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Education

2013 (Expected)	Ph.D. in Social Work at the University of Maryland, Baltimore *Academic and social integration as predictors of community college students' semester persistence in developmental courses* Dissertation Chair: Donna Harrington, Ph.D.
2007	Master of Social Work at the University of Maryland, Baltimore Major concentration: Individual practice with families and children
1998	Bachelor of Science at Ball State University in Muncie, Indiana. Major: Newspaper journalism. Minor: American history.

Teaching Experience

Fall 2012	Instructor of Social Work Research for the 15-week course. Course introduces students to research methods and evidence-based practice. Course emphasized the development of skills to learn how to: • Find, review, evaluate, and write about relevant research; • Understand the theory, research, and practice relationship; • Incorporate key concepts of evidence-based practice; • Learn the fundamentals of data analysis; and • Produce a review of the literature.
2009–2012	Statistics workshop instructor for the 8-week course. Designed for admitted MSW and Ph.D. students who needed a statistical refresher course. Course emphasized the development of skills to learn how to: • Understand descriptive and inferential statistics; • Connect theory and research methods to data analysis; • Read a journal article; and • Use SPSS statistical software.
Spring 2011	Instructor of Human Behavior in a Social Environment at a sociological level. This 15-week course emphasized the development of skills to learn how to: • Understand theories and their various levels of abstraction; • Explore the various theories; • Compare and contrast theories; • Evaluate theoretical strengths and weaknesses; and • Apply theoretical concepts to the social work practice.

Professional Experience

2010–Present	Graduate research assistant for Dr. Charlotte Bright. Work included research into juvenile justice diversion and an evaluation of Teen Court in three Maryland counties, including: • Amended Institutional Review Board protocol application; • Designed pre-existing measurement instruments; • Performed literature reviews and document reviews; • Created a recruitment procedure for the pre-post quasi-experimental study; • Conducted interviews of volunteers, participants, and parents; • Trained four research assistants on interviewing techniques and oriented them to the research project; and • Co-authored a technical report evaluating three Teen Court programs.
2010 – Present	Expert faculty member of a Breakthrough Series Collaborative designed to incorporate elements of strength-based resilience within agencies and organizations across the state of Maryland as well as in COMAR. Work includes: • Participating in conference calls that focus on incorporating a resilience-based framework into agency practice; and • Facilitating several workshop sessions that encouraged a rational theory of change throughout organizations.
2008–2009	Substance abuse interventionist at Johns Hopkins Bayview Medical Center. Work included: • Curricula writing for the program; • Group facilitation on job training and life skills to those recovering from substance use and abuse; and • Application of reinforcement behavioral treatment modality to treatment goals.
2008–2010	Teaching assistant for doctoral-level Statistics I and Statistics II for Drs. Donna Harrington, Terry Shaw, and Phillip Osteen. Work included: • Graded exams; • Reviewed homework; • Organized study sessions in preparation for in-class and take-home exams; and • Helped students with descriptive statistics, multiple regression/correlation analysis, Cox proportional hazard models, confirmatory factor analysis, and exploratory factor analysis.

2006–2008 Research assistant for Dr. Michael Lindsey studying a five-county intervention program for youths to prevent out-of-home placements. Work included:

- Drafted consent form approved by the Institutional Review Board;
- Certification with Institutional Review Board;
- Facilitated focus groups;
- Co-drafted protocols for focus groups and key informant interviews;
- Co-authored a manual for the intervention;
- Coded transcripts; and
- Performed literature review searches.

2005–2006 Served as a work-study student tutoring middle school youths in math, English, science, and other subjects. Work included:

- Collaborated with the extended school-based mental health network and the Baltimore City Health Department in developing a plan to increase services to youths in the Baltimore City Public School System;
- Set up an office space at a middle school for MSW interns; and
- Obtained and set up computers for MSW students to use for word processing.

Other Professional Experience

2003–2005 Helped Gannett, Inc., create a new weekly publication targeting young professionals highlighting trends, lifestyle, and events in Indianapolis. Responsible for new and different story angles, reporting and writing stories, conceptualizing art, video, and web links for the 50,000-circulation publication. Placed first and second place for Best Non-Deadline Reporting for a non-daily publication.

2002–2003 Implemented community development projects related to public health, including HIV/AIDS as a health educator for Peace Corps, Kenya. Collaborated with a village-based network of people living with HIV/AIDS. Educated more than 2,000 community members, including youths, women, elders, home-based care providers, and people living with HIV. Empowered HIV-positive women in the community.

2001–2002 Managed nine employees for Crossroads, Fort Wayne Children's Home, as director of campus services. Maintained logistics of housing facility for 12 boys from age 9 to 16. Certified in Standard First Aid and CPR. Performed evaluations, promotions, and documentations of staff and residents. Trained in therapeutic crisis

	intervention. Doubled recreation and activity time for 11 boys. Successfully introduced an autistic child into social environment. Initiated dialog between direct care workers and therapists. Served as a role model to more than 90 youths at the agency.
2000–2001	Certified as an AIDS education instructor from the United Nations through Peace Corps, Turkmenistan. Implemented community needs assessment skills. Introduced health information to 225 students at schools in the village of Gabakly. Translated health topics including rabies, smoking, and tuberculosis into local language. Taught American history, Peace Corps development, and health prevention to schools in Turkmenabat.
1998–2000	Produced more than 560 articles on public safety, education, courts, and government as well as feature stories for the *Fort Wayne News-Sentinel*, a Knight-Ridder publication. Freelanced for the *News-Sentinel* while volunteering in Peace Corps, Turkmenistan.
1995–1998	Promoted from staff writer to editor-in-chief during college years for *The Ball State Daily News*. Managed staff of 60 students, hiring staff in the writing, photography, and design departments. Directed five-day, daily publication editorially.
1992–1995	Promoted from intern to coordinator for the Journalism and Writing Seminars Program at *The Indianapolis Recorder*. Instructed inner-city high school youths on the basics of writing and reporting during the summer of 1995. Managed a staff of six student reporters, managed student paychecks, and represented the program during various functions.

Professional Publications

Greif, G. L., & Morris-Compton, D. (2011). Group work with urban African American parents in their neighborhood schools. In G. L Greif & P. Ephross (Eds.), *Group work with populations at risk* (3rd edition) (pp. 385–398). New York, NY: Oxford University Press.

Technical Publications

Maryland Administrative Office of the Courts, University of Maryland School of Social Work, Ruth H. Young Center for Families and Children, the Institute for Governmental Service and Research, the Baltimore City Teen Court, the Charles County Teen Court, and the Montgomery County Teen Court. (2012). *Multijurisdictional teen court evaluation: A comparative evaluation of three teen court models* (MSJI Grant No. SJI-09-N-156) (Under review).

Lindsey, M. A., Lee, B. R., Sander, R. L., Sullivan, F. A., Park, J., & Morris-Compton, D. (2009). In-Home Intervention Program for Children (IHIP-C) Manual. Baltimore: University of Maryland.

Non-peer Reviewed Publications

Morris-Compton, D. (2006). Immigration divides nation, unites social workers. *Social Work Today, 6*(5), p. 38. Available at http://people.bu.edu/humberto/ImmigrationDividesNationUnitesSocialWorkers.htm

Morris-Compton, D. (2007). Wanted: African American men in social work. *Social Work Today, 7*(1), p. 24. Available at http://www.socialworktoday.com/archive/janfeb2007p24.shtml

Acknowledgment within a Publication

Blank, B. T. (2006). Student role model: Darnell Morris-Compton. *The New Social Worker, 13*(4), p. 3.

Morris-Compton, D. (2006, November 28). *Get to know this town.* Available at http://www.blogs.targetx.com/umbssw/Darnell/2006/11/

Hube, R. (2011). Student profile: Darnell Morris-Compton. *University of Maryland, Baltimore*, p. 21. Available at http://issuu.com/dpeterson/docs/mm2011?mode=embed&layout=http%3A%2F%2Fskin.issuu.com%2Fv%2Fdark%2Flayout.xml&showFlipBtn=true

Alumni Profile: Darnell Morris-Compton, MSW ’07. (2010). *Connections Magazine.* Available at http://www.ssw.umaryland.edu/connections/summer_2010/full_issue.htm

Rice, K., Hwang, J., Abrefa-Gyan, T., & Powell, K. (2010). Evidence-based practice questionnaire: A confirmatory factor analysis in a social work sample. *Advances in Social Work, 11*(2), pp. 158–173.

Professional Presentations

Morris-Compton, D., Walter, J. L., Wright, L. A., Crumpton, C. D., Miller, E. R., & Bright, C. L. (2011, October). *Observations of teen court hearings.* Poster presented at the National Conference of the Office of Juvenile Justice and Delinquency Prevention, Washington, DC.

Professional Associations

- National Association of Social Workers since 2006
- Licensed graduate social worker through the Maryland Board of Social Work Examiners since 2007.
- State of Maryland Department of Health and Mental Hygiene resilience committee member since 2010.

Abstract

Title of Dissertation: Social and Academic Integration as Predictors of Community College Students' Semester Persistence in Developmental Courses

Darnell Morris-Compton, Doctor of Philosophy, 2013

Dissertation Directed by: Donna Harrington, Professor and PhD Program Director, School of Social Work

More than half of students in community colleges need remedial education. Colleges spend over a $1 billion each year to provide instruction to students who are academically behind or struggling to demonstrate necessary academic skills, yet only a quarter of students are completing these developmental courses. The reasons why so many students do not pass are not well understood. Research has explored student consecutive semester re-enrollment, also known as persistence, through academic and social integration. Academic and social integration mean competent membership and participation in a college (Barnett, 2006; Tinto, 1993). Few researchers have examined the relationship between academic and social integration and developmental education (Taylor, 2009). This study selected one community college based on high developmental education course enrollment rates and low passing rates. By chance, the selected institution piloted two programs aimed at improving persistence among developmental education students during the time this study took place. During the Fall Semester of 2012, 239 students in 24 randomly selected developmental education classes were surveyed using a valid instrument to measure academic and social integration (Pascarella & Terenzini, 1980). The study used a cross-sectional research design with an administrative follow up in the Spring Semester of 2013. Logistic regression analyses

examined whether academic and social integration predicted students' intention to re-enroll and persistence among students taking developmental education courses. Overall, academic and social integration did not predict persistence; however, institutional and goal commitment and participating in the Skill Building Program were found to predict intent to re-enroll. These findings suggest that the relationship between academic and social integration among community college students taking developmental education courses is complex. Findings related to intent to re-enroll suggest that practitioners can assess students' commitment level and intention to leave well before the end of the semester in order to understand the nature of non-persisting students' intent to leave, and provide early assistance for students who experience academic or extra-curricular difficulties.

Social and Academic Integration as Predictors of Community College Students' Semester Persistence in Developmental Courses

by
Darnell J. Morris-Compton

Dissertation submitted to the Faculty of the Graduate School of the
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CHAPTER 1: INTRODUCTION AND LITERATURE REVIEW

More than half of community college students (58%) need developmental education (Attewell, Lavin, Domina, & Levy, 2006; Bailey, Jeong, & Cho, 2010). Colleges spend more than $1 billion each year on these courses (Breneman & Haarlow, 1998; Green, 2000; Saxon & Boylan, 2001) for underprepared students who are academically behind or lacking basic skills when they matriculate (Boylan, 1988). In spite of such funding, only 25% of community college students who take remedial courses complete them and graduate (Bailey, 2009). Many students taking remedial education courses do not finish these courses and are unable to complete their education (Bailey, Jeong, & Cho, 2012). Community colleges have the highest rates of remedial course enrollment compared to four-year colleges and all public and private post-secondary institutions (Bailey, Jenkins, & Leinbach, 2005, p. 36). Furthermore, African American students tend to rank the lowest among developmental education completers compared to other ethnicities (Bailey et al., 2010; Bailey et al., 2005, p. 39). It remains unclear whether developmental education is effective.

Few scholars have examined this problem empirically or theoretically. The literature has explored the concept of student persistence—often defined as consecutive semester enrollment (Barnett, 2006; Napoli & Wortman, 1996; Tinto, 1997)—as a function of academic and social integration (Bers & Smith, 1991; Borglum & Kubala, 2000; Fischer, 2007; French & Oakes, 2004; Mannan, 2007; Morris, 2002; Pascarella & Terenzini, 1980; Umoh, Eddy, & Spaulding, 1994). Academic and social integration in its most basic form means competent membership in a college (Barnett, 2006; Tinto, 1997). Academic and social integration takes place when students adopt the attitudes and

values shared by college faculty and staff and accept the requirements of membership (e.g., roles, rules, and structures) within the college (Pascarella & Terenzini, 2005). Although the literature has not been consistent about the operational differences between academic integration and social integration (Barnett, 2006), academic integration tends to refer to the students' actual performance in college and their satisfaction with their intellectual experiences and development (Tinto, 1997). Social integration more commonly refers to the interactions that students have with their peers as well as with faculty. Few researchers have examined the relationship between academic and social integration and developmental education (Taylor, 2009). This dissertation examines the relationship between academic and social integration and persistence in developmental education in a community college.

This dissertation has four chapters. Chapter 1 includes the introduction, the problem statement, the relevance to social work, the purpose of the study, the conceptual framework, the literature search strategy, and research on academic and social integration. Chapter 2 presents the method for the study, including the research setting, design, participants, sample, measures, preliminary data analysis, data analysis strategies, and strengths and limitations. Chapter 3 presents the results of statistical analyses for the three research questions. Chapter 4 presents a discussion of the findings as well as implications for theory, practice, and research. The appendices and references are presented at the end of the document.

Problem Statement

Community colleges play an important role in higher education. They offer certification classes so individuals can increase their job-related skill sets, provide a low-

cost alternative to four-year colleges and universities for some high school or GED graduates, offer students a chance to transition to a four-year college, and offer an opportunity to increase financial earnings with an associate's degree. When a student earns an associate's degree from a community college, his or her earnings increase by an average of $11,033 annually, compared to someone with a high school diploma, according to U.S. Census (2011) estimates. Obtaining an associate's degree increases earnings by an average of $5,241 annually, compared to a student who attended college but did not earn a bachelor's degree (U.S. Census, 2011). Furthermore, when broken down by education, the unemployment rate for those with an associate's degree (6.2%) is lower than the unemployment rate for those with some college (7.7%) and lower than those with only a high school diploma (12.4%), according to the Bureau of Labor Statistics (2013).

Minority students, students from vulnerable communities, and older students are most likely to attend community colleges (Bailey et al., 2005; Pascarella & Terenzini, 2005). By obtaining a degree from a community college, students develop verbal, reading, math, and critical thinking skills that can be comparable to a student at a four-year college after controlling for precollege entry variables (Pascarella & Terenzini, 2005, p. 639). Community college graduates enter various fields including vocational, industrial, health sciences, and human services, thus increasing potential earnings; however, that cannot happen if students do not graduate.

Students who need remediation are less likely to persist and graduate (Merisotis & Phipps, 2000). The likelihood of graduation decreases even further for students who need more than one developmental class (Campbell & Blakey, 1996; Hern, 2010; Kolajo,

2004). When developmental education completion rates are broken down by subject, 46% of students taking developmental reading pass and one third of students taking developmental mathematics pass (Bailey, Jeong, & Cho, 2012; Clayton & Rodriguez, 2012).

Statistics on developmental course completion rates at two-year institutions can be a challenge for several reasons. Some schools no longer offer remediation, while other schools have never offered it. Some schools have tried not to present courses as "developmental" to prevent stigma. Many schools have different names for developmental education, such as developmental programs or basic skill courses (Cohen & Brawer, 2008). In addition, schools have different admittance criteria. Some schools enforce a mandatory developmental course load, whereas others keep developmental courses as recommended. Developmental education assessments vary by schools, by type of institution, and by state policy. There are policies in some states that limit or prohibit developmental education in certain institutions (Cohen & Brawer, 2008). Finally, some institutions do not track remediation figures; among those that do track developmental education enrollment, many do not report successful completion of courses (Cohen & Brawer, 2008). Fortunately, completion rates of developmental courses among community colleges can be found at the local level.

