a bit 4=Very much
	Gain17	Developing ability to learn on own	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much

(continued)

Table N1: *Sections, Variables, Names, and SPSS Value Code Labels Associated With the Community College Student Experience Questionnaire* (continued)

Section	Variable	Name	Value label
Estimate of Gains (continued)	Gain18	Speaking another language	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much
	Gain19	Interpreting information-charts and graphs	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much
	Gain20	Interest in political and economic events	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much
	Gain21	Seeing importance of history	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much
	Gain22	Learning about other parts of world	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much

(continued)

Table N1: *Sections, Variables, Names, and SPSS Value Code Labels Associated With the Community College Student Experience Questionnaire* (continued)

Section	Variable	Name	Value label
Estimate of Gains (continued)	Gain23	Understanding-getting along with others	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much
	Gain24	Developing good health habits	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much
	Gain25	Getting along with others	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much
College Environment	Samecoll	Attend same college again	1 = Yes 2 = Maybe 3 = No
	Envst	Students are friendly, supportive?	1 = All 2 = Most 3 = Some 4 = Few or none
	Envinst	Instructors are approachable, helpful	1 = All 2 = Most 3 = Some 4 = Few or none

(continued)

Table N1: *Sections, Variables, Names, and SPSS Value Code Labels Associated With the Community College Student Experience Questionnaire* (continued)

Section	Variable	Name	Value label
College Environment (continued)	Envcouns	Counselors, ecetera, helpful, considerate	1 = All 2 = Most 3 = Some 4 = Few or none
	Envcourse	Courses are challenging and stimulating	1 = All 2 = Most 3 = Some 4 = Few or none
	Envcoll	College is stimulating and exciting	1 = All of the time 2 = Most of the time 3 = Some of the time 4 = Rarely or never
	Envmeet	Places to meet and study on campus	1 = Yes, ample places 2 = Yes, a few places 3 = No
	Envtech	Places to use computers and technology	1 = Yes, ample places 2 = Yes, a few places 3 = No

Appendix O

Table O1: Background, Work, and Family Responses of All Research Participants by Percentage

Table O1

Background, Work, and Family Responses of All Research Participants by Percentage

Item	Group		
	All students	Transfer	Vocational
Age			
18-19 or younger	33.9	35.5	22.2
20-22	33.9	37.6	38.9
23-27	11.8	8.6	5.6
28-39	15.7	15.1	27.8
40-55	3.9	3.2	5.6
Over 55	.8		
Gender			
Male	26.8	25.8	11.1
Female	73.2	74.2	88.9
Ethnicity			
Native American			
Asian or Pacific Islander			
Black, African-American	97.6	97.8	100.0
Hispanic, Latino			
White			
Other	2.4	2.2	
Native Language is English			
Yes	96.9	97.8	100.0
No	1.6	2.2	
Missing Data	1.6		
Hours per week spent working on a job			
None, no job	52.8	52.7	50.0
1-10 hours	9.4	7.5	16.7
11-20 hours	13.4	14.0	16.7
21-30 hours	10.2	9.7	5.6
31-40 hours	11.8	12.9	5.6
More than 40 hours	2.4	3.2	5.6

(continued)

Table O1: *Background, Work, and Family Responses of All Research Participants by Percentage* (continued)

Item	Group		
	All students	Transfer	Vocational
How job affects college work			
No job	58.3	57.0	55.6
Job does not interfere with School work	18.1	18.3	22.2
Job takes some time from school work	18.9	19.4	16.7
Job takes a lot of time from school work	4.7	5.4	5.6
How family responsibilities affect college work			
No family responsibilities	26.8	25.8	33.3
Responsibilities do not interfere with school work	30.7	30.1	27.8
Responsibilities take some time from school work	34.6	37.6	33.3
Responsibilities take a lot of time from school work	7.1	5.4	5.6
Missing data	.8	1.1	
Are you in a work-study program?			
Yes	11.8	11.8	100.0
No	88.2	88.2	
Are you a first generation college student?			
Yes	57.5	53.8	55.6
No	40.9	44.1	44.4
Missing data	1.6	2.2	

Appendix P

Table P1: Summary of Pearson *r* Correlations for CCSEQ Estimate of Gains and Quality of Effort Scales Derived From College A and College B Participant Responses

Table P1

Summary of Pearson r Correlations for CCSEQ Estimate of Gains and Quality of Effort Scales Derived From College A and College B Participants Responses

