THE IMPACT OF EXPOSURE TO EARLY COLLEGE STUDENTS ON COMMUNITY COLLEGE STUDENT ACADEMIC AND SOCIAL INTEGRATION

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ABSTRACT

THE IMPACT OF EXPOSURE TO EARLY COLLEGE STUDENTS ON

COMMUNITY COLLEGE STUDENT ACADEMIC AND SOCIAL INTEGRATION

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Over the past decade, the nation has seen an increase in high school dropout rates as well as an increased need for a more skilled workforce. The Early College movement in North Carolina was a collaboration between public schools and colleges designed to address these needs. The program immersed child learners beginning in the 9th grade in classes and on campus with college students, many of whom were adult students (25 or older). Research and theory indicate there are significant differences between child and adult learners. These theories and research, along with intergroup contact theory and theories on student retention, provide a framework for the premise that the introduction of child learners into the predominantly adult population of the community college could have an effect on its student population. The purpose of this study was to determine if a relationship existed between exposure to Early College students and the academic and social integration of community college students. The research questions were concentrated in four main areas: college student exposure to Early College students, college student academic and social integration, the relationship between exposure and integration, and the relationship between the degree of exposure and integration. North

Carolina community college campuses ($N = 4$) were chosen for the study based on the proportion of Early College students in overall enrollment on campus and in the classroom. Participants ($N = 258$) completed two surveys, one designed to measure academic and social integration (Institutional Integration Scales, Pascarella & Terenzini, 1980), and the other a researcher-designed instrument to measure exposure to Early College students (Early College Student Behavior). The data collected for the exposure variable revealed that the quantity (number of listed interactions) of exposure was not related to integration but the quality of exposure (perceptions about classroom and campus behavior ratings) was related to integration. Additionally, the degree of exposure (the proportion of Early College students in class and on campus) had an impact on integration. Evaluation of the data collected on the relationship between the quantity of academic exposure and academic integration ($r_s = -.088$, $p = .16$) and between the quantity of social exposure and social integration ($r_s = .101$, $p = .10$) did not produce significant results. However, a moderate, positive correlation ($r = .464$, $p < .001$, $r^2 = .22$) was found between the quality of exposure to Early College students and academic integration, and between the quality of social exposure and social integration ($r = .313$, $p < .001$, $r^2 = .10$). In addition, the degree of class exposure (defined by the proportion of Early College students enrolled) had a significant impact on academic integration scores, $F(1,254) = 49.38$, $p < .001$; $\eta^2 = 0.16$, and the degree of campus exposure had a significant impact on social integration scores, $F(1,254) = 42.82$, $p < .001$; $\eta^2 = 0.14$. Overall, the results indicate further research is warranted and that measures to improve the successful integration of Early College students with college students can only be accomplished through creative collaborative efforts between both institutions.

CHAPTER ONE: INTRODUCTION

The national high school dropout rate over the past decade coupled with the importance of education for employability has created a potentially catalytic foundation for a national economic crisis (Christle, Jolivette, & Nelson, 2007). As workers who attain solely a high school level education have become almost irrelevant in the global economy (Kirchhoff, 2003; Reynolds & Weagley, 2003), education beyond the high school level has become imperative to compete for employment. In response, public schools and colleges have collaborated to create accelerated educational opportunities for disengaged students to enhance their education and prepare them for the workforce (Berger et al., 2005, 2007; Hall, 2008; Jacobson, 2005; Lieberman, 1990, 2004; Roberts, 2008; Wolk, 2005).

Unemployment rates for those with a high school diploma exceed those of workers with higher educational attainment (Croninger & Lee, 2001; Kirchhoff, 2003; Reynolds & Weagley, 2003). Further, in 2007 the Bureau of Labor Statistics indicated unemployment rates for those with less than a high school diploma were at 7.1% and at 4.4% for high school graduates. Conversely, unemployment rates for those with higher education attainment such as Associates (3.0%) and Bachelor's degrees (2.2%) were substantially lower than for individuals who had only completed high school. As further evidence, current employers are increasingly using the educational level of potential employees as the primary factor in hiring, as it is the best predictor of success in the workplace (Reynolds & Weagley, 2003). Competition for employment has increased, and therefore the need for education and workforce training including and beyond the high school level has become essential.