The Maryland Association of Community Colleges (2011) publishes a data book that includes information on both developmental education attendance and completion. In the Fall Semester of 2005, cohorts of full-time students were assessed on their completion

status for developmental education courses[1]. Among Maryland's community colleges, the Community College[2] (N = 749) experienced the highest number of students (91%, n = 682) requiring developmental education, and the highest number of students not completing developmental education at 73% (n = 499). In comparison, a nearby community college had 74% (593) of students that needed developmental education, and among those, 33% (198) of students did not pass. Community colleges in other states have reported similarly diverse findings (Attewell et al., 2006; Bailey et al., 2010; Campbell & Blakey, 1996; Fischer, 2007). Nationally and statewide, passing developmental education courses appears to be a significant obstacle facing community college students, especially African Americans.

More African Americans are entering community colleges than four-year institutions (Aud et al., 2010). In 2008, African American attendance in community colleges reached 931,858 , more than 100,000 greater than the number of African American students attending four-year schools (n = 827,342; Aud et al., 2010). Nearly 60% of community college students enroll in a developmental education course regardless of ethnicity (Attewell et al., 2006; Bailey et al., 2010).

The consequences for not passing developmental courses are substantial. Students typically receive no credit for these courses; developmental courses can drain personal income and financial aid if the student receives assistance, and not passing can decrease the motivation to continue. The National Center for Education Statistics, a part of the U.S. Department of Education (1996), indicates that students in community colleges

[1] Data are based on a cohort of fall 2005 entering students and their progression toward a degree for years after initial enrollment. Students included in the sample attempted at least 18 hours within 2 years of matriculation.

[2] The names of the two community colleges mentioned were changed to protect the privacy of the school.

experience lower completion rates than students in four-year institutions, and those students in colleges with a higher minority population report lower rates of completing developmental education than students attending schools with lower minority representation. Explanations for these lower completion rates have varied. Some have said students do not take the proper sequence of remedial courses (Bailey et al., 2010). Others have argued that accepting a majority of students who apply causes this phenomenon (Bailey et al., 2005; Goldrick-Rab, 2010). Others say it has to do with being a first-generation college student (Fischer, 2007). Still others have described educational gaps between high school graduation standards and college entry requirements (Kuh, Kinzie, Buckley, Bridges, & Hayek, 2006). Finally, several have explored academic and social integration (Morris, 2002; Opp, 2002; Spor, 2008). Many researchers have turned to academic and social integration (Bers & Smith, 1991; Napoli & Wortman, 1996; Pasarella & Terenzini, 1980; Tinto, 1987a)—or a lack thereof—to explain why so many community college students take a remedial course, yet more than 10% fail to complete one credit, and about 25% of students who enter in the fall semester leave before the subsequent spring semester (McClenney, 2009).

Relevance to Social Work

Social workers provide services to those who need assistance, according to the National Association of Social Workers' Code of Ethics (NASW, 2008). In addition, social workers address social problems and support equal and open access to education as an element of social justice, while respecting the dignity and worth of the person and his or her culture (NASW, 2008). From a social justice perspective, social workers should care about students who struggle with developmental education because these community

college students are typically minority students or students who come from vulnerable neighborhoods and backgrounds. Frequently, they are the first-generation college student in their families (Pascarella & Terrenzini, 2005). They are also less prepared and have many obligations outside of school that can make obtaining a degree much more difficult (Pascarella & Terrenzini, 2005; OIR, 1999). If social workers pursued to help students to overcome the developmental education challenge, the students' chance of graduation increases. This would further promote equality of opportunity (NASW, 2008).

Some might argue that this is a problem for educators and that those in the discipline of education should solve the problem. Granted, the relevance to social work is less direct than the relevance to faculty and staff; however, it is also true that social workers are faculty and staff at community colleges, and social workers have much to offer in terms of practice implications. For example, education models are shifting their orientation, roles, and understanding of learning in a manner that is consistent with the field of social work. Instead of the typical lecture-based, teacher-oriented, note-taking style of learning, schools are trying more holistic methods (Pascarella & Terrenzini, 2005). Learning communities are one such example. Learning is more interdisciplinary, taking place in and out of the classroom, and within structured social relationships among students, faculty, and staff. The roles of student and teacher are becoming less rigid (Pascarella & Terrenzini, 2005). Social workers operate in a person-in-environment, holistic framework, practice among multiple disciplines, and can create environments where the roles are clear, even though it may be less of a learner/teacher orientation. The shift toward using relationships to achieve success is a model that has a rich history in the field of social work.

There are practice implications for social workers. Social workers can prepare students to take developmental courses by informing them of any placement examinations and advising them of the culture of community college to ease the transition. Social workers working at community college can offer individual or group work to help students pass developmental education courses.

Although there has been little research to date that focuses on social work services in community colleges to assist retention efforts, social workers are engaged in this effort. Some social workers are working to retain community college students in a supportive role, providing clinical social work to students, including crisis intervention services (B. Angleberger, personal communication, December 5, 2011). Others are offering support services (S. Snyder, personal communication, December 12, 2011), as well as assisting informally through speaking engagements and organizing student social work groups (Pace, 2011).

Purpose of the Study

The purpose of this study was to explore the relationship between academic and social integration and community college students' persistence in developmental education courses. In the context of one community college, this researcher examined the outcomes of developmental education courses taken by students along with academic integration (academic and intellectual development, institutional and goal commitment, GPA, and faculty concern for student development and teaching) and social integration (peer group interaction, interactions with faculty and class, and in-class interactions).

To explore the relationship between academic and social integration and developmental education persistence among community college students, the study used

a one-time student survey along with linked administrative data. The independent variables included the five factors from the Institutional Integration Scale (IIS, described in more detail subsequently): (a) peer-group interactions, (b) academic and intellectual development, (c) institutional goals and commitments, (d) interactions with faculty, and (e) faculty concerns for student development and teaching. The dependent variable was persistence, defined as subsequent semester re-enrollment. Control variables in these models included ethnicity, sex, marital status, dependent status, enrollment status, parental socioeconomic status, parents' education level[3], and external demands. Specifically, the research questions were:

1. Do social integration and academic integration predict community college students' semester persistence in developmental courses?
2. What is the relationship between academic integration and community college students' semester persistence in developmental courses, when controlling for pre-entry attributes?
3. What is the relationship between social integration and community college students' semester persistence in developmental courses when controlling for pre-entry attributes?

Conceptual Framework

The more a student integrates into the institution, the less likely that student is to withdraw. For students to persist, everyone (i.e., faculty, staff, administrators, and students) must be focused on—and committed to—education (Tinto, 1987b, p. 8). Education, not retention, should be the objective (Tinto, 1987b, p. 9).

[3] Parental SES and parents' education level includes biological parents or other caregivers or guardians.

Tinto (1987a) posits that students come into college with individual skills, an educational past, and a family background that directly affect student intentions before enrollment. These intentions directly influence the college experience, which is composed of two systems: the academic system and the social system. Pre-existing circumstances combined with intent (i.e., a plan to continue pursuit toward a degree or certification) and college experience are the basis for whether a student decides to leave. The less the student integrates, the more likely that student is to withdraw from school (Tinto, 1987a). Tinto's (1987a) model of student departure recognizes the importance of student integration and indicates that social activities and academic activities are important to the student. The more students involve themselves in the social fabric of academia, the more likely they are to adopt the values, norms, and rituals of the college setting. The more likely they are to adopt the values and norms, the less likely they are to drop out, thus increasing retention. Tinto (1987a) developed a predictive model based on background characteristics and goal commitments which influence how integrated a student becomes within the social and academic structures.

Pre-entry attributes are the individual and family characterisitcs that students possess prior to matriculation. These include age (Cofer & Somers, 2000; Crisp & Nora, 2010), sex (Grimes, 1997; Kuh et al., 2006), ethnicity (Bailey et al., 2005; Goldrick-Rab, 2010; Grimes, 1997), performance in high school (Cofer & Somers, 2000; Crisp & Nora, 2010), and family background, including socioeconomic status and parents' educational level (Crisp & Nora, 2010). These factors influence both the commitment level toward obtaining a degree and integration within the academic and social systems. Pre-entry attributes can influence academic and social integration in several ways. Kuh et al. (2006)

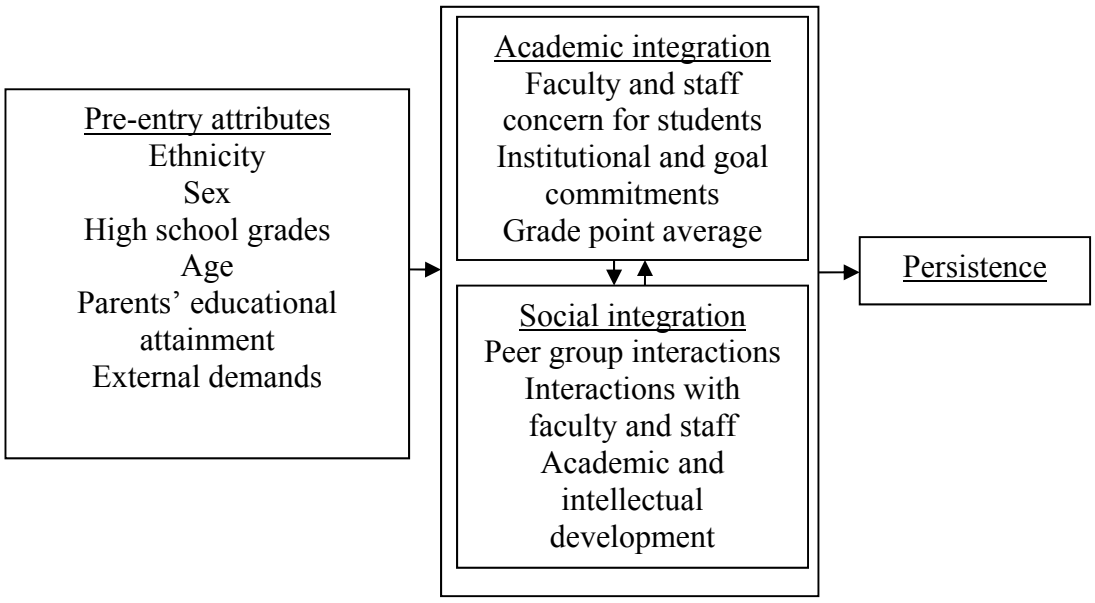
cite gender, ethnicity, and socioeconomic differences in college completion rates. Students who attended— and excelled— in college-preparatory high schools and students whose parents have college degrees are more likely to integrate academically and socially than students who did not attend such schools, who performed poorly, or who are first-generation college students (Kuh et al., 2006). External demands, including work and family, can also negatively influence persistence (Pascarella & Terenzini, 2005; Office of Institutional Research, 1999).

Tinto (1987b) argued that students fail to persist for reasons related to goals or adjustments. These reasons include that their goals were not clearly defined (uncertainty could contribute), they changed their goals after enrollment (which speaks to commitment), or their goal never was to complete a degree (which speaks to both goals and commitments). In terms of adjustment, Tinto referred to the academic acculturation process, meaning students interact with other students, staff, faculty, and administrators. That interaction process can be complex, but ultimately can positively or negatively affect persistence. Tinto argued that students can feel isolated from faculty and peers, or there can be conflicts in the adjustment process. Persistence increases when institutions have faculty and staff involved in intellectual discussions in and out of the classroom as well as when the institution is committed to engaging students and that engagement is centered on development. Students do not persist because they cannot perform, he argued. Students who cannot adjust do not persist. Engaging students academically and socially will help students adjust, and they will persist. More recently the model has been expanded to include how external factors, such as employment and finances (including financial aid), as well as in-class experiences contribute to academic and social

integration, which leads to persistence (Braxton, 2000; Pascarella & Terenzini, 2005; Tinto, 1997).

Academic integration is composed of how well students perform and how the students build upon their intelligence. Social integration emphasizes how students interact with peers and faculty. The more a student integrates academically and socially, the more likely that student is to persist (Pascarella & Terenzini, 1980, p. 61). Figure 1[4] presents the conceptual framework for this study based on Tinto's conceptualization, which is comprised of four major domains: pre-entry attributes, academic integration, social integration, and persistence.

Figure 1. Conceptual Framework of the Study



[4] Figure 1 is based on a longitudinal model of institutional departure, adapted from How College Affects Students: A Third Decade of Research, Volume 2, by E. T. Pascarella and P. T. Terenzini, 2005. Copyright 2005 by John Wiley and Sons.

According to Tinto (1987a), students arrive on campus with *pre-entry attributes*, such as demographic variables, that are known to increase or decrease the likelihood of persistence. For example, women have performed better than men on college assignments and test scores in the last decade (Kuh et al., 2006). An educational gap remains among Blacks, Whites, and Latinos with Whites outperforming Blacks and Latinos. High school grades and the quality of the high school are strong indicators of college retention (Kuh et al., 2006). Parental education strongly influences persistence and first-generation college students are less likely to persist (Kuh et al., 2006). External demands is another domain included in Tinto's model (Pascarella & Terenzini, 2005). These are the family commitments, work obligations, and other influences that occur outside of college that can either increase or decrease the likelihood of persistence (Pascarella & Terenzini, 2005).

Academic integration involves several concepts, including the academic performance at the community college, the interest and concern students perceive from faculty, the goals and commitments expressed by the student toward obtaining good grades, and the interest to develop and grow intellectually. Social integration involves the friendships made with students, values and attitudes found in common with other students, a sense of connectedness with others, and discussions and interactions that take place with faculty and staff. Academic integration can influence social integration and social integration can influence academic integration. Persistence follows academic and social integration, and is defined as whether or not the student re-enrolls the subsequent semester. Students who have high levels of academic and social integration tend to persist compared to students with low levels of academic and social integration. The arrows in

the figure represent the sequence of events. The pre-entry attributes influence social and academic integration. Social integration influences academic integration and vice versa. These two forms of integration can influence persistence.

There have been several conceptual models of student retention and attrition in community colleges (Mason, 1998; Morris, 2002; Pascarella & Terrenzini, 2005); among them, Tinto's model has been tested and has garnered more attention than the other models. In addition, unlike the other models, Tinto's model has an established measurement instrument, that has been validated in higher education, to operationalize the constructs of interest (French & Oakes, 2004).

Tinto's model is longitudinal in design. It explores goals and commitments before and after academic and social integration, and it explores the role of external demands on persistence (Pascarella & Terenzini, 2005). Tinto's model also breaks down the domain of institutional experiences by academic system and social system. It is further broken down into subdomains of formal experiences (e.g., grades) and faculty/staff interactions, versus formal social system experiences (e.g., extracurricular activities) and informal social system experiences (e.g., peer group interactions) (Pascarella & Terenzini, 2005).

Literature Search Strategy

The literature review examined research studies focused on academic and social integration and persistence among college students taking developmental education courses. To review the literature, the search strategy incorporated database searches from the fields of academia and education (Academic Search Premier, Teacher Reference Center, and Educational Resources Information Center [ERIC]), psychology (PsycINFO, PsycArticles, Psychology and Behavioral Sciences Collection), and social work (Social Work Abstracts, SocIndex with Full Text), in addition to multidisciplinary databases (Social Sciences Citation Index, Article First, Google Scholar, Journal Citation Reports on the Web, Urban Studies abstract, and Web of Science).

In Academic Search Premier, databases included in the search were ERIC, Social Work Abstracts, SocINDEX with Full Text, Teacher Reference Center, Urban Studies Abstracts, Professional Development Collection, and Psychology and Behavioral Sciences Collection. The Web of Science, Journal Citation Reports on the Web, and Social Science Citation Index all use the Institute for Scientific Information database; PsycINFO uses Ovid database; PsycArticles uses Journals@Ovid database; Google Scholar uses Google's database; and Article First uses Online Computer Library Center (OCLC). In total, six separate database searches were conducted beginning from the time point of an earlier meta-analysis (Napoli & Wortman, 1996) through 2012.