Variable Estimate of gain	Categories of Quality of Effort scale measures								
	QECOURS	QELIB	QEFAC	QESTACQ	QEAMT	QEWRITE	QESCI	QEOCC	QECOMP
Career	.55**	.21*	.33**	.26**	.09	.24**	.33**	.42**	.50**
Arts and Communication	.56**	.38**	.46**	.34**	.30**	.14	.45**	.33**	.47**
Computers	.46**	.22*	.24**	.12	.03	.24**	.14	.28**	.44**
Personal and Social Development	.51**	.34**	.34**	.28**	.13	.22*	.27**	.32**	.46**
Math, Science, Technology	.62**	.30**	.39**	.29**	.17*	.27**	.41**	.38**	.57**
Perspectives of the World	.59**	.49**	.54**	.40**	.43**	.23*	.56**	.40**	.51**

Note. Intercorrelations for African-American participants (n = 127) are presented. QE = Quality of Effort Scale; QECOURS = Course Activities; QELIB = Library Activities; QEFAC = Faculty; QESTACQ = Student Acquaintances; QEAMT = Art, Music, and Theater Activities; QEWRIT = Writing Activities; QESCI = Science Activities, Athletic Activities; QEOCC = Career/Occupational Skills; QECOMP = Computer Technology, Clubs/Organizations, Counseling and Career Planning.

*$p < .05$, two-tailed.

**$p < .01$, two-tailed.

Appendix Q

Table Q1: Summary of Spearman Rho Correlations for CCSEQ College Environment Questions and Quality of Effort Scales for College A and College B Participant Responses

Table Q1

Summary of Spearman Rho Correlations for CCSEQ College Environment Questions and Quality of Effort Scales for College A and College B Participant Responses

Variable College Environment	Categories of Quality of Effort scale measures								
	QECOURS	QELIB	QEFAC	QESTACQ	QEAMT	QEWRITE	QESCI	QEOCC	QECOMP
S38Q1	-.05	.00	-.05	.07	.22*	-.02	.07	-.12	-.05
S38Q2	-.29**	-.33**	-.33**	-.38**	-.23**	-.33**	-.29**	-.22*	-.35**
S38Q3	-.29**	-.21*	-.23**	-.29**	-.12	-.18*	-.07	-.12	-.28**
S38Q4	-.35**	-.18*	-.27**	-.25**	-.10	-.13	-.162	-.20*	-.41**
S38Q5	-.16	-.05	-.15	-.13	.00	-.08	-.09	-.06	-.26**
S38Q6	-.29**	-.27**	-.27**	-.22*	-.42**	-.18*	-.19*	-.20*	-.36**
S38Q7	-.15	-.16	-.21*	-.21*	-.23**	-.12	-.14	-.17	-.21*
S38Q8	-.10	-.14	-.16	-.11	-.07	-.06	.01	-.13	-.09

Note. Intercorrelations for African-American participants (n = 127) are presented. College Environment Question Codes indicate aspects of the college environment investigated. S38Q1 = the student would choose to attend the same college again; S38Q2 = students are friendly and supportive of each other; S38Q3 = instructors are approachable, helpful, and supportive; S38Q4 = counselors, advisors, and support staff are helpful, considerate and knowledgeable; S38Q5 = courses are challenging, stimulating, and worthwhile; S38Q6 = the college is a stimulating and exciting place to be; S38Q7 = there are sufficient places to meet and study with other students; S38Q8 = there are places on campus to use computer technology; QE = Quality of Effort Scale; QECOURS = Course Activities; QELIB = Library Activities; QEFAC = Faculty; QESTACQ = Student Acquaintances; QEAMT = Art, Music, and Theater Activities; QEWRIT = Writing Activities; QESCI = Science Activities, Athletic Activities; QEOCC = Career/Occupational Skills; QECOMP = Computer Technology, Clubs/Organizations, Counseling and Career Planning.
*$p < .05$, two-tailed.
**$p < .01$, two-tailed.