The community college is currently at the forefront of training and re-training the nation's workforce to prepare for the needs of society and an ailing economy. A focus on workforce development has been central to the community college mission since the Servicemen's Readjustment Act of 1947 (Baker, 1994). Accordingly, workforce and economic development are still central in the mission of each community college in the nation (Warren, 2000). Roueche, Taber, and Roueche (1995) suggested that workforce development and education at community colleges "leads to an informed and productive citizenry- the foundation of our social, economic, and educational systems" (p. 349). It is the responsibility of the community college to educate members of our workforce to prepare them for a field of work, to improve their future prosperity, and to ensure on a broader level the success of the local economy (Baker, 1994; Torraco, 2008).

Historically, students who have been the most in need of higher education for future prosperity and employability are also often the least able to pursue a college education. Barriers to higher education include misconceptions about costs and funding opportunities, limited familial support for educational endeavors, and prior negative academic experiences (McIntosh, Flannery, Sugai, Braun, & Cochrane, 2008; Swail, 2000). These barriers to higher education and disenchantment with the high school experience often lead to dropout behavior in high school students (Wolk, 2005). To reach such students who are disengaged, public schools and colleges collaborate to provide enriching educational experiences. These collaborations additionally provide students with the opportunity to earn college credit at a quicker pace and more affordable price (Luciano, 1993; Swail, 2000). Concurrent enrollment programs were designed to accelerate learning for motivated and gifted students (Andrews, 2001). Middle and Early

Colleges, on the other hand, were developed to provide engaging educational experiences to at-risk students by exposing them to the college environment. Early Colleges extended this exposure by blending the high school and college curricula such that students could earn a high school diploma while earning a two-year degree or up to two years of college credit (Hall, 2008; Roberts, 2008; Wolk, 2005). These endeavors were a public and higher education response to the potential educational and economic crisis created by high school dropout rates and increased competition within the nation's workforce.

Background

Concurrent Enrollment

Concurrent enrollment programs were designed to allow students to earn college credit while enrolled in high school. These programs were also designed to expose students to the collegiate experience by providing educational opportunities on college campuses. This method of accelerated study has been of primary focus in earning college credit on the high school level, due in part to the affordability created by shared resources between the high school and college (Andrews, 2001, 2004; Bailey & Karp, 2003; Hanson, 2000, 2003, 2006; Marshall & Andrews, 2002). Increasingly, however, educators have sought to provide more streamlined and challenging outlets for high school students to complete graduation requirements and enter college. Early Colleges, accordingly, were developed to allow students the opportunity to earn college and high school credit in a collegiate and engaging environment (Wolk, 2005). This engagement is important for the target population of underserved students, as it is the lack of engagement which often leads to dropout behavior (Roberts, 2008; Wolk, 2005).

Early College

Concurrent enrollment allowed students to take courses on a college campus while primarily residing at the high school. On the other hand, the Early College program was designed to immerse high school students in a collegiate environment. Early College programs were initially developed to provide academically gifted students the opportunity to pursue high school and college degrees simultaneously. Recently this opportunity has expanded to include other high school students who experience disengagement from the typical high school environment for a multitude of reasons. These reasons include limited familial support for education, lack of encouragement, socio-economic status, negative experiences with education, or social disconnection (Wolk, 2005). Stemming directly from the idea that accelerated learning opportunities engage gifted and typical college-bound high school students, recent educational theorists have stipulated that an Early College experience could decrease the high school dropout rate and encourage college matriculation for at-risk students (At-risk, 1991; Jacobson, 2005; Kisker, 2006; Manzo, 2005; Wolk, 2005). Newly-developed Early Colleges focus on this population of students, to increase their graduation and college matriculation rates and, as a result, potentially increase their prospects for future employment. Early Colleges clearly present innovative opportunities for educational reform and economic development. These programs, however, do raise questions for the post-secondary institutions in which they exist.

In North Carolina, Early Colleges exist predominantly on community college campuses (New Schools Project, 2007), which have historically served adult populations since their rapid growth in the 1950s and 60s (Baker, 1994). This trend has persisted, and

currently 50% of the community college population in North Carolina is 25 years of age or older (NCCCS, 2008). Human learning and development theories indicate that individuals develop over time, in specific ways that influence the manner in which they learn and approach the learning environment (Eisold, 2001; Hedegaard, 2002; Khishfe & Abd-El-Khalick, 2002; Merriam & Caffarella, 1999; Ozuah, 2005). Due primarily to the nature of development, these theories indicate that adults and children approach the learning environment differently. Programs such as the Early College introduce 13 and 14 year-old students onto community college campuses where the populations are primarily adults. Given developmental theories, the blending of these student populations accordingly poses some interesting questions regarding the impact of merging these two different student types in the learning environment.