The subject search terms included community college, junior college, or two-year college. Several words were used to describe the concept of developmental education, including underprepared community college students, compensatory education, developmental studies program, developmental education instruction, remediation,

college preparatory, and basic skills. When exploring the concept of persistence, search terms included retention, attrition, failure, and dropout. Integration, socialization, institutional integration, academic integration, and Tinto's model were used to search for the literature on integration. As a result, more than 235 articles were found. Among those, nearly 150 were quantitative or qualitative studies, more than 100 of which had been published after Napoli and Wortman's (1996) meta-analysis. The articles that were selected specifically addressed all of the constructs of academic integration, social integration, and persistence among community college students. These included 21 manuscripts in all, consisting of 1 meta-analysis and 20 empirical articles. These are reviewed in the subsequent sections (see Appendix A for a table summarizing the studies included in this review). Studies with different terminology studying similar constructs were included.

Research on Academic and Social Integration

In the review of the literature, researchers all used a similar conceptualization of academic and social integration and persistence; however, the operationalization of these constructs varies. Some used interviews to operationalize these constructs within qualitative studies (Deil-Amen, 2011; Johnson, 2001; Karp, Hughes, & O'Gara, 2010; Wirth & Padilla, 2008). These definitions included sense of belonging (Karp et al., 2010), social involvement, having a social life on campus, isolation (Opp, 2002), and teacher-to-student and student interactions (Deil-Amen, 2011). Similar results were found in quantitative studies. For example, Marti (2008) used measures from the Community College Student Report Form to obtain information on faculty interactions and student interactions. Marti defined persistence as credit hours completed based on transcripts.

Williamson-Ashe (2009) used the Institutional Integration Scale (IIS) along with the Current Student Survey to assess academic integration (from the IIS domains of academic and intellectual development, interaction with faculty, and faculty interest in student and teaching) and social integration (peer group interactions domains of the IIS) on persistence (subsequent semester re-enrollment). Pascarella's Institutional Integration Scale was a measure operationalized from Tinto's constructs. Several researchers used the IIS, and the measure has demonstrated reliability and validity (French & Oaks, 2004).

The literature review begins with a brief overview of a meta-analysis conducted by Napoli and Wortman (1996). Because this meta-analysis reviewed all research done through 1995 on this topic, it was used as the starting point for the literature review. Following the findings from the meta-analysis, the literature review describes studies with conclusions that were consistent with Tinto's (1987a) model (organized in the categories qualitative studies, quantitative studies, and secondary data analyses), and studies that were not completely consistent with Tinto's model. The section concludes with the gaps in the literature that this study addresses.

Napoli and Wortman (1996) Meta-Analysis. Napoli and Wortman (1996) reviewed six studies published between 1983 and 1995 that found positive effects for community college students with regard to academic integration. The overall sample for the meta-analysis was 3,489. Controlling for sample size bias, the overall effect size for academic integration on persistence was (Hedge's g) 0.72, $p < .0001$ and the effect size for social integration was 0.46, $p < .00005$. Social integration and semester persistence term-to-term were also significantly related, $r = .121$, $p < .001$. In summary, Napoli and Wortman (1996) found academic integration to have a strong influence on persistence,

whereas social integration was found to have a moderate effect on persistence. Both academic and social integration had stronger effects when persistence was measured by semesters, as opposed to academic years. It should be noted that although the studies examined in the meta-analysis did not focus on developmental education students, the findings suggest moderate to strong effects of social and academic integration on community college students' persistence. However, the study is more than 15 years old. Since the meta-analysis was conducted, 21 studies on this topic have been published; this more recent literature is reviewed below.

Findings consistent with Tinto's model: Qualitative studies. Six studies presented qualitative findings consistent with Tinto's model (Cox & Ebbers, 2010; Deil-Amen, 2011; Johnson, 2001; Karp et al., 2010; Office of Institutional Research [OIR], 1999; Wirth & Padilla, 2008). All of them focused on community colleges or two-year institutions, and one included both private and public community colleges (Deil-Amen, 2011). Their research questions and methodologies varied. Their findings, however, were consistent with Tinto's model in that increased interaction with peers, faculty, and staff seemed to increase a sense of support (Cox & Ebbers, 2010; Deil-Amen, 2011; Johnson, 2001) and increase persistence (Cox & Ebbers, 2010; Johnson, 2001; Karp et al., 2010). Some also found that the lack of peer interaction or faculty interaction created a barrier for students (Wirth & Padilla, 2008) or were stated reasons for leaving school (Office of Institutional Research, 1999). The participants in one study were students who left community college (i.e., did not persist; OIR, 1999). Some of the students had external factors that forced their departure (e.g., logistics with childcare, financial hardship or lack

of financial aid, or health problems), but some said they were not connected to the campus and "felt invisible" (OIR, 1999, p. 6).

Methodologically speaking, the qualitative studies employed mixed methods (OIR, 1999), semi-structured interviews (Cox & Ebbers, 2010; Deil-Amen, 2011; Johnson, 2001), multiple interviews (Karp et al., 2010), and a taxonomy-based approach (Wirth & Padilla, 2008). One used a snowball sample (Karp et al., 2010) and others found participants through the school Office of Institutional Research (OIR, 1999; Deil-Amen, 2011). These studies also had different study populations. In Johnson's (2001) dissertation, all 10 of the participants were African American. In Deil-Amen's study, 125 students from seven public schools and seven private institutions were interviewed, the largest group of them being Latino (35%). The other studies either included a majority of White students or ethnicity was not clearly reported.

The study by Karp et al. (2010) was unique in that their research question focused on exploring Tinto's model of academic and social integration. When students interacted with others on campus to better navigate the campus, successfully complete assignments, and find available resources, they persisted better than those who did not discuss those themes.

Consistent findings: Quantitative studies. Five quantitative studies found institutional integration to influence persistence (Barnett, 2006; Grosset, 1997; Nakajima, 2008; Napoli & Wortman, 1998; Taylor, 2009). Two studies did not use the Institutional Integration Scale (Barnett, 2006; Napoli & Wortman, 1998); the remaining three did. Academic integration influenced persistence in two studies (Grosset, 1997; Napoli & Wortman, 1998). In a study by Nakajima (2008), the faculty concern for teaching and

student development subscale of the Institutional Integration Scale was found to influence persistence. In Taylor's application of the Institutional Integration Scale (2009), the interactions with faculty subscale influenced persistence. It should be noted that in Taylor's study (2009), persistence was defined as the number of developmental classes taken rather than subsequent semester re-enrollment. It should also be noted that academic integration was measured in Nakajima's study (2008) with the faculty concern for student growth and the development subscale of the IIS rather than the full scale. Two studies examining social integration (Grosset, 1997; Napoli & Wortman, 1998) found a positive relationship between social integration and persistence. At one community college, Napoli and Wortman (1998) studied retention using a longitudinal design. Researchers collected data at three time points during the 1994–95 academic year. Their results indicated that social and academic integration predicted persistence.

Methodologically speaking, sample sizes varied (N= 427 in Nakajima's 2008 study; N = 333 for Barnett's 2006 study; N = 1,011 for Napoli and Wortman's 1998 study; N = 315 for Grosset's 1997 study; and N = 205 students for Taylor's 2009 dissertation). Grosset and Nakajima studied re-enrollment (persistence) the following semester; Napoli and Wortman (1998) examined re-enrollment after an academic year.

The dependent variable in these studies varied. One study focused on *intent* to persist (i.e., the students were asked whether they *planned* to re-enroll), and found student integration to predict intent (Barnett, 2006). Taylor (2009) focused on the number of semesters enrolled in developmental education. The finding that increased academic integration is associated with more developmental classes taken does not necessarily demonstrate persistence through the community college curriculum. The finding

demonstrates that students are able to academically navigate developmental education courses, but not necessarily nondevelopmental education courses. The goal in community college is not to increase the number of developmental education classes taken. The number of developmental education classes taken does not necessarily reflect the desired outcome of persistence at a community college. If anything, it demonstrates students' persistence with developmental education courses. Unfortunately, persistence in developmental education classes does not equate to persistence in non-developmental education courses.

Consistent findings: Secondary data studies. Two studies with consistent findings involve secondary data analyses from large longitudinal datasets (McClenney & Marti, 2006; Settle, 2011). Both studies found academic and social integration to be directly and positively associated with persistence.

In Settle's (2011) analysis using the Beginning Postsecondary Students Longitudinal Study (BPS: 96/98), a subset of the National Postsecondary Student Aid Study, there were 310 students in the sample. The logistic regression explored 37 independent variables on Fall Semester 1995 to Fall Semester 1996 persistence. High school grades, having financial aid, going to different places with friends, being satisfied with intellectual development, higher college grades, fewer hours spent working, being satisfied with the campus climate, and going to lectures with friends were all important predictors of persistence among community college students.

The Lumina Foundation for Education funded a validation study of the Community College Survey of Student Engagement (CCSSE) in 2004 (McClenney, & Marti, 2006). The project included datasets from the Florida Community College System

(n = 1,120), data from the Achieving the Dream project (n = 1,229), and data from Hispanic-Serving Institutions or members of the Hispanic Association of Colleges and Universities (n = 3,127). The major constructs of interest included peer interaction (active and collaborative learning) and faculty interactions.

For the Florida Community College System (McClenney & Marti, 2006), the active and collaborative learning subscale—related to in-class interactions in Tinto's model—was a significant predictor of persistence to the next term. None of the variables related to Tinto's model significantly predicted fall-to-fall persistence for the 2002 and 2003 cohorts in the Achieving the Dream dataset. Term-to-term persistence was not reported. In the Hispanic Serving Institutions, active and collaborative learning was a significant predictor as well as student-faculty interaction. Results indicate that active and collaborative learning in addition to student-faculty interactions are significant predictors in term-to-term persistence.

Findings not fully consistent with Tinto's model. There were six studies with findings not fully consistent with Tinto's model (Barns & Piland, 2010; Borglum & Kubala, 2000; Greene, Marti, & McClenney, 2008; Marti, 2008; Opp, 2002; Williamson-Ashe, 2009). The inconsistencies did not present in a specific pattern. The study by Williamson-Ashe (2009) found academic integration and faculty interactions to be positively associated with persistence; however, peer interactions had an inverse relationship with respect to persistence. Tinto (1987a, 1997) noted that the social aspect of the campus can be inconsistent with academic functioning. A limitation to Williamson-Ashe's dissertation is that the response rate was 30%, which presents a potential for nonresponse bias.

There were four studies that included data from Florida. One of them presented results consistent with Tinto's model (McClenney & Marti, 2006) as discussed above. Marti also authored two other studies using the same Florida data with mixed results. Marti (2008) found an inverse relationship between faculty interactions in collaborative learning and the number of credit hours completed. Five latent trajectories were identified, including a group of students who attended school for one term before leaving. The dependent variable for this study was based on credit hours completed and transcripts, not on whether students persisted from one semester to the next.

Results were mixed in the study by Greene, Marti, and McClenney (2008), where hierarchical linear modeling was used to assess student engagement. Engagement was operationalized as how often and how long they had to work on class assignments, use particular thinking moves (i.e. analyze, synthesize, evaluate, apply), and how many books were assigned. Although African Americans were more engaged with their coursework than their White counterparts, African Americans received lower grades (Greene et al., 2008). The implication is that student outcomes may, in part, depend on the nature of student interactions (i.e., why they are interacting), not necessarily on the quantity of interactions. In both studies (Greene et al., 2008; Marti, 2008) Whites were predominant in the samples (56% and 66%, respectively).

In the final Florida study, Borglum and Kubala (2000) explored three community college campuses finding no significant associations among academic integration, social integration, and withdrawal. This was based on a sample of 2,115 student surveys randomly selected from the Office of Institutional Research, where social integration was conceptualized to include satisfaction with the sports facilities, sports programs,

workshops, entertainment activities, and cultural programs. Academic integration, in their model, included satisfaction with the bookstore, computer lab, math lab, and reading lab. It also included quality of instruction, availability of instructors, and reasons for meeting with instructors.

The final two studies also presented results not fully consistent with Tinto's model. Barnes and Piland (2010) examined students involved in developmental English classes in 2007, exploring the role of learning communities in persistence. The learning community can be considered a form of peer interaction or social interaction. The total sample size was 1,520, with 760 in the study group (community learners), and 760 in the comparison group. A majority of the students were female and Latina. Persistence was measured by re-enrollment the following semester. There were 20 students who were not involved in learning communities and did not persist, and three students in learning communities who did not persist. As a learning community, there was not a statistically significant finding of group persistence as a whole. Significant interactions, however, indicated that females and Latinas within learning communities had more favorable outcomes. This study is limited by the small number of students who did not persist so there are several cells with expected counts less than five, which can affect the chi-square analyses.

Finally, Opp (2002) sent out a 60-item questionnaire to everyone listed in the *Who's Who in Community Colleges* (N = 1,173) in 1996. The items asked about barriers and strategies. A total of 643 students responded, most of them White (78.3%). Opp found developmental education isolates students of color from the mainstream. Opp also found that isolation predicted persistence. The author suggests that the structured support

for those in developmental education created a social and academically integrated environment, consistent with Tinto's theory (1987a, 1997).

Research on Other Factors Related to Persistence

Intent to re-enroll. Four studies were found with statistically significant models of intent to re-enroll (Barnett, 2006; Cabrera, Nora, & Castaneda, 1993; Grosset, 1997; Williamson-Ashe, 2009). Using intent to re-enroll as a continuous variable, Barnett's multiple regression analysis found academic integration to predict intent to re-enroll. Cabrera, Nora, and Castenada (1993) found intent to re-enroll to be the strongest predictor of persistence in a sample of 2,459 university students. Grosset (1997) found in a sample of 315 African American community college students that those with higher levels of academic and social integration were more likely to re-enroll than those with lower levels of academic and social integration. Williamson-Ashe (2009) conducted one of the few studies that examined both intent to re-enroll and persistence, finding that intent did predict persistence.

Learning communities. Learning communities are based on Tinto's principles, and Tinto (1997) has endorsed the idea of learning communities. Linking courses and services together provides more opportunities for students to experience a social connection with peers, faculty, and staff. These structural connections prevent isolation and can lead to academic engagement (Tinto, 1997). Unfortunately, few studies have evaluated learning communities at the community college level, and the existing results have been mixed. For example, Barnes and Piland (2010) sampled 1,520 students in four different levels of English developmental education (levels of education meaning more basic English remediation, higher levels meaning closer to college-level English).

Evidence of persistence in learning communities was found in higher levels of developmental education courses, but not in lower levels. Wilmer (2009) sampled 120 students divided into those in a learning community and those not in a learning community. Wilmer found statistically significant differences faculty interaction and peer interaction between students involved in the learning community versus students not involved in the learning community. Barbatis (2010) conducted a qualitative study interviewing 22 students who were involved in a learning community. Some of the students graduated, some were still in school at the time of the interview, and some had dropped out. Although themes of supportive parents, faith, and independence emerged, students who either graduated or remained in school reported responsibility, institutional goals and commitments, and involvement in campus activities more frequently than those students who dropped out. In addition, the students who dropped out reported more frequently about external demands and life circumstances.

Skill building programs. Skill building programs tend to be shorter than a semester in length. They are offered during the summer and are designed to enhance academic skills in reading, writing, and mathematics. These programs often target first-generation students, minorities, and students who come from families with limited resources.

Research on skill building programs influencing persistence is both limited and mixed. A study by Myers and Drevlow (1982) found that the skill building program at the University of California, San Diego, increased retention among minority, low-income students. The 3-week intensive program allowed students to reside on campus, and included recreational activities and paid work while emphasizing math, reading, writing,

study skills, and working with peers. The effects of the program included increased retention compared to students of similar demographics who did not participate in the program. Another study found a similar skill building program to increase persistence in a sample comparing students in the skill building program (n = 408) versus those not in the program (n = 2,025; Allen, 2012). At the same time, a study by Barnett et al. (2012) did not find evidence that a skill building program increased persistence. This study involved eight institutions (including one community college) in Texas, involving a sample of 1,318 students randomly assigned to either the skill building program or a control group. Similarly, Visher et al. (2012) found a skill building program to not influence persistence in six post-secondary schools in various states.