Appendix R

Table R1: Summary of Spearman Rho Correlations for College A and College B for Institutional Effects on College Environment and Quality of Effort

Table R1

Summary of Spearman Rho Correlations for College A and College B for Institutional Effects on College Environment and Quality of Effort

Institution	Variable College Environment	Categories of Quality of Effort scale measures								
		COURS	LIB	FAC	STACQ	AMT	WRITE	SCI	OCC	COMP
College A	S38Q1	-.05	.09	-.11	.02	.26*	.12	.02	-.14	-.17
	S38Q2	-.41**	-.38**	-.36**	-.49**	-.34**	-.28*	-.34**	-.20	-.44**
	S38Q3	-.35**	-.20	-.27*	-.39**	-.09	-.10	-.20	-.17	-.32**
	S38Q4	-.41**	-.25*	-.35**	-.35**	-.07	-.08	-.29*	-.32**	-.54**
	S38Q5	-.22	-.12	-.17	-.15	-.10	-.05	-.20	-.06	-.40**
	S38Q6	-.35**	-.25*	-.32**	-.31	-.09	-.02	-.20	-.19	-.41**
	S38Q7	-.18	-.12	-.10	-.16	-.24*	.06	-.06	-.09	-.22
	S38Q8	-.22	-.24	-.29*	-.24	-.14	-.00	-.00	-.22	-.26*
College B	S38Q1	-.09	-.14	-.05	.07	.10	-.17	.04	-.11	.07
	S38Q2	-.20	-.33**	-.36**	-.31*	-.19	-.37**	-.28*	-.18	-.25
	S38Q3	-.24	-.23	-.23	-.19	-.16	-.26*	.08	-.06	-.25*
	S38Q4	-.31*	-.11	-.25	-.16	-.15	-.16	-.05	-.07	-.26*
	S38Q5	-.12	.02	-.15	-.13	.09	-.13	-.02	-.07	-.14
	S38Q6	-.25	-.31*	-.26*	-.17	-.28*	-.36**	-.22	-.22	-.30*

(continued)

Table R1: *Summary of Spearman Rho Correlations for College A and College B for Institutional Effects on College Environment and Quality of Effort* (continued)

Institution	Variable College Environment	Categories of Quality of Effort scale measures								
		COURS	LIB	FAC	STACQ	AMT	WRITE	SCI	OCC	COMP
	S38Q7	-.13	-.18	-.30*	-.26*	-.24	-.37**	-.20	-.27*	-.24
	S38Q8	.00	.00	.01	.02	.00	-.16	.03	-.05	.03

Note. Intercorrelations for African-American participants (n = 127) are presented. College Environment Question Codes indicate aspects of the college environment investigated. S38Q1 = the student would choose to attend the same college again; S38Q2 = students are friendly and supportive of each other; S38Q3 = instructors are approachable, helpful, and supportive; S38Q4 = counselors, advisors, and support staff are helpful, considerate and knowledgeable; S38Q5 = courses are challenging, stimulating, and worthwhile; S38Q6 = the college is a stimulating and exciting place to be; S38Q7 = there are sufficient places to meet and study with other students; S38Q8 = there are places on campus to use computer technology; QE = Quality of Effort Scale; QECOURS = Course Activities; QELIB = Library Activities; QEFAC = Faculty; QESTACQ = Student Acquaintances; QEAMT = Art, Music, and Theater Activities; QEWRIT = Writing Activities; QESCI = Science Activities, Athletic Activities; QEOCC = Career/Occupational Skills; QECOMP = Computer Technology, Clubs/Organizations, Counseling and Career Planning.
*$p < .05$, two-tailed.
**$p < .01$, two-tailed.

Appendix S

Tables S1-S2: Institutional Effect Summary of Spearman Rho Correlations of CCSEQ College Environment Questions for College A and College B Participant Responses

Table S1

Institutional Effect Summary of Spearman Rho Correlations of CCSEQ College Environment Questions for College A Participant Responses

	Interitem Spearman Rho correlations						
	S38Q1	S38Q2	S38Q3	S38Q4	S38Q5	S38Q6	S38Q7
S38Q2	.08						
S38Q3	.20	.67**					
S38Q4	.44**	.57**	.62**				
S38Q5	.24	.46**	.42**	.49**			
S38Q6	.43**	.44**	.57**	.70**	.53**		
S38Q7	.09	.13	.00	.25*	.11	.21	
S38Q8	.12	.08	.02	.29*	.07	.39**	.43**

Note. Intercorrelations for African-American participants (n = 127) are presented. College Environment Question Codes indicate aspects of the college environment investigated. S38Q1 = the student would choose to attend the same college again; S38Q2 = students are friendly and supportive of each other; S38Q3 = instructors are approachable, helpful, and supportive; S38Q4 = counselors, advisors, and sport staff are helpful, considerate and knowledgeable; S38Q5 = courses are challenging, stimulating, and worthwhile; S38Q6 = the college is a stimulating and exciting place to be; S38Q7 = there are sufficient places to meet and study with other students; S38Q8 = there are places on campus to use computer technology.
*$p < .05$, two-tailed.
**$p < .01$, two-tailed.