Theorists have consistently presented the importance of student perception of "fit" in the learning environment and the impact of "fit" on attrition in college students (Astin, 1975, 1977, 1993, 1999; Tinto, 1975, 1993). Academic and social integration are key concepts in student perception of fit and are accordingly a focus in student services and retention strategies at institutions of higher education (Astin, 1999; Tinto, 1975, 1993). The differences between adult and child learners, however, could potentially present challenges for academic and social integration of community college students.

<center>Conceptual Framework</center>

For the first time in our nation's history the older segment of our population is beginning to outnumber the younger (Merriam & Caffarella, 1999). An increased number of adult learners, consequently, will be expected to seek out higher educational opportunities (Baker, 1994; Vaughan, 2004). As evidence, the average age of community

college students nationwide is 29, and 53% of community college students are over the age of 22 (American Association of Community Colleges, 2009). Community colleges have traditionally served the adult population since their substantial growth in the 1960s (Merriam & Caffarella, 1999; Wild & Ebbers, 2001). Community colleges have routinely been the primary source for adults in higher education as they are open access institutions which focus on educational needs over prior academic success (Vaughan, 2004). Principally as a result of a lack of previous academic success and confidence, many adult learners would not have sought higher education opportunities without the availability of community colleges (Baker, 1994; Merriam & Cafferella, 1999; Vaughan, 2004).

However, access to education is not the only mitigating factor in adult students' success. Learners and their approaches to the learning environment must also be considered as well as their overall sense of belonging (Astin, 1999; Knowles, 1984; Tinto, 1993). The community college currently serves both younger and older learners, and it is therefore important to consider how different types of students approach the learning environment in order to address the academic and social needs of all students.

Learning and development theories coupled with theories on student retention and attrition provide a framework for examining the potential impact of Early Colleges on adult learners at community colleges (Astin, 1975, 1977, 1993, 1999; Hedegaard, 2002; Khishfe & Abd-El-Khalick, 2002; Knowles, 1968, 1980, 1984; Merriam, 1988; Tinto, 1975, 1993). The premise that adults and children differ significantly in their educational needs and approaches to the learning environment is central to the argument for the current study. Child development and learning theorists and practitioners (Kaufman et al., 2008; Merriam & Caffarella, 1999) indicate many strategies described in adult learning

theory are applicable and beneficial to child learners. These include but are not limited to

active learning, self-directed learning, and collaborative learning. Practitioners and

theorists alike, however, still recognize that with age comes increased maturity and

experience. Maturity and life experience impact learners particularly in their motivations

for seeking out learning opportunities. Further, developmental and adult learning theories

recognize that the motivations for learning for adolescents are primarily extrinsic as

compared with the typically intrinsic motivations of adult students (Hedegaard, 2002;

Khishfe & Abd-El-Khalick, 2002).

The fundamental focus of this argument is the distinction between adult and

younger learners' approaches to education and issues that affect student retention.

Student retention theories specifically designate the importance of student satisfaction

with the academic and social environment of a campus for student retention. Feeling

connected to a campus and its students, therefore, is central in student satisfaction and

retention. The elements of student retention and learning theories together provide the

foundation for the concept that the presence of adolescent students on a primarily adult

campus could potentially have an effect on college student academic and social

integration. Currently there is a limited amount of research on the impact of the

introduction of young student groups into an institution on the pre-existing college

student population. However, intergroup contact theory (Allport, 1954) postulates that

intergroup exposure of minority and majority groups in controlled and favorable

conditions could reduce prejudice. This indicates that the introduction of the minority

group can have an effect on the majority group. Considering the potential impact of one

group upon another, it is possible that the introduction of Early College students might

have an impact on the community college student population. That impact, whether positive or negative, could be affected by the Early College students' ability to integrate with community college students socially and academically. Class and campus population density which result in a larger constitution of the "minority group" (child learners) within the learning environment might also have an impact on integration. The proportion or degree of exposure to child learners within a class or campus environment may translate into differences in community college students' experiences of contact with the "minority group." Given the largely adult community college student population, the developmental differences between adults and children, and the importance of academic and social integration for college student retention and success, the possibility that the Early College program could affect adult students' sense of academic and social integration is important to consider. This conceptual framework is represented in Figure 1.