Summary

In summary, academic and social integration were significant predictors in several studies. One study (Borglum & Kubala, 2000) that did not find significance, defined academic and social integration based on institutional research on self-reported satisfaction, loosely tied to Tinto's model (1987a, 1997). Two studies found inverse relationships of peer interactions on persistence (Opp, 2002; Williamson-Ashe, 2009), which could be a result of the type or nature of the interactions (e.g., purely social interaction versus productive interaction). One study found an inverse relationship between faculty interaction and collaborative learning, which is a form of peer interaction (Marti, 2008). Marti indicated that multi-institutional data may give the reader an incomplete picture of persistence. In other words, the data do not capture one individual's path through several schools. A student, for example, may attend two schools simultaneously. They may intend to take one class from one school, pass, and leave it, in

order to continue at another institution. The data may characterize them as nonpersisters. That limitation could explain the finding of increased interaction and collaboration and decreased persistence.

Only one study used the Institutional Integration Scale and found results inconsistent with Tinto's (1987a, 1997) model (Williamson-Ashe, 2009). Williamson-Ashe found persistence to decrease with an increase in peer-group interaction. One possible explanation for the inconsistent finding comes from Karp and colleagues' (2010) research. In their qualitative exploration of academic and social integration, they found that when peer-to-peer interaction is used to help navigate the campus and academics—called information networks—then integration increased as well as persistence. When peer interaction was not used as an information network, then persistence declined (Karp et al., 2010). Although the findings are not completely consistent, when put together, there is evidence that supports Tinto's model (1987a, 1997) of academic and social integration influencing term-to-term persistence.

Although there is a significant amount of research on social and academic integration, there is a dearth of scholarship on the relationship between these two constructs and the persistence of students attending developmental education at community colleges. In the literature, only Taylor's (2009) and Barnes and Piland's (2010) studies focused on developmental education. Taylor's dependent variable was the number of developmental classes taken. Barnes and Piland focused on comparing students in learning communities and nonlearning communities with respect to persistence. Moreover, there has been little research on African Americans in a community college setting taking developmental courses. This leaves a gap in the

literature that this study attempts to fill, hypothesizing that academic integration (faculty concern for development and teaching, academic and intellectual development, GPA, and institutional and goal commitment) and social integration (peer group interaction, interaction with faculty, interaction with staff, and in class experiences) increase semester persistence (re-enrollment) in students taking developmental education courses. The next chapter presents the context of the research setting for this study, the participants, the research design, the research sample, the data analysis strategy, the measurement instrument, and a summary of the methodology.

CHAPTER 2: METHOD

The purpose of this dissertation was to explore the relationship between academic and social integration and community college students' persistence in developmental education courses. This chapter presents information about community colleges in Maryland and the number of African Americans in community colleges, in addition to describing the study design, sample, sampling strategy, procedure, measures, and data analysis approach.

Community Colleges in Maryland

Maryland has 16 public community colleges. In the 2008 Fall Semester, 128,093 students enrolled in community colleges in Maryland, compared to 110,659 students attending the state's 13 public four-year institutions or the 28 private schools in which 31,520 students were enrolled, according to the Maryland Higher Education Commission (2010). Maryland's community colleges enrolled 37,119 African Americans in 2008, making up 42% of the African American population in all post-secondary institutions in Maryland that year. Among all community colleges, only two have an enrollment of African American students greater than 30%, and those two have 77% and 79%, according to the 2010 *Maryland Higher Education Commission Data Book*. The community college selected for this study was chosen because it had a primarily African American student body, and reported the highest number of students enrolled in developmental education courses in Maryland as well as the highest number of students not passing these courses.

Research Design

The research question guides the research design, data collection method, and data analysis strategy (Creswell, 2009). The research questions for this study required the collection and analysis of variables indicating demographic information, academic integration, social integration, and persistence. A cross-sectional quantitative survey research design was selected to measure demographics and academic and social integration. These data were matched to administrative records the following semester in order to measure semester persistence. Given the nature of this research, examining the role of academic and social integration on persistence in developmental education courses at a community college, a survey research design was more appropriate and feasible than an experimental investigation (Creswell, 2009).

Quantitative data were collected via a survey instrument to investigate social and academic integration. The survey included a questionnaire that asked a number of background questions as well as questions on developmental education. Scales were used to measure academic integration and social integration (Nakajima, 2008). Surveys are widely used in social science research. They enable researchers to gather systematic data from a sample (Creswell, 2009).

Students who were eligible to take part in the survey were 18 years or older and enrolled in a nonmodular, developmental education class at the community college at the time of data collection. Student participation was voluntary. Both part-time and full-time students were included.

Sample

The data set contains 239 students taking at least one of the 24 developmental education classes surveyed at the community college in the Fall Semester of 2012.

This research study did not originally intend to focus on the Pupil Affirmation Program and the Skill Building Program. These two programs piloted at the community college in Fall Semester of 2012, when data collection began. Because both of these new programs focused on developmental education students and on persistence and retention, questions about participation in these programs were added to the survey with the approval of the dissertation committee and the Institutional Review Board of both institutions. To protect the privacy of the institution, the names of the programs were changed in this dissertation.

Sample demographics. The sample consisted of 71 men (30%) and 166 women (70%). Two people did not report their sex. The mean age is 27 (*sd* = 9.21, range = 18-51; see Table 1 for descriptive statistics). More than 90% of the sample reported their race as Black. In addition to 86.5% of respondents who indicated African American ethnicity, 8.3% reported Caribbean/African ancestry. These were the two most frequently endorsed categories of ethnicity.

Table 1.
Descriptive Statistics among Variables in the Study

Variable	*n* (%)
High school grades	
Above average grades	164 (68.6%)
Average grades	51 (21.3%)
Below average grades	2 (0.8%)
Missing	22 (9.2%)
Intent to re-enroll	
Yes	214 (89.5%)
No	12 (5.0%)
Missing	13 (5.4%)
Persistence	
Yes	135 (56.5%)
No	56 (23.4%)
Missing	48 (20.1%)
Race*	
Black	219 (91.6%)
White	9 (3.9%)
Asian	4 (1.7%)
Hispanic	4 (1.7%)
Native American	6 (2.6%)
Missing	
Ethnicity*	
African American	199 (86.5%)
American Indian/Alaskan	7 (3.0%)
Hispanic/Latin/Central American	5 (2.2%)
White American/Caucasian	9 (3.9%)
Asian/Pacific Islander	3 (1.3%)
Caribbean/African	19 (8.3%)
Missing	
Mother's education	
High school education, GED, or below	109 (45.6%)
Beyond high school or GED	106 (44.4%)
Missing	24 (10.0%)
Father's education	
High school education, GED, or below	108 (45.2%)
Beyond high school or GED	74 (31.0%)
Missing	57 (23.8%)
Pupil Affirmation Program	
Yes	13 (5.4%)
No	216 (90.4%)
Missing	10 (4.2%)
Skill Building Program	
Yes	14 (5.9%)
No	219 (91.6%)

Table 1 Continued

Missing	6 (2.5%)
Sex	
Male	71 (29.7%)
Female	166 (69.5%)
Missing	2 (0.8%)

*Categories were not mutually exclusive

Previous education. When asked about their high school grades and their parents' educational background, more than two thirds of the students reported above average grades (see Table 1). Approximately one third of students (32.2%, *n* = 77) said their mother had a high school diploma or a GED equivalent. Slightly more than a third of students (35.5%, *n* = 85) said their father had at least a high school diploma or a GED equivalent.

Intent to re-enroll: Within the sample, all but 5% of the students (*n* = 12) planned on re-enrolling the following semester (see Table 1).

Persistence: Of the 80% of the sample for which re-enrollment data were available, 71% of students re-enrolled the following semester (*n* = 135) and 29% did not re-enroll (*n* = 56).

Pupil Affirmation Program. The Pupil Affirmation Program[5] is a pilot program implemented in the Fall Semester of 2012 as a learning community that offers a scholarship, academic skills, and support services (tutoring and advising) to students during the school year. The focus of the program is on academic preparedness for courses beyond developmental education. Students receive a one-time scholarship to help them with tuition fees and books for the developmental education courses. Students connect with other students, faculty, advisors, staff, and tutors through small community clusters.

[5] The name of this program was changed in this dissertation to protect the school's privacy.

In addition to the students receiving additional assistance, faculty members who teach in the Pupil Affirmation Program also receive additional instruction on working with students in developmental education classes. In this sample, 13 (5.7%) students participated in the Pupil Affirmation Program.

Skill Building Program. The Skill Building Program[6] is a 4-week program offering workshops, preparation for placement exams, and peer interaction. The institution offers a one-time scholarship to students accepted in the program. Students participate in a class designed to orient them to the campus. Workshops are offered to participants to prepare them for the academic standards of the college. In this sample, 14 (6%) students participated in the program.

Procedure

Approval from the Community College and the University of Maryland Institutional Review Boards was received in the spring and summer months of 2012, allowing this researcher to talk to community college faculty, and—with faculty approval—explain and administer the survey to students in their classes. This researcher attended a faculty meeting to meet professors and introduced the study to them.

Course selection. Developmental education classes included E-READ (a combined reading and English class), Arithmetic: Concepts and Applications, Elementary Algebra, and Intermediate Algebra. A list of developmental classes was placed on a Microsoft Excel spreadsheet for random selection. Selection of classes began in September 2012, once developmental education courses were available on the college website.

[6] The name of this program was changed in this dissertation to protect the school's privacy.

Of the 149 developmental education classes offered, 25 were removed because they were online or modular classes. The remaining 124 classes were organized by index number. The research randomizer website was used to randomly select classes for survey administration (Urbaniak & Plous, 2011).

Faculty approval. Once the classes were randomly selected, this researcher made initial contact with administrators and faculty, attempting to contact faculty by e-mail, phone call, or face-to-face visit during office hours, before class, or after class. E-mails were sent to the faculty teaching the first 28 classes selected at random, asking faculty members to allow their students to take part in the survey. If there was a lack of a response within a couple of days, one phone call to their office was made. If there was no reply within several days, an attempt was made to meet in person during office hours, before or after a class. If faculty did not show interest following these attempts, it was assumed that they did not want to participate, and that professor (and all of the classes that were randomly selected and taught by that professor) was pulled from the selection process and the next classes selected. If contact was made, then this researcher informed the faculty member of the purpose of the study and consent and confidentiality forms, and indicated the bag of snacks offered to students and the faculty member would be available regardless of whether students elected to participate in the survey. If there was a reply and approval, then a date was scheduled.

Survey administration. Once a date and time were established, this researcher attended that class, introduced the study and the consent and confidentiality forms, and presented a bag of candies and chocolates to students and the faculty member as a token of appreciation for their time and effort. Students were asked for their student

identification number and were given about 30 minutes to complete the survey after pens and surveys were distributed. All data were collected by this researcher personally.

The survey was administered to students in attendance in 24 developmental education classes in the Fall Semester of 2012. Given the total enrollment of the sampled classes, this researcher had the opportunity to encounter up to 455 students. Thirty-six percent of students (n = 164) did not attend class the day of the survey. Two hundred ninety-one students were present when surveyed, and 44 (15%) declined. Of the 247 students surveyed[7], 6 students did not meet the inclusion criteria and 2 were dropped from the sample because they filled out only two questions, leaving 239 students in the sample, or an overall response rate of 53.7%.

Administrative data follow up. Follow-up administrative data were collected in February 2013 to identify whether the students passed the developmental education class, and which of the students who participated in the original survey persisted (i.e., re-enrolled) into the Spring 2013 Semester.

Measures

The Student Experience Survey was used to collect data for the study (see Appendix B for the full survey). The survey consisted of 87 items. It began with the student's name, date the survey was completed, last five digits of the student's ID number, a screening question to prevent duplication ("Have you ever taken this survey before," coded *Yes* or *No*), and eight questions about developmental education classes in which the student was currently enrolled.

[7] It should be noted that Hurricane Sandy resulted in several cancelled classes at this institution and it potentially affected the study. An additional variable was added to denote when a course was surveyed (pre-Sandy, post-Sandy).

Demographic variables. The demographic variables included in the survey are classes taken, age, gender, ethnicity, race, U.S. citizenship, whether they were first-generation college students, mother and father's education level, their goal in attending a community college, high school grades, high school grade point average, and how students paid for school. Additional questions focused on developmental education classes, credits in community college, grade point average, employment, and whether they participated in the Pupil Affirmation Program or the Skill Building Program. Table 2 lists the demographic variables, response set, source, and how they were coded.

Table 2.
Demographic Questions, Sources, Response Set, and Coding

Source	Variable	Description
	Enrolled class	Yes =1 No =2
	Pupil Affirmation	Yes =1 No =2
	Skill Building	Yes =1 No =2
	Age	Age at the time of the survey administration
Williamson-Ashe (2009)	Gender	Male =1 Female =2
Williamson-Ashe (2009)	Race	Native American =1 Asian = 2 Black = 3 White = 4 Hispanic = 5
	Ethnicity	African American = 1 American Indian/Alaskan = 2 Hispanic/Latin/Central American = 3 White American/Caucasian = 4 Asian/Pacific Islander = 5 Caribbean/African = 6
	U.S. citizenship	Yes = 1 No = 1
	Move	When did you move to the US?
	1st generation	Yes =1 No = 1

Table 2 Continued

Nakajima (2008)	Mother's education level	6th grade or less = 1 7th grade =2 8th grade =3 9th grade =4 10th grade=5 11th grade =6 12th grade (high school graduate) =7 GED =8 Some college =9 Associate's degree =10 Bachelor's degree =11 Some graduate school =12 Master's degree =13 Doctorate (e.g., MD, JD, PhD) =14 Don't know = 96 Not applicable = 98
Nakajima (2008)	Father's education level	6th grade or less = 1 7th grade =2 8th grade =3 9th grade =4 10th grade=5 11th grade =6 12th grade (high school graduate) =7 GED =8 Some college =9 Associate's degree =10 Bachelor's degree =11 Some graduate school =12 Master's degree =13 Doctorate (e.g., MD, JD, PhD) =14 Don't know = 96 Not applicable = 98
Nakajima (2008)	Goal	Earn an AA degree = 1 Earn an AS degree = 2 Earn a certificate = 3 Earn credits to transfer to a four year college or university = 4 None of the above = 5
	High school grades	Mostly A's = 1 Mostly B's = 2 Mostly C's = 3 Mostly D's = 4
Nakajima (2008)	High school GPA	Score between 0 and 4

Table 2 Continued

Williamson-Ashe (2009)	Tuition	Income or savings = 1 Parent or family member = 2 Employer = 3 Grants or scholarships = 4 Student loans = 5 Public assistance = 6
Taylor (2009)	Number of developmental education classes taken this semester	How many developmental courses are you taking this semester?
Taylor (2009)	Does the student think s/he will pass all of the developmental education courses taken this semester?	Yes =1 No =2
Taylor (2009)	Has the student ever repeated a developmental education class?	Yes =1 No =2
Taylor (2009)	Has the student withdrawn from a developmental education class?	Yes =1 No =2
Taylor (2009)	Has the student withdrawn from a developmental education class more than once?	Yes =1 No =2
Taylor (2009)	Semester attendance	How many semesters have you been at this school?
Taylor (2009)	Intent (re-enrollment)	Yes =1 No =2
Taylor (2009)	Total credits	How many total credit hours have you completed at this community college?
Morris (2002), Morris (2002), Nakajima (2008), Taylor (2009)	Semester credits	How many credit hours are you taking this semester?
	Work	Yes =1 No =2
Morris (2002)	Work/study	Yes =1 No =2
Morris (2002), Nakajima (2008),	Work hours	How many hours a week do you work?

Table 2 Continued

Nakajima (2008)	GPA	Score between 0 and 4

Institutional Integration Scale. The primary instrument used in this research was the Institutional Integration Scale (IIS) created by Pascarella and Terenzini (1980) in an effort to operationalize Tinto's constructs (see Table 3 for descriptive statistics of subscale items and Table 4 for items). Thirty questions were grouped into five subscales: (a) peer group interactions (8 items), (b) academic and intellectual development (7 items), (c) institutional and goal commitments (5 items), (d) interactions with faculty (5 items), and (e) faculty concern for student development and teaching (5 items).