Table S2

Institutional Effect Summary of Spearman Rho Correlations of CCSEQ College Environment Questions for College B Participant Responses

	Interitem Spearman Rho correlations						
	S38Q1	S38Q2	S38Q3	S38Q4	S38Q5	S38Q6	S38Q7
S38Q2	.08						
S38Q3	.15	.20					
S38Q4	.13	.29*	.53**				
S38Q5	.11	.36**	.32*	.33**			
S38Q6	.24	.40**	.51**	.49**	.30*		
S38Q7	.18	.42**	.33**	.25*	.28*	.41**	
S38Q8	.14	.03	.39**	.23	.23	.23	.47**

Note. Intercorrelations for African-American Participants (n = 127) are presented. College Environment Question Codes indicate aspects of the college environment investigated. S38Q1 = the student would choose to attend the same college again; S38Q2 = students are friendly and supportive of each other; S38Q3 = instructors are approachable, helpful, and supportive; S38Q4 = counselors, advisors, and sport staff are helpful, considerate and knowledgeable; S38Q5 = courses are challenging, stimulating, and worthwhile; S38Q6 = the college is a stimulating and exciting place to be; S38Q7 = there are sufficient places to meet and study with other students; S38Q8 = there are places on campus to use computer technology.
*$p < .05$, two-tailed.
**$p < .01$, two-tailed.

Appendix T

Tables T1-T2: Summary of Interitem Pearson *r* Correlations for Quality of Effort Scales of College A and College B Participant Responses

Table T1

Summary of Interitem Pearson r Correlations for Quality of Effort Scales of College A Participant Responses

	Quality of Effort scales							
	QECOURSE	QELIB	QEFAC	QESTACQ	QEAMT	QEWRITE	QESCI	QEOCC
QELIB	.60**							
QEFAC	.60**	.53**						
QESTACQ	.57**	.53**	.59**					
QEAMT	.35**	.64**	.41**	.58**				
QEWRITE	.53**	.34**	.18	.24	.18			
QESCI	.60**	.45**	.46**	.49**	.56**	.33**		
QEOCC	.29*	.38**	.39**	.41**	.32*	.09	.41**	
QECOMP	.59**	.53**	.41**	.38**	.31*	.33**	.39**	.38**

Note. Intercorrelations for African-American participants (n = 127) are presented. QE = Quality of Effort Scale; QECOURS = Course Activities; QELIB = Library Activities; QEFAC = Faculty; QESTACQ = Student Acquaintances; QEAMT = Art, Music, and Theater Activities; QEWRIT = Writing Activities; QESCI = Science Activities, Athletic Activities; QEOCC = Career/Occupational Skills; QECOMP = Computer Technology, Clubs/Organizations, Counseling and Career Planning.
*$p < .05$, two-tailed.
**$p < .01$, two-tailed.

Table T2

Summary of Interitem Pearson r Correlations for Quality of Effort Scales of College B Participant Responses

	Quality of Effort scales							
	QECOURSE	QELIB	QEFAC	QESTACQ	QEAMT	QEWRITE	QESCI	QEOCC
QELIB	.37**							
QEFAC	.56**	.40**						
QESTACQ	.42**	.37**	.70**					
QEAMT	.25*	.63**	.48**	.60**				
QEWRITE	.43**	.45**	.41**	.31*	.19			
QESCI	.53**	.36**	.45**	.54**	.56**	.24		
QEOCC	.52**	.18	.42**	.37**	.26*	.20	.57**	
QECOMP	.41**	.33**	.45**	.39**	.26*	.32*	.30*	.48**

Note. Intercorrelations for African-American participants (n = 127) are presented. QE = Quality of Effort Scale; QECOURS = Course Activities; QELIB = Library Activities; QEFAC = Faculty; QESTACQ = Student Acquaintances; QEAMT = Art, Music, and Theater Activities; QEWRIT = Writing Activities; QESCI = Science Activities, Athletic Activities; QEOCC = Career/ Occupational Skills; QECOMP = Computer Technology, Clubs/Organizations, Counseling and Career Planning.

*$p < .05$, two-tailed.

**$p < .01$, two-tailed.