Table 3.
Descriptive Statistics of External Demand, Academic Integration, And Social Integration

Variable	*M(SD)*	Range
Peer group interaction	2.45 (.67)	1 to 5
Interaction with faculty	2.41 (.80)	1 to 5
In-class experiences	2.24 (.69)	1 to 5
Interaction with staff	2.62 (.87)	1 to 5
Academic and intellectual development	2.10 (.74)	1 to 5
Institutional and goal commitment	1.69 (.65)	1 to 5
Faculty concern for student development and teaching	2.02 (.80)	1 to 5
External demand	2.77 (.81)	1 to 5

Table 4.
Items from the Social Integration, Academic Integration Scales. Strongly agree =1, *agree* = 2, *neither agree nor disagree* = 3 *disagree* = 4 and *strongly disagree* = 5.

Domain	Scale	Question
Social integration	Peer group interaction	My relationships with students improved my thinking ability.
		I have developed close relationships with other students.
		The student friendships I have developed have been helpful.
		My relationships with other students helped me mature.

Table 4 Continued

		It has been easy for me to meet and make friends with students.
		If I have a personal problem, I know many students would listen and help.
		Most students at this community college have values and attitudes similar to mine.
		I am satisfied with the opportunities to join in activities at this community college.
		I feel invisible on campus (Reverse coded).
	Interactions with faculty	I am satisfied with my opportunities to meet and talk to teachers.
		I have developed a personal relationship with at least one teacher.
		My discussions with teachers outside of class helped me with my career goals.
		Many teachers will meet me outside of class to discuss ideas important to me.
Academic integration	Academic and intellectual development	Most of my classes have made me think more.
		I am satisfied with my classes at this community college.
		I am more likely to attend an event (e.g., a concert, lecture, or art show) now compared to a few months ago.
		I am satisfied with my mental growth.
		My interest in ideas increased since starting classes.
		This year my classes improved my ability to think about ideas.
	Institutional goals and commitments	I got the kind of grades I expected.
		Getting good grades is important to me.
		I know what I want to major in.
		It is important for me to graduate.
		I am confident that I made the right decision to attend this community college.
		I will most likely register here next semester.
	Faculty concern for student development and teaching	Many teachers I have met are excellent.
		Many teachers I have met are interested in students.
		Many teachers I have love to teach.
		Many teachers I have met want to help students mature as a person.

Low scores indicate higher levels of institutional integration. Scale scores were created by averaging the items within each scale. Pascarella and Terenzini (1980) reported five factors with an Eigenvalue range from 1.67 to 6.14 and alphas ranging from .73 to .90. In this study, Cronbach's alpha for peer group interaction was .80, interactions with faculty was .73, academic and intellectual development was .88, institutional goals and commitments was .83, and faculty concern for student development and teaching was .90. These results were similar to a reliability study by French and Oakes (2004), and were considered acceptable (Aday & Cornelius, 2006, p. 61).

Some of the IIS items were excluded because they were not relevant to this study (e.g., one question pertained to residential housing on campus, which is not relevant to this study because the participating community college does not have a residence hall). Permission to use the instrument and make changes to the Institutional Integration Scale was granted by the creator of the instrument (E. Pascarella, personal communication, September 13, 2011).

In-class experiences. Six items about in-class experiences were included (Marti, 2008; Pascarella & Terenzini, 1980): "Talking to my teachers in class helped me mature," "Talking to my teachers in class improved my ability to think," "Teachers encourage discussions in class," "Interactions with students in class are personally satisfying," "My grades on assignments and projects improve when I work with other students," and "I learn better when I work with other students." All of these items had a response scale

where 1= *Strongly agree*, 2 = *Agree*, 3 = *Neither agree nor disagree,* 4 = *Disagree*, and 5 = *Strongly disagree*. Cronbach's alpha for in-class experiences was .81.

Interactions with staff. Four items measure interactions with staff (Karp, Hughes, & O'Gara, 2010): "Many staff members (nonfaculty) I have met have connected me to useful resources on campus," "The staff (nonfaculty) members I have met helped create a sense of belonging on campus," "The staff at the Community College (nonfaculty) has been a positive influence in my life," and "Many of the staff members (nonfaculty) I have had contact with went out of their way to help me." All of these items had a response scale where 1= *Strongly agree*, 2 = *Agree*, 3 = *Neither agree nor disagree,* 4 = *Disagree*, and 5 = *Strongly disagree*. Cronbach's alpha for interactions with staff was .86.

External demands. Five items were included in external demands (Pascarella & Terenzini, 2005; Office of Institutional Research, 1999): "Staying in school has been difficult because of finances," (reverse coded) "Work demands make school work difficult to complete," (reverse coded) "Work demands make it hard to attend class," (reverse coded) "Family demands make it difficult to complete school work," (reverse coded) and "My family has been very supportive of me while I am at school." All of these items had a response scale where 1= *Strongly agree*, 2 = *Agree*, 3 = *Neither agree nor disagree,* 4 = *Disagree*, and 5 = *Strongly disagree*. Higher scores indicate increased external demand on time dedicated to school. Cronbach's alpha for external demands was .73.

Class grade. In the follow-up data collection, the administration provided information about whether the student passed the Fall Semester 2012 class in which they were surveyed. It was coded *1= Pass* and *0 = Did not pass*.

Intent to reenroll. One question asked students whether they plan to return to the community college next semester. It was coded *1= Yes* and *2 = No.*

Persistence. Also in the follow-up data collection, the administration provided information about whether the student re-enrolled for the Spring Semester of 2013. It was coded as *1= Yes* and *0 = No.*

Data Analyses

Software. The data were coded and analyzed using the statistical software package SPSS 16.0 GP Graduate student version via the Microsoft Windows © XP operating system.

Data cleaning. The data cleaning occurred in multiple steps. The data entered into the software were checked with the paper survey for input errors. Frequencies for each variable were examined to look for data entry errors. In addition, 53 cases were randomly selected for cross-validation with the original paper surveys, checking for data entry accuracy. For the first 28 cases that were randomly selected all 84 items—an item being one question asked on the survey—were checked for data entry accuracy. Among the 28 cases that were selected, 4 cases had a total of 10 data entry errors that were corrected subsequently. After further cleaning, another check of 24 randomly selected cases was performed among the 44 academic and social integration items for data entry accuracy. Within four cases, there were 7 items that needed correction.

Missing Data Handling. Missing data were checked by running frequencies on all of the variables of interest and a missing values analysis in SPSS (see Appendix C, Table 1 for missing data frequencies). Regarding the Institutional Integration Scale, after checking first that the items on the scale had no more than 25% missing values (Schafer

& Graham, 2002), ipsative mean imputation was employed for 45 cases (19%) with missing values on IIS items.

Many of the demographic variables of interest presented a high percentage of missing values. For example, grade point average is missing for 66% of the sample (n = 158). GPA may have a high percentage of missing data because 46% of the students surveyed said this was their first semester at the participating community college, so they did not have a GPA to report. With respect to the number of hours worked, 37% of responses were missing (n = 88), likely because 30% of students said they do not work (n = 69). In addition, 24% (n = 57) of father's education and 10% (n = 24) of mother's education were missing. One possible explanation of people not knowing about their parents' education status is because they may not have a relationship with one or both parents (this question was not asked in the survey).

With respect to the dependent variable, persistence, 20% (n = 48) of the data for this variable are missing. This is because some student names were similar to others, and 45% of the sample (n = 107) did not offer the last five digits of their student identification number, so there was no method of differentiating duplicate names.

In the external demands subscale, 13% (n = 31) of the data are missing, possibly because some students stopped answering questions. Another possible reason is because for two of the items ("Work demands make it hard to attend class" and "Work demands make school work difficult to complete"), 11% of students (n = 27) said this question did not apply to them.

A Little MCAR test was nonsignificant, $\chi^2 = 54.81$, $p = .56$, indicating that the data were missing at random. Two missing data patterns were found. First, students who

did not answer the question about the Skill Building Program also did not answer questions about the Pupil Affirmation Program (n = 6, 2.5%, and n = 10, 4.2% missing, respectively). Second, some students were missing data on mother's education, father's education, and external demands. For mother's education, father's education, and external demands, more than a third of the sample (n = 83) is missing. When these three variables are combined with persistence, nearly half of the data (n = 116 out of 239) were missing in the analyses. For this reason, mother's education, father's education, and external demands were excluded from the analysis.

Data analysis. Although the Pupil Affirmation Program and the Skill Building Program were not a part of the original dissertation plan, there was a possibility that these two programs may affect persistence. Therefore, it seemed appropriate to collect data on them and include them in the analyses to control for participation. In order to assess the effect of these programs, exploratory analyses were conducted using intent to re-enroll.

As a result of this addition, bivariate analyses explored differences on age, sex, student involvement in the Pupil Affirmation Program, student involvement with the Skill Building Program, academic integration, social integration, in-class experiences, interactions with staff, and external demands, persistence, and intent to re-enroll. Four hierarchical logistic regression analyses were run, as described in more detail in subsequent paragraphs. The first hierarchical logistic regression analyzed whether social and academic integration predicted persistence, controlling for pre-entry attributes. The second hierarchical logistic regression analyzed whether academic integration predicted persistence, controlling for pre-entry attributes. The third hierarchical logistic regression analyzed whether social integration predicted persistence, controlling for pre-entry

attributes. The fourth hierarchical logistic regression —added to the analysis—examined whether academic and social integration predicted intent to re-enroll, controlling for pre-entry attributes.

Research question 1 examined whether social integration and academic integration predict community college students' semester persistence in developmental education classes, controlling for pre-entry attributes. A hierarchical logistic regression was used with race, age, sex, high school grade, and the Skill Building Program entered in the first step. The second step included five subscales of the Institutional Integration Scale: peer group interaction, interactions with faculty, academic and intellectual development, institutional and goal commitment, and faculty concern for student development and teaching. The dependent variable was persistence.

Research question 2 examined whether academic integration predicted community college students' semester persistence in developmental education classes when controlling for pre-entry attributes. A hierarchical logistic regression was used with race, age, sex, high school grade, and the Skill Building Program entered in the first step. The second step included two subscales of the Institutional Integration Scale: institutional and goal commitment, and faculty concern for student development and teaching, with persistence as the dependent variable.

The third research question examined the relationship between social integration and community college students' semester persistence in developmental education classes when controlling for pre-entry attributes. A hierarchical logistic regression was used with race, age, sex, high school grade, and the Skill Building Program entered in the first step. The second step included three subscales of the Institutional Integration Scale:

peer group interaction, interactions with faculty, and academic and intellectual development. The dependent variable was persistence.

The fourth research question—added to this dissertation after the proposal defense—examined the relationship between academic and social integration and intent to re-enroll among community college students taking developmental education courses when controlling for pre-entry attributes. A hierarchical logistic regression was used with race, age, sex, high school grade, and the Skill Building Program entered in the first step. The second step included five subscales of the Institutional Integration Scale: peer group interaction, interactions with faculty, academic and intellectual development, institutional and goal commitment, and faculty concern for student development and teaching. The dependent variable was intent to re-enroll.

CHAPTER 3: RESULTS

This chapter presents the findings of the study. It begins with bivariate analyses that explored various predictor variables on students involved in the Skill Building Program and the Pupil Affirmation Program versus those with no involvement. Research question 1 explored academic and social integration on persistence, controlling for pre-entry variables. Research question 2 explored academic integration on persistence, controlling for pre-entry variables. Research question 3 explored social integration on persistence, controlling for pre-entry variables, and research question 4 explored academic and social integration on intent to re-enroll. The chapter ends with a summary of findings.

Special Programs

Pupil Affirmation Program

No statistically significant differences were found on the variables age, Institutional Integration Scales, in-class experiences, interactions with staff, persistence, intent to re-enroll, sex, or external demands with respect to the Pupil Affirmation Program (see Table 5 for independent samples *t*-test results and Table 6 for chi-square results).

Table 5.
Independent Samples T *Test Comparing Students Involved in the Pupil Affirmation Program Versus No Involvement on Academic and Social Integration, Age, And External Demands*

	Yes		No				
Variable	*M*	*SD*	*M*	*SD*	*t*	*df*	*CI*
Age	29.75	11.44	26.44	9.06	1.21	213	-2.08 to 8.70
Peer group interaction	2.30	.77	2.44	.66	-.73	226	-.51 to .23
Interactions with faculty	2.63	.59	2.39	.81	1.06	226	-.21 to .69
In-class experiences	2.78	.71	2.24	.67	.221	225	-.34 to .42
Interactions with staff	2.63	.91	2.64	.86	-.04	224	-.52 to .50
Academic & intellectual development	2.03	.87	2.11	.71	-.36	222	-.48 to .33
Institutional & goal commitment	1.86	.98	1.69	.64	.89	224	-.20 to .54
Faculty concern for student development & teaching	2.30	.94	2.02	.80	1.23	223	-.17 to .74
External demands	2.52	.81	2.78	.81	-1.05	198	-.76 to .23

Table 6.
Chi-square results comparing students involved in the Pupil Affirmation Program versus no involvement on persistence, the Skill Building Program, intent to re-enroll and sex.

Variable	χ^2	Sig.
Persistence	2.08	.15
Skill building	2.83	.09
Intent to re-enroll	.68	.41
Sex	.00	.98

Skill Building Program

There was a statistically significant difference between students in the Skill Building Program and those not in the program for the variable in-class experiences (see Table 7). The average score for in-class experience was lower by .44 points for students involved in the Skill Building Program compared to students who were not involved in the Skill Building Program. Lower scores indicate increased in-class experiences. There was a statistically significant difference found for interactions with staff between students who participated in the Skill Building Program versus those who did not participate in the Skill Building Program, such that the average score for interactions with staff was lower

by .62 points for students involved in the program compared to students not involved in the program. There was a statistically significant difference found on academic and intellectual development between students who participated in the Skill Building Program and those who did not, such that the average score for this academic and intellectual development was .43 points lower among students who participated in the Skill Building Program versus students who did not participate in the program. Again, lower scores mean increased academic and intellectual development. Age, interactions with faculty, institutional goal commitment, faculty concern for student development and teaching, external demands, intent to re-enroll, and persistence were not statistically significant (see Table 8 for chi-square results). In summary, students who participated in the Skill Building Program had better outcomes as it relates to in-class experiences, interactions with staff, and academic and intellectual development than students who had not participated in the program.

Table 7.
Independent Samples T *Test Comparing Students Who Are Participating in the Skill Building Program Versus No Participation on Academic and Social Integration and External Demands*

	Yes (n = 14)		No (n = 218)				
Variable	*M*	*SD*	*M*	*SD*	*t*	*df*	*CI*
Peer group interactions	2.39	.42	2.44	.68	-.28	230	-.42 to .31
Interactions with faculty	2.05	.73	2.44	.80	-1.74	230	-.82 to .05
In-class experiences	1.83	.48	2.27	.69	-2.35*	229	-.81 to -.07
Interactions with staff	2.04	.69	2.66	.87	-2.66**	227	-1.09 to -.16
Academic and intellectual development	1.70	.48	2.13	.74	-2.15*	226	-.83 to -.04
Institutional and goal commitment	1.53	.48	1.71	.67	-1.00	227	-.54 to .18
Faculty concern for student development and teaching	1.64	.61	2.05	.81	-1.87	226	-.85 to .02
External demands	3.02	.70	2.74	.82	1.14	201	-.20 to .76

* $p < .05$; ** $p < .01$, *** $p < .001$

Table 8.
Chi-Square Results Comparing Students Involved in the Skill Building Program Versus No Participation on Persistence, Intent to Re-Enroll, and Sex

Variable	χ^2	Sig.
Persistence	2.69	.10
Intent to re-enroll	3.64	.057
Sex	.43	.51

Intent to Re-enroll

Independent samples *t* tests and chi-square analyses were used to explore the relationships between intent to re-enroll and the Institutional Integration scales, in-class experiences, interactions with staff, external demands, age, and sex. Overall, differences based on students who intend to re-enroll versus students who did not intend to re-enroll were found as it relates to interaction with faculty, academic and intellectual development,

institutional and goal commitment, and faculty concern for student development and teaching.

In an independent samples *t* test for intent to re-enroll and interactions with faculty, there was a statistically significant difference for interactions with faculty between students who intended to re-enroll versus students who did not intend to re-enroll. The interactions with faculty score was—on average—.52 points lower for students who were planning to re-enroll, indicating greater levels of self-reported interactions with faculty. Similarly, there were statistically significant differences on academic and intellectual development. The self-reported academic and intellectual development scores were .74 points lower—on average—among students who planned to re-enroll compared to students who did not plan on re-enrolling, indicating higher reported levels of academic and intellectual development. There was a statistically significant difference on institutional and goal commitment, such that students who intended to re-enroll reported a .99 point decrease in institutional and goal commitment—on average—compared to students who did not plan to re-enroll.

In addition, there was a statistically significant difference on faculty concern for student development and teaching on intent to re-enroll, such that students who intended to re-enroll reported a .91 point decrease in perceived faculty concern on average, compared to students who did not plan to re-enroll, indicating higher perceived faculty concern for students who stay.

Overall, students who intended to re-enroll interacted with faculty more, reported increased levels of academic and intellectual development, institutional and goal commitment, and perceived faculty concern for student development and teaching (see

Table 9). Age, peer group interaction, in-class experiences, interactions with staff, external demands, and sex (χ^2 (1) = .10, p = .75) were not statistically significantly related to intent to re-enroll.

Table 9.
Independent Samples T Test Comparing Students Who Are Planning on Re-Enrollment Versus Not Planning on Re-Enrollment on Academic and Social Integration, External Demands, and Age

	Yes		No				
Variable	*M*	*SD*	*M*	*SD*	*t*	*df*	*CI*
Age	26.71	9.17	22.83	7.20	1.44	.15	-1.44 to 9.20
Peer group interaction	2.43	.65	2.80	.74	-1.88	223	-.75 to .02
Interactions with faculty	2.39	.79	2.91	.80	-2.23*	223	-.99 to -.06
In-class experiences	2.22	.67	2.61	.74	-1.96	222	-.78 to .00
Interactions with staff	2.63	.85	3.08	.91	-1.81	221	-.95 to .04
Academic & intellectual development	2.04	.70	2.78	.89	-3.48**	218	-1.15 to -.32
Institutional & goal commitment	1.64	.62	2.63	.71	-5.32***	221	-1.35 to -.62
Faculty concern for student development & teaching	1.97	.76	2.88	.92	-3.96***	220	-1.36 to -.46
External demands	2.72	.81	3.02	.52	-1.14	195	-.81 to .22

* $p < .05$; ** $p < .01$, *** $p < .001$

Persistence

Based on the results of an independent samples *t* test, students who persisted scored—on average—.28 points lower on external demands than students who did not persist, indicating that students who persisted reported lower levels of external demands, compared to students who did not persist (see Table 10). In a chi-square analysis, there was a statistically significant association between the variables intent to re-enroll and persistence (see Table 11), such that students who intended to re-enroll tended to persist.

Table 10.
Independent Samples T *Test Comparing Students by Persistence Versus Not Persisting on Academic and Social Integration, Age, and External Demands*

	Yes		No				
Variable	*M*	*SD*	*M*	*SD*	*t*	*df*	*CI*
Age	26.87	9.69	26.06	8.50	.54	178	-2.18 to 3.82
Peer group interaction	2.45	.61	2.57	.76	-1.07	188	-.32 to .09
Interactions with faculty	2.45	.72	2.43	.83	.13	188	-.22 to .25
In-class experiences	2.27	.58	2.34	.81	-.58	75.72	-.31 to .17
Interactions with staff	2.66	.81	2.60	.93	.48	186	-.20 to .33
Academic & intellectual development	2.09	.69	2.14	.83	-.40	184	-.28 to .19
Institutional & goal commitment	1.63	.56	1.78	.81	-1.24	77.97	-.38 to .09
Faculty concern for student development & teaching	2.04	.71	2.02	.86	.15	186	-.22 to .26
External demands	2.66	.80	2.94	.80	-2.04*	161	-.55 to -.01

* $p < .05$; ** $p < .01$, *** $p < .001$

Table 11.
Chi-square results comparing students' persistence on intent to re-enroll and sex.

Variable	χ^2	Sig.
Intent to re-enroll	4.60	.03*
Sex	.54	.46

Note. * $p < .05$; ** $p < .01$, *** $p < .001$

Academic and Social Integration Predicting Persistence

Research Question 1: Do social integration and academic integration predict community college students' semester persistence in developmental education courses?

A hierarchical logistic regression analysis was performed to predict semester persistence. Race (Black vs. non-Black), age, sex, high school grade, and Skill Building Program participation were entered in the first step. The second step included the five scales of Institutional Integration: peer group interaction, interactions with faculty, academic and intellectual development, institutional and goal commitment, and faculty concern for student development and teaching (see Table 11 for the initial step of the

hierarchical logistic regression and 12 for the final model). Overall, the model is not statistically significant ($\chi^2 = 9.36$, $df = 10$, $p = .498$). The -2 Log Likelihood is 187.53. Cox and Snell $R^2 = .06$; Nagelkerke $R^2 = .08$ (see Table 12, for the initial step, and Table 13 has the final step).

Table 12.
Initial Step of Academic and Social Integration Predicting Students' Persistence

						95% C.I. for Exp(B)	
Variable	B	S.E.	Wald	Exp(B)	*p*	Lower	Upper
Sex	-.23	.38	.38	.79	.54	.38	1.66
Race	-1.06	1.09	.94	.35	.33	.04	2.95
Age	.01	.02	.26	1.01	.61	.97	1.05
High school grade	-.30	.27	1.21	.74	.27	.44	1.26
Skill Building	-.66	.72	.85	.52	.36	.44	1.26
Constant	2.38	1.33	3.18	10.78	.08		

* $p < .05$; ** $p < .01$, *** $p < .001$

Table 13.
Final Step of Academic and Social Integration Predicting Students' Persistence

						95% C.I. for Exp(B)	
Variable	B	S.E.	Wald	Exp(B)	*p*	Low	High
Sex	-.14	.39	.13	.87	.72	.40	1.88
Race	-1.40	1.16	1.45	.25	.23	.03	2.40
Age	.01	.02	.15	1.01	.70	.97	1.05
High school grade	-.34	.28	1.44	.72	.23	.44	1.24
Skill Building	-.50	.75	.45	.61	.50	.14	2.62
Peer group interaction	-.27	.34	.63	.77	.43	.40	1.48
Interactions with faculty	.27	.31	.76	1.31	.38	.72	2.40
Academic and intellectual development	.02	.39	.00	1.02	.96	.47	2.22
Institutional and goal commitment	-.69	.39	3.15	.50	.08	.23	1.08
Faculty concern for student development and teaching	.27	.39	.47	1.31	.49	.61	2.84
Constant	3.40	1.69	4.06	29.92	.04		

* $p < .05$; ** $p < .01$, *** $p < .001$

Research Question 2: What is the relationship between academic integration and community college students' semester persistence in developmental education courses when controlling for pre-entry attributes?

A hierarchical logistic regression analysis was performed to predict community college students' persistence to the subsequent semester. Race (Black vs. non-Black), age, sex, high school grades, and Skill Building Program were entered in the first step. Institutional and goal commitment and faculty concern for student development and teaching were entered on the second step, with the dichotomous outcome of persistence entered as the dependent variable. Overall, the model is not statistically significant (χ^2 = 7.73, *df* = 7, *p* = .36). The -2 Log Likelihood χ^2 value is 192.30. Cox and Snell R^2 = .05; Nagelkerke R^2 = .07 (see Table 14 for initial step and Table 15 for final step).

Table 14.
Initial Step of Pre-Entry Variables and Academic Integration Predicting Students' Persistence

						95% C.I. for Exp(B)	
Variable	B	S.E.	Wald	Exp(B)	*P*	Lower	Upper
Sex	-.17	.38	.21	.84	.65	.40	1.76
Race (Black)	-1.05	1.09	.93	.35	.33	.04	2.96
Age	.01	.02	.36	1.01	.55	.97	1.05
High school grades	-.29	.27	1.20	.75	.27	.44	1.26
Skill Building	-.67	.72	.88	.512	.35	.13	2.08
Constant	2.29	1.33	2.97	9.90	.09		

* $p < .05$; ** $p < .01$, *** $p < .001$

Table 15.
Final Step of Academic and Social Integration Predicting Students' Persistence

Variable	B	S.E.	Wald	Exp(B)	*p*	95% C.I. for Exp(B) Lower	Upper
Sex	-.06	.39	.02	.95	.89	.44	2.02
Race	-1.22	1.15	1.13	.30	.29	.03	2.81
Age	.01	.02	.13	1.01	.72	.97	1.05
High school grades	-.31	.27	1.29	.73	.26	.43	1.25
Skill Building	-.61	.73	.69	.55	.41	.13	2.28
Institutional and goal commitment	-.68	.36	3.53	.51	.06	.25	1.03
Faculty concern for student development and teaching	.33	.32	1.02	1.40	.31	.74	2.61
Constant	3.07	1.59	3.74	21.45	.05		

* $p < .05$; ** $p < .01$, *** $p < .001$

Research question 3: What is the relationship between social integration and community college students' semester persistence in developmental education courses when controlling for pre-entry attributes?

A hierarchical logistic regression analysis was performed to predict community college students' semester persistence. Race (Black vs. non-Black), age, sex, high school grade, and Skill Building Program were entered in the initial step. Peer group interaction, interactions with faculty, and academic and intellectual development were entered into the second step. Overall, the model is not statistically significant ($\chi^2 = 6.10$, $df = 8$, $p = .64$). The -2 Log Likelihood chi-square value is 190.80. Cox and Snell $R^2 = .04$; Nagelkerke $R^2 = .05$ (see Table 16 for the initial step and Table 17 for the final step).

Table 16.
Initial Step of Pre-Entry Variables and Social Integration Predicting Students' Persistence

						95% C.I. for Exp(B)	
Variable	B	S.E.	Wald	Exp(B)	*p*	Low	High
Sex	-.20	.39	.27	.82	.61	.38	1.75
Race	-1.06	1.09	.94	.35	.33	.04	2.95
Age	.01	.02	.26	1.01	.61	.97	1.05
High school grades	-.30	.27	1.21	.74	.27	.44	1.26
Skill Building	-.66	.72	.85	.52	.36	.13	2.10
Constant	2.38	1.33	3.18	10.78	.08		

* $p < .05$; ** $p < .01$, *** $p < .001$

Table 17.
Final step of academic and social integration predicting students' persistence

						95% C.I. for Exp(B)	
Variable	B	S.E.	Wald	Exp(B)	*p*	Lower	Upper
Sex	-.24	.38	.40	.79	.53	.37	1.66
Race	-1.32	1.14	1.40	.27	.24	.03	2.38
Age	.01	.02	.43	1.01	.51	.97	1.06
High school grades	-.32	.28	1.35	.73	.25	.42	1.24
Skill Building	-.62	.74	.72	.54	.40	.13	2.27
Peer group interaction	-.30	.34	.82	.74	.37	.38	1.43
Interactions with faculty	.30	.30	1.00	1.34	.32	.75	2.40
Academic and intellectual development	-.16	.31	.29	.85	.59	.47	1.55
Constant	2.98	1.59	3.52	19.66	.06		

* $p < .05$; ** p < .01, *** $p < .001$

Institutional Integration Predicting Intent to Re-Enroll

Research Question 4: Do social integration and academic integration predict intent to re-enroll among community college students in developmental education courses?

A hierarchical logistic regression analysis was performed on the variable assessing whether students planned to return to the community college the following

semester. Race (Black vs. non-Black), age, sex, high school grade point average (A, B, C, D or below), and Skill Building Program[8] were entered in the first step. The second step included the five scales of Institutional Integration: peer group interaction, interactions with faculty, academic and intellectual development, institutional and goal commitment, and faculty concern for student development and teaching (see Table 18 for the results from the initial step of the hierarchical logistic regression and 19 for the final model).

Table 18.
Initial Step of Academic and Social Integration Predicting Students' Intent to Re-Enroll

						95% C.I. for Exp(B)	
Variable	B	S.E.	Wald	Exp(B)	*p*	Low	High
Age	-.07	.05	2.29	.93	.13	.84	1.02
Race	-1.05	1.16	.82	.35	.37	.04	3.39
Sex	.20	.66	.09	1.23	.76	.33	4.50
High school grade	.23	.50	.22	1.26	.64	.48	3.33
Skill Building	1.81	.90	4.04	6.12	.045*	1.05	35.82
Constant	-.80	1.86	.19	.45	.67		

* $p < .05$; ** $p < .01$, *** $p < .001$

[8] The Pupil Affirmation Program was not included in the analysis as a predictor because all of the students indicated that they intended to re-enroll.

Table 19.
Final Step of Academic and Social Integration Predicting Students' Intent to Re-Enroll

Variable	B	S.E.	Wald	Exp(B)	*p*	95% C.I. for Exp(B) Low	High
Age	-.08	.06	1.61	.93	.26	.83	1.04
Race	.65	2.02	.11	1.92	.04	.04	100.33
Sex	-.22	.83	.07	.80	.77	.16	4.09
High school grade	.31	.66	.22	1.36	.75	.37	5.00
Skill Building	2.97	1.21	5.97	19.41	.02*	1.80	209.58
Peer group interaction	-1.10	.85	1.67	.33	.22	.06	1.77
Interactions with faculty	.14	.68	.04	1.15	.94	.30	4.35
Academic and intellectual development	.33	.90	.14	1.40	.77	.24	8.14
Institutional and goal commitment	1.71	.79	4.68	5.52	.02*	1.17	25.96
Faculty concern for student development and teaching	.64	.66	.95	1.90	.23	.52	6.94
Constant	-6.07	3.10	3.83	.00	.04		

* $p < .05$; ** $p < .01$, *** $p < .001$

Without demographic variables or academic and social integration variables, the model correctly predicted 100% of students who planned to return to the community college, and correctly identified 0% of the students who did not plan on re-enrolling the following semester. With the addition of the demographic variables and academic and social integration variables, the final model is statistically significant, -2 Log Likelihood = 56.29, χ^2 (10, n = 197) = 28.56, p =.001, correctly identifying 98.9% of students who planned to return to the community college, and correctly identified 27.3% of students who did not plan to return; Cox and Snell R^2 = .14; Nagelkerke R^2 = .39.

In the final model, the two statistically significant predictors include the Skill Building Program and institutional and goal commitments. For each one point increase in institutional and goal commitment, the odds of intent to re-enroll increase by a factor of 5.52, controlling for other variables. For students who participated in the Skill Building

Program, the odds of their intent to re-enroll are 19.41 higher than with students not in the program, controlling for other variables. However, these results should be interpreted with caution. The confidence intervals for the Skill Building Program and institutional and goal commitment range from 1.80 to 209.58 and 1.17 to 25.96, respectively, suggesting the estimate of the odds ratio is not precise. Five percent of students (n = 12) said they did not plan to return the next semester. Having a low cell count can contribute to seemingly perfect predictions in the classification table as well as problems in stable estimation of the logistic regression model (Tabachnick & Fidell, 2007). Sex, race, age, high school grades, peer group interactions, interactions with faculty, academic and intellectual development, and faculty concern for student development and teaching were not statistically significantly relative to the outcome.

Summary of Findings

Overall, academic and social integration did not predict persistence. The results fourth research question found that participating in the Skill Building Program and institutional and goal commitment predicted intent to re-enroll. These findings, however, should be interpreted with caution. On average, students in the Skill Building Program reported more positive in-class experiences, interactions with staff, and academic and intellectual development. Students who planned on re-enrolling reported more positive interactions with faculty, academic and intellectual development, institutional and goal commitment, and faculty concern for student development and teaching. Students who participated in the Skill Building Program and reported higher levels of institutional and goal commitment were more likely to intend to re-enroll. There is an association between

intent to re-enroll and persistence. The following chapter compares the findings of this study with prior literature and presents strengths, limitations, and implications.

CHAPTER 4: DISCUSSION

The present study extended previous research by investigating academic and social integration as predictors of persistence among students taking developmental education classes at a community college. In particular, this study examined pre-entry variables, Skill Building Program participation, and academic integration and social integration on the outcome variables of interest: intent to re-enroll and persistence. The previous chapter provided bivariate analyses on the Institutional Integration Scale, demographic variables, and additional scales (i.e., in-class experiences, interactions with staff, and external demands), and four logistic regression analyses that explored academic and social integration on intent to re-enroll and persistence, controlling for pre-entry variables. The purpose of this chapter is to summarize the study findings, compare these findings to the literature, and present the study limitations and strengths. In addition, it presents implications for theory, research, and practice.

The literature in higher education tends to compare outcomes between racial groups. The sample in this study, however, consisted primarily of Black students (predominately African American) enrolled in developmental education courses. Variability among Blacks in this study was found in intention to persist and persistence. The findings from this study may not be generalizable to other populations taking developmental education courses but they begin to inform our understanding of the experience of Black students. This is notable because the findings may suggest differences among students taking developmental education classes, or with Black students from urban backgrounds.

The findings from this study raise questions about whether a one-size-fits-all approach to predicting persistence among students taking developmental education course is best. Future research could explore the variability within races and ethnicities, as well as related factors, such as culture, class, power, and oppression that can influence differences in educational outcomes.

Academic and Social Integration Predicting Persistence

Three major research questions examined whether academic and social integration predicted persistence, controlling for pre-entry attributes; whether academic integration predicted persistence, controlling for pre-entry attributes; and whether social integration predicted persistence, controlling for pre-entry attributes. Overall, the models for these three research questions were not statistically significant. These findings are not consistent with the literature that found academic and social integration to be a significant predictor to persistence (Borglum & Kubala, 2000; McClenney & Marti, 2006; Nakajima, 2008; Napoli & Wortman, 1998; Napoli & Wortman, 1996; Settle, 2011; Williamson-Ashe, 2009).

Academic and Social Integration Predicting Intent to Re-Enroll

The logistic regression exploring the predictive utility of pre-entry variables, academic and social integration on intent to re-enroll, was statistically significant; however, the two statistically significant findings—that the Skill Building Program and institutional and goal commitment predicted commitment—should be interpreted with caution given the wide confidence intervals. Consistent with the literature on intent to re-enroll, overall models were significant (Barnett, 2006; Cabrera, Nora, & Castaneda, 1993; Williamson-Ashe, 2009; Grosset, 1997). Even though the overall model was statistically

significant, findings for predictor variables related to intent to re-enroll were mixed when compared to the literature. Institutional and goal commitment were found to predict intent to re-enroll, consistent with Williamson-Ashe (2009). No other independent variables were found to predict intent to re-enroll, which was not consistent with the literature. Finally, this study found the Skill Building Program to be a statistically significant predictor of intent to re-enroll. No studies were found that examined similar skill building programs on intent to re-enroll.

The Pupil Affirmation Program

No relationships were found between the Pupil Affirmation Program, academic and social integration, or demographic variables. It was found that all Pupil Affirmation Program students in the survey planned to re-enroll. Furthermore, all but one student persisted. This gives some practical evidence that the Pupil Affirmation Program may be successful. This is inconsistent with the literature. Barnes and Piland (2010) found evidence of persistence within learning communities in higher levels of developmental education, but not within lower levels. Wilmer (2009) found the degree of faculty interaction and peer interaction to differentiate students involved in the learning community from students not involved in the learning community. Finding relationships in this study becomes difficult when the subgroup is small and there is little variation.

The Skill Building Program

Students involved in the Skill Building Program reported more in-class experiences, interactions with staff, and academic and intellectual development compared to students who were not participants of the Skill Building Program. No previous study had explored the concepts of in-class experiences or interactions with staff among

students who participated in skill building programs. Similarly, academic and intellectual development was greater among the students participating in the Skill Building Program. No previous study had examined institutional integration variables among students participating in skill building programs.

There were no relationships found between Skill Building Program participation and peer group interactions, interactions with faculty, institutional and goal commitment, faculty concern for student development and teaching, external demands, persistence, intent to re-enroll, or sex. Existing research indicates that skill building programs influenced persistence rates (Myers & Drevlow,1982; Allen,2012). Barnett et al. (2012) and Visher et al. (2012), however, did not find evidence that a skill building program increased persistence.

Intent to Re-enroll

Students who intended to re-enroll reported higher levels of institutional and goal commitment. Although research is limited on intent to re-enroll among community college students, this finding is consistent with a study by Cabrera, Nora, and Castaneda (1993). Similarly, students who intended to re-enroll reported higher levels of perceived faculty concern for student development and teaching, which was also consistent with findings from another study (Grosset, 1997). Findings that students who intended to re-enroll reported more positive academic and intellectual development could not be found in the literature. There were no differences in age, sex, peer group interactions, in-class experiences, interactions with staff, and external demands on intent to re-enroll.

Persistence

Students who persisted reported lower levels of external demands compared to students who did not persist. Two studies that explored this variable found this to be statistically significant as well (Barbatis, 2010; OIR, 1999). The Office of Institutional Research (1999) for Northern Virginia Community College interviewed students who had left school and found work complications, family complications, and health problems to be important factors in leaving school. Similarly, Barbartis (2010) interviewed 22 students in a qualitative study and found a major difference between students who persisted and students who left, including life circumstances that made it harder for the dropouts to remain in school. This evidence supports the need to include external demands as a potential reason for students not persisting.

There was an association between intent to re-enroll and persistence. Only two studies were found that explored intent to re-enroll and persistence (Bers & Smith, 1991; Williamson-Ashe, 2009). In one of them, intent to re-enroll was the strongest predictor of persistence compared to gender, educational objective, and institutional and goal commitment (Willaimson-Ashe, 2009). This study provides further evidence that intent to re-enroll is a predictor of persistence.

There were no differences in age, peer group interaction, interactions with faculty, in-class experiences, interactions with staff, academic and intellectual development, institutional and goal commitment, and faculty concern for student development and teaching in relation to persistence. There was no association between sex and persistence. This was consistent with several studies that found gender did not predict persistence (Bers & Smith, 1991; Morris, 2002). However, unlike the findings in the current study,

Nakajima (2008) found nonpersisters to be about 2 years older, on average than those who persisted. Nakajima (2008) also found faculty concern for student development and teaching to be higher among persisters, on average.

Limitations

This study has several limitations. First and foremost, the data collected at this community college did not fit the theoretical model that formed the basis of variable selection and measurement. It is possible that unmeasured factors were of substantial importance in explaining persistence.

One possible important but unmeasured variable is student attendance. Attendance and student absenteeism may have an important role in academic and social integration. In this study, for each class surveyed, the number of students present and the number of students enrolled was tallied. In 9 out of 24 classes surveyed, half or more of the students were absent. The students who were missing from the classes were not surveyed, and it is plausible that many of these students did not persist. It is possible that the students who did attend class and completed the survey are systematically different from absent students in terms of institutional integration, external demands, intent to persist, and/or actual persistence. Students cannot integrate academically or socially if they are not present. A similar model of student attrition accounted for attendance and absenteeism (Bean & Metzner, 1985).

Additional constructs could also be important to explain persistence, but were not measured directly. For example, students' study and homework habits can contribute to academic and social integration. The more time students spend on coursework, the more he or she might increase academic and social integration (Bean & Metzner, 1985). Study

habits can include partnering with other students to create study groups for a class, amount of time spent studying a particular subject, frequency and duration of homework assignments completed, and even where he or she studies (i.e. at the library). Along with study habits, another unmeasured variable includes learning disabilities and deficiencies. Dyslexia, cognitive impairments, and other learning related disorders and difficulties can make academic and social integration a challenge (Mamiseishvili & Koch, 2012; DaDeppo, 2009). Poor study habits and having a learning disorder or difficulty can make persistence difficult as well.

Because data were collected at only one community college, findings may not generalize well to other community colleges. The survey design was cross-sectional in nature. Because this design takes place at one point in time, causal inference is more difficult for intent to re-enroll, although not necessarily for persistence, obtained through follow-up administrative data.

Thirty-eight faculty members were contacted to participate in this study. Out of the 38 faculty members, 21 participated (with three faculty members teaching two classes each). This gives a faculty response rate of about 55%. Several faculty members either did not receive or did not respond to e-mails or phone calls about the survey. One faculty member wanted to participate; however, an extenuating circumstance made it difficult (Hurricane Sandy). It is unknown whether non-respondents are systematically different.

Mortality is a threat that occurs when participants drop out during an experiment (Creswell, 2009). Because the survey was administered at one point in time, this is less of a threat. Because data on several students could not be obtained in the follow up, mortality is a threat to this study.

History is a potential threat that could have affected the outcome of this study. Several events occurred during the course of this study, including a hurricane, and the initiation of two programs: the Skill Building Program and the Pupil Affirmation Program. Skill Building and Pupil Affirmation programs were added to the study and measured. Other factors could not be accounted for in this study, and could have affected the results of this study in unknown ways.

Other designs possibly could have produced better results. For example, an experimental design would have given this study better information on the Skill Building Program and the Pupil Affirmation Program. Obtaining face-to-face interaction and administrative data at the beginning and at the end of the study would have improved power at all time points when data were collected. Results were not found to support the Pupil Affirmation Program's impact on persistence. Perhaps a pre-test post-test design could better evaluate this program. Time is an important element when studying persistence. This study surveyed students during the middle of the Fall Semester of 2012, and followed up with administrative data in the Spring Semester of 2013. This study may have missed students who dropped the class or left school prior to survey administration. They would have been considered nonpersisters, but they were not captured in this study. New students could be entering in the spring term and were never captured.

Strengths

One strength of this study is that it focuses on students taking developmental courses at a community college. Although this study did not find support for effects of academic and social integration on persistence among a sample of community college students taking developmental education courses, no previous study had examined this.

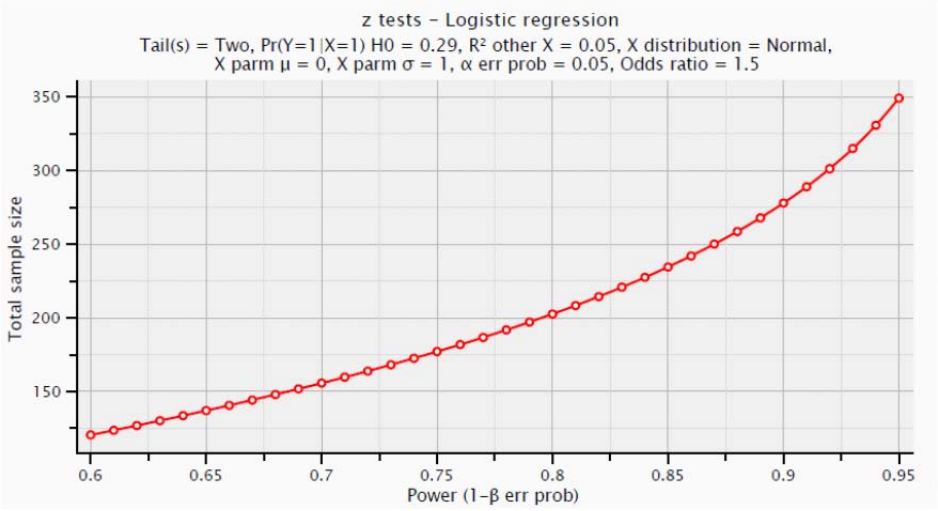
This provides potential evidence that the relationship among community college students taking developmental education courses may be different from academic and social integration predicting persistence among community college students in general.

Another strength is the number of Black students in the sample, particularly African American students. This is a strength because studies report that Black are struggling to pass these courses. Few studies have a large sample of Black students.

Another advantage of this study design made obtaining results feasible, timely, and cost-effective. Because a comparison group and a pre-test group were not present in this study, maturation, regression to the mean, diffusion of treatment, compensatory demoralization, compensatory rivalry, testing, and instrumentation threats were less of a problem in this study (Tochim, 2000).

In a post hoc power analysis using G*Power 3.1, on a PC computer running on the Windows XP operating system, to detect a statistically significant odds ratio of 1.5 in a logistic regression model, with an error probability of .05, a sample size of 164, a power of .65 was calculated. Power was sufficient in this study.

Figure 2. Post Hoc Power Analysis



Implications for Theory

The academic and social integration model was sociological in nature, incorporating a person-in-environment perspective (Tinto, 2012). Tinto has since updated his model. Integration academically and socially remains an important factor. Expectations of the self and of the institution were added, in addition to increased attention to student assessment and feedback. The new framework also adds support (academic, financial, etc.). Perhaps updates to the measure would include these additional factors, resulting in better fit with the data.

Implications for Research

Future research questions could compare academic and social integration predicting persistence across a wider sample of students. The sample would include students enrolled in a variety of courses, not specifically in developmental education courses. Samples can also include newly admitted students, students who are close to graduating, as well as students who attend classes at a satellite campus. By varying the subsamples, differences can be discovered between subsets of students.

Evidence found on intent to re-enroll combined with the lack of findings on persistence suggests a gap between cognition and behavior. A risk/protective framework can explore learning abilities and disabilities, health and mental health status, skills sets and deficits, as well as levels of intent.

One recommendation for future research on intent to re-enroll is to make the response set a continuous scale on the survey. This would capture students who are not sure about re-enrollment as well as students who are sure about leaving or staying. Using

a scale would also increase data analysis options, including multiple regression and correlational analysis.

Another recommendation for research is the design. Instead of a cross-sectional study with an administrative follow up, research can employ a pre-test, post-test design. This study relied upon student participation in the front end, and administrative information for the follow up. Many students were lost in the attempt to retrieve information from the college's administration. The study could have obtained information from students at both time points. While attrition may have increased, it would have potentially gained access to nonpersisters. By following up with students in a second interview, this study would have had the potential to gain access to more students who left. This would have also given this research more data to analyze at the second time point. Both qualitative and quantitative questions could have been assessed, answering research questions, including: "Did student level of commitment change during the semester?" or "What factors made it difficult to complete the courses?" or "Why did you decide to leave?" or questions about the effectiveness of pilot programs. On the other hand, using administrative data at both time points would have decreased attrition rates; however, it would not have gleaned qualitative data. Either way, keeping the method of data collection consistent across time points would have garnered more information.

There was valuable information obtained from community college students taking developmental education courses. Opportunities were missed by excluding community college students who completed developmental education courses, community college students who never took developmental education courses, and successful community

college completers. A recommendation for future research would include these students. That way, levels of academic and social integration (or risk and protective factors) could be assessed and compared among the various groups for differences. This would enable research questions, including, "Are there differences in academic and social integration among students taking various types of courses at one community college?"

Finally, another research recommendation is time. It takes time for students to adjust to higher education. While this study gave students several weeks to acclimate to the environment, a longitudinal study would have been able to answer research questions that address changes in the level of academic integration, social integration, external demands, and persistence. Longitudinal data analysis would have prevented false attrition among the stop-outs (leave for a semester to return later). Furthermore, a longitudinal design would give researchers an opportunity to explore student acclimation and transition from developmental education to non-developmental education.

Because only one campus was studied, it is not clear whether the findings were generalizable to this campus only, to satellite sites, or to other institutions. Other sites were included in the random selection of classes. All faculty members teaching off-campus declined to have the survey administered. By ensuring multiple jurisdictions, generalizability of research findings would have improved. Furthermore, additional questions capturing campus differences and site differences could have been asked.

Further research is recommended on both pilot programs. Future research questions can focus on evaluating the students using a pre-experimental design. Additional research questions can assess student ability to translate piloted program to the developmental education programs, and non-developmental education courses.

Implications for Practice

Although evidence of academic and social integration predicting persistence was not supported, there were findings with implications for practice. Intent to re-enroll was associated with persistence. This survey found that there were students who, by mid-semester, had already developed a plan not to return the following semester. An electronic or pen-and-paper survey using existing class time or technology, or administered as part of student advising, could assess the students' intention to stay or leave. If students plan to stay, their needs can be assessed to determine if additional support (e.g., counseling, financial aid, peer tutoring, etc.) is needed. If the student is planning to not return, the reasons why can be ascertained. Learning from these students can be beneficial for the practitioners and administrators because they are still in the system, they have not yet left, and their reasons for leaving can help professionals to better understand the reasons for their impending departure. If students are leaving due to common factors, including financial resources or grades, programs or supports can be designed to meet those needs.

This study found external demands to be lower among students who persisted compared to students who did not persist. This has implications for practitioners. Applicants with family demands and employment demands can be made aware of the challenges and difficulty students often face before matriculation, and can develop strategies to prepare themselves to meet the demands of school, family, and work. Group work can unite students who are struggling academically, enhance their understanding of their problems, and create a social network that promotes persistence (Greif & Ephross, 2005). Counselors and advisors can check in with students once or twice during the

course of the semester, reminding students of the advising and counseling programs and the resources that are offered in nearly all community college environments.

Conclusion

This study did not find academic and social integration to predict persistence among developmental education students at one community college. It did find institutional and goal commitment and a Skill Building Program predicted intent to re-enroll. It also found external demands to be higher among nonpersisters. Students who participated in the Skill Building Program had better in-class experiences, interacted with staff more, and reported higher levels of intellectual development. Students who wanted to re-enroll interacted with faculty more, reported higher levels of development intellectually and higher goal commitment, and felt more concern from faculty. All students from the Pupil Affirmation Program wanted to return, and all but one actually returned.

In conclusion, this dissertation adds to the existing knowledge on the impact of academic and social integration on persistence as it relates to community college students taking developmental education courses. Academic and social integration were not related to persistence among community college students taking developmental education courses. This finding is important given that previous research has found that academic and social integration predict persistence among community college students more broadly.

Although evidence of academic and social integration predicting persistence was not established, this study hints at skill building and institutional and goal commitment as potential predictors of intent to re-enroll, which is a precursor to persistence. Students

who participated in the Skill Building Program reported greater levels of interactions with faculty and staff and higher perceived faculty concern for student development and teaching. Although this was not tested in analytic models, all but one of the students participating in the Pupil Affirmation Program persisted. This evidence can lead to evaluation studies on the Skill Building Program and the Pupil Affirmation Program. Furthermore, students who persisted scored lower on external demands than students who did not persist. Intent to re-enroll was associated with persistence, and knowing whether students want to leave mid-semester can help practitioners offer support services to intervene before the semester ends, potentially increasing rates of persistence.

APPENDIX A -- TABLE OF STUDIES REVIEWED

#	Citation	Hypotheses	Measures/test	Sample	Results
1	Barnes and Piland, 2010-2011	Learning communities (LC) increased persistence among developmental English (DE) students	IV_1: LC involvement IV_2: DE level DV: Semester re-enrollment Test: χ^2	1,520 (760 LC) community college students	Students in an LC one DE level below college English persisted more than students not in learning an LC
2	Barnett, 2006	Increased integration in college predict stronger intent to persist	IV: Adapted from *belonging* scale (Roeser, Midgley & Urdan, 1985) DV: *Intent* to return Test: Regression	333 community college students	Student integration modestly predicted intent to persist
3	Borglum and Kubala, 2000	There is a difference between academic integration, social integration, and withdrawal rates	$IV_{1\&2}$: Modified Enrolled student *satisfaction* survey DV: Withdrawn ID numbers from fall 1997 to spring 1998 Test: ANOVA	462 community college students	No significant differences were found
4	Cox and Ebbers, 2010	Exploring factors that contribute to persistence for adult, female, part-time students	Semi-structured interviews; grounded theory	25 female community campus students	Family support, balancing work/life/school, interactions with faculty, interactions with students, goal commitment
5	Deil-Amen, 2011	Qualitative dimensions of integration	Semi-structured interviews; grounded theory	238 interviews, multisite study	Student-to-student interactions and student-teacher interactions in-and-out of class, sense of belonging, and relationships to

					accomplish goals
6	Grosset, 1997	Factors contribute most to African American community college students	IV1: AI (GPA, faculty concern or teaching and student development, classroom involvement, and contact with faculty outside of the classroom) IV2: SI (peer interaction, satisfaction with the quality of student interaction DV: Re-enrollment *plan* Test: SEM	315 African American community college students	Students with higher academic (AI) and social integration (SI) were more likely to persist
7	Greene, Marti and MClenney, 2008	Different outcomes White, African American and Hispanic students	IV: Community College Student Report (demographics, class assignments, academic preparation, mental activities) DV: grades Test: HLM	3,143 community college students in a stratified random cluster sample	African American and Hispanic students had lower grades than their White counterparts
8	Johnson, 2001	Survival strategies of African American women in community college	Semi-structured interviews; grounded theory	10 African American women	Supportive families, single motherhood, difficulty asking for help, faculty interaction, finances, peer interaction
9	Karp, Hughes and	How AI and SI takes place on	Semi-structured	36 communi	Peer interactions and faculty interactions

	O'Gara, 2010	a CC campus among persisters	interviews; grounded theory	ty college students	that helped navigate the campus, and coursework
10	Marti, 2008	Latent pathways to persistence	IVs: Faculty interactions, collaborative learning DV: Number of terms in school Test: Latent trajectory analysis, Regression	82,791 students from 3 databases and multiple schools using a stratified random cluster sample	Within the one-term and out latent trajectory, collaborative learning (peer interaction) was a significant predictor
11	McClenney and Marti, 2006	Factors that increase persistence	IV: Collaborative learning IV2: Faculty interaction DV: semester persistence Test: Regression	1,120 communi ty college students	Collaborative learning and student-faculty interaction increased persistence
12	Nakajima, 2008	Exploring factors that encourage persistence	IV1-4: Cooperative Institutional Research Program Freshman Survey (CIRP), College Self-efficacy Inventory, IIS, and Career Decision scale DV: semester persistence Test: Logistic regression	427 communi ty college students	Faculty concern, GPA, increased persistence
13	Napoli and Wortman, 1998	Academic and social integration predicts persistence	IV1: Academic adjustment scale of the student adaptation to college	1,011 communi ty college freshmen	Institutional commitment, academic integration, social integration impacted persistence

			questionnaire IV2: Institutional commitment IV2: Student involvement questionnaire social integration scale DV: semester persistence Test: SEM		
14	Napoli and Wortman, 1996	Effect size of academic and social integration on persistence in community college students	IV: AI IV: SI DV: semester persistence and year-to-year persistence Test: Correlational coefficient adjusting for different samples (Hedges g)	3,489 from six studies	AI (faculty concern, academic intellectual development) influence on community college students was strong; SI (peer group, interactions with faculty) influence was weaker, but statistically significant. Term-to-term persistence demonstrated stronger effects than year-to-year persistence
15	Office of Institutional Research, 1999	Why students did not return to school	Focus group, semi-structured interviews	Sample sizes were not reported	Work complications, family complications, felt "invisible," no peer-interaction, unreliable transportation, health problems, low faculty interactions
16	Opp, 2002	What predicts persistence	IV: Developmental education isolates students of color from the mainstream	643 respondents from students in the Who's Who in	Developmental isolation increased, completion rates increased

			DV: Graduation rates Test: stepwise regression	Community Colleges	
17	Settle, 2011	Comparing first-generation students and persistence with continuing education students	IV1: Demographic IV2: SI (satisfaction with campus climate and going to places with friends), IV3: AI (satisfaction with intellectual development, satisfaction with prestige, attending lectures, social contact with faculty, participate in activities) DV: year-to-year persistence Test: logistic regression	310 students from Beginning Postsecondary Students Longitudinal Study.	High school grades, financial aid, going to different places with friends, being satisfied with intellectual development, higher college grades, fewer hours working, being satisfied with the campus climate, and going to lectures with friends were important predictors on persistence
18	Taylor, 2009	Academic and social integration improved persistence in students in developmental courses	IV: AI IV: SI DV: Number of semesters having taken a developmental education course Test: Correlations	205 students enrolled in developmental courses during spring 2008	A weak, but statistically significant, positive correlation existed between interactions with faculty and persistence
19	Walker, Pearson and Murrell, 2010	Racial differences in career preparation and quality of	IV: Collegiate community college student experiences questionnaire	1,000 from 40 community colleges	When faculty interaction increased, career preparation increased among

		effort	(demographics, quality of effort, satisfaction with college environment, faculty interaction, gains in academics and social variables) DV: Career preparation	(half White, half African American)	African Americans
20	Williamson-Ashe, 2009	Academic, social integration, educational objectives and intent increases persistence	IV: Current Student Survey and IIS AI IV2: Institutional goal commitment IV3: SI (peer group interactions DV: Semester persistence Test: Discriminant function analysis	134 students returned surveys and provided ID numbers to follow up in June 2007	Academic (faculty concern, academic and intellectual development, GPA) and social integration (peer group interaction, interaction with faculty outside of class) were found to be significant predictors in persistence
21	Wirth and Padilla, 2008	Barriers and how do students overcome those barriers	Qualitative	22 community college students	Family & employment supports school, attend seminars, study groups, talk to others about the right class, see advisor, talk to instructors

APPENDIX B – STUDENT EXPERIENCE SURVEY

Name: _____ Today's Date _____

Last five digits of your student ID#_____

Student Experience Survey

A. Have you ever taken this survey before?

a. Yes - If yes, please stop here and return the survey to Darnell Morris-Compton
b. No

If you answered yes to Question A, then you are finished taking this survey. Thank you.

B. Which of these courses (known as developmental education courses) are you currently enrolled in this semester (please circle all that apply).

1. E-READ 90: Integrated Reading & Writing	Yes	No
2. E-READ 91: Reading and English I	Yes	No
3. E-READ 92: Reading and English II	Yes	No
4. MAT 80: Arithmetic: Concepts and Applications	Yes	No
5. MAT 91: Elementary Algebra	Yes	No
6. MAT 91M: Modular Elementary Algebra	Yes	No
7. MAT 92: Intermediate Algebra	Yes	No
8. MAT 92M: Modular Intermediate Algebra	Yes	No

C. Are you a participant of The Pupil Affirmation? Yes No

D. Did you participate in the Skill building Program? Yes No

	Please read each statement and answer how much you agree or disagree with the each statement. If you have attended another community college, please focus on your experiences at this community college only. Please circle only one answer for each statement.	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
1.	My relationships with students improved my thinking ability.	1	2	3	4	5
2.	I have developed close relationships with other students.	1	2	3	4	5
3.	The student friendships I have developed have been helpful.	1	2	3	4	5
4.	My relationships with other students helped me mature.	1	2	3	4	5
5.	It has been easy for me to meet and make friends with students.	1	2	3	4	5
6.	If I have a personal problem, I know many students who would listen and help.	1	2	3	4	5
7.	Most students at this community college have values and attitudes similar to mine.	1	2	3	4	5
8.	I am satisfied with the opportunities to join in activities at this community college.	1	2	3	4	5
9.	I feel invisible on campus.	1	2	3	4	5
10.	I am satisfied with my opportunities to meet and talk to teachers.	1	2	3	4	5
11.	I have developed a personal relationship with at least one teacher.	1	2	3	4	5
12.	My discussions with teachers outside of class helped me with my career goals.	1	2	3	4	5
13.	Many teachers will meet me outside of class to discuss ideas important to me.	1	2	3	4	5
14.	Talking to my teachers in class helped me mature.	1	2	3	4	5
15.	Talking to my teachers in class improved my ability to think.	1	2	3	4	5
16.	Teachers encourage discussions in class.	1	2	3	4	5
17.	Interactions with students in class are personally satisfying.	1	2	3	4	5
18.	My grades on assignments and projects improve when I work with other students.	1	2	3	4	5
19.	I learn better when I work with other students.	1	2	3	4	5
20.	Many staff members (non-faculty) I have met have connected me to useful resources on campus.	1	2	3	4	5
21.	The staff (non-faculty) members I have met helped create a sense of belonging on campus.	1	2	3	4	5
22.	The staff at this community college (non-faculty) has been a positive influence in my life.	1	2	3	4	5

23.	Many of the staff members (non-faculty) I have had contact with went out of their way to help me.		1	2	3	4	5
24.	Most of my classes have made me think more.		1	2	3	4	5
25.	I am satisfied with my classes at this community college.		1	2	3	4	5
26.	I am more likely to attend an event (e.g., a concert, lecture, or art show) now compared to a few months ago.		1	2	3	4	5
27.	I am satisfied with my mental growth.		1	2	3	4	5
28.	My interest in ideas increased since starting classes.		1	2	3	4	5
29.	This year my classes improved my ability to think about ideas.		1	2	3	4	5
30.	I got the kind of grades I expected.		1	2	3	4	5
31.	Getting good grades is important to me.		1	2	3	4	5
32.	I know what I want to major in.						
33.	It is important for me to graduate.		1	2	3	4	5
34.	I am confident that I made the right decision to attend this community college.		1	2	3	4	5
35.	I will most likely register here next semester.		1	2	3	4	5
36.	Many teachers I have met are excellent.		1	2	3	4	5
37.	Many teachers I have met are interested in students.		1	2	3	4	5
38.	Many teachers I have love to teach.		1	2	3	4	5
39.	Many teachers I have met want to help students mature as a person.		1	2	3	4	5
40.	Staying in school has been difficult because of finances.		1	2	3	4	5
41.	Work demands make school work difficult to complete.	N/A	1	2	3	4	5
42.	Work demands make it hard to attend class.	N/A	1	2	3	4	5
43.	Family demands make it difficult to complete school work.		1	2	3	4	5
44.	My family has been very supportive of me while I am in school.		1	2	3	4	5

45. What is your goal in attending this community college?
    a. Earn an AA degree
    b. Earn an AS degree
    c. Earn a certificate
    d. Earn credits to transfer to a four year college or university
    e. None of the above

46. What were your high school grades like?
    a. Mostly A's
    b. Mostly B's
    c. Mostly C's
    d. Mostly D's

    46a. What was your high school grade point average? _____

47. What is the highest grade completed by your mother?
    a. 6th grade or less

b. 7th grade
c. 8th grade
d. 9th grade
e. 10th grade
f. 11th grade
g. 12th grade (high school graduate)
h. GED
i. Some college
j. Associate's degree
k. Bachelor's degree
l. Some graduate school
m. Master's degree
n. Doctorate (e.g., MD, JD, PhD)
o. Don't know

48. What is the highest grade completed by your father?
a. 6th grade or less
b. 7th grade
c. 8th grade
d. 9th grade
e. 10th grade
f. 11th grade
g. 12th grade (high school graduate)
h. GED
i. Some college
j. Associate's degree
k. Bachelor's degree
l. Some graduate school
m. Master's degree
n. Doctorate (e.g., MD, JD, PhD)
o. Don't know

49. How is your tuition paid for this semester (circle all that apply)?
a. Income or savings
b. Parent or family member
c. Employer
d. Grants or scholarships
e. Student loans
f. Public assistance

50. What is your age in years? _____

51. Developmental courses, also known as remedial courses, are typically reading, writing, and mathematics courses listed below 100 (e.g., Reading 80). How many developmental courses are you taking this semester? _____

52. Do you think you will pass all of the developmental courses you are taking this semester?

a. Yes
b. No

53. Have you ever repeated a developmental course?

a. Yes
b. No

54. Have you ever withdrawn from a developmental course at this community college for any reason?

a. Yes
b. No

54a. What was the reason? _____

55. Have you ever withdrawn from the same developmental course more than once?

a. Yes
b. No

55a. What was the reason? _____

56. Including the current semester, how many semesters have you been at this school?

_____ semesters

57. Do you plan to return to this community college next semester?

a. Yes
b. No

58. What is your race?

a. Native American
b. Asian
c. Black
d. White
e. Hispanic

59. What is your ethnic group (Please circle all that apply)?

a. African American
b. American Indian/Alaskan
c. Hispanic/Latin/Central American

d. White American/Caucasian
e. Asian/Pacific Islander
f. Caribbean/African

60. Were you born in the US?
a. Yes
b. No

60a. If no, when did you move here? _____

61. What is your sex?

a. Male
b. Female

62. How many total credit hours have you completed at this community college?

_____ credits

63. How many credit hours are you taking this semester? _____ credits

64. What is your total grade point average (GPA)? _____

65. Do you work?
a. Yes
b. No

65a. If yes, is your job part of a work study program?

a. Yes
b. No

66. If you do work, on average, how many hours a week do you work? (If you have more than one job, how many hours a week do you work total?) _____ hours

Thank you for your participation.

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