Figure 1. Conceptual framework for the study

Learning Environment → Academic and Social Integration → Adult learner Success and Retention

Early College Students
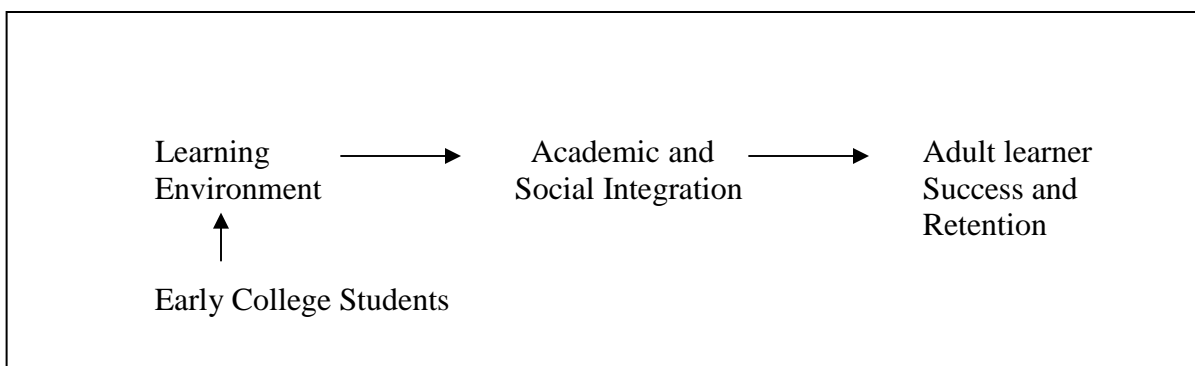
Need for the Study

While community colleges are, in general, successfully meeting the needs of many nontraditional (25 and over) as well as traditional-aged (18 to 24) students, the focus in the past decade has increasingly been on the younger student population. Currently, the community college system serves almost half of traditional-aged undergraduate students nationwide (American Association of Community Colleges, 2007, 2009) and 50% of the population served by the North Carolina community college system consists of adult students (NCCCS, 2007, 2008). Additional programming on community college campuses, such as dual enrollment (typically 16 to 18) and Early College (typically begins at 13 or 14), has only increased the presence of younger and younger populations. For example, from 2006 to 2008, the percentage of students under the age of 18 enrolled in North Carolina community colleges increased from 2.6% to 4.1% (NCCCS, 2007, 2008). In addition, the percentage of adult students (25 +) in the same period decreased from 53% to 50%. The change in age range is also reflected in the average age of a North Carolina community college student within the same period of 29 to 26. Given the historic focus of the community college on adult education, it is important to consider how all populations can be best served and how shifting balances in student populations could potentially affect all students at an institution.

Theories and available research on the continuum of development suggest that differences in student approaches to the learning environment exist and are based on overall human development and experience (Brookfield, 1999; Dewey, 1933; Eisold, 2001; Hedegaard, 2002; Khishfe & Abd-El-Khalick, 2002; Knowles, 1984; Maslow, 1970; Merriam & Caffarella, 1999; Ozuah, 2005; Tough, 1971). Therefore, the evaluation

of programs which integrate adults and adolescents in an educational environment is paramount. In addition, there is a lack of available research on the impact of child learners on adult learners' perceptions of the learning environment. Both theory and research demonstrate that the introduction of one population into another has an effect on each groups' perceptions of institutions and organizations (Allport, 1954; Chavous, 2005; Knapp & Stubblefield, 2000; Schoem & Hurtado, 2001). Accordingly, it is important to consider how programs such as the Early College might impact the pre-existing college population.

Collaborative programs such as the Early College are appealing in the field of high school reform and are certainly important to promoting higher educational attainment. However, the potential effect on both student populations, either negative or positive, should be a consideration for further research. The evaluation of how the Early College program is received by its existing college population is essential, as it could have an impact on the program's ultimate success or failure. In addition, currently there is no research on how the introduction of child learners in the community college environment affects the social and academic integration of community college students. This gap in the available knowledge of the impacts on community college educational programs will be addressed in the present study.

<div align="center">Purpose of the Study and Research Questions</div>

This exploratory research study was conducted to investigate the relationship between exposure to Early College students and community college student academic and social integration. A non-experimental, correlational approach was used to examine this relationship. The study investigated the potential impact of Early College students on

community college student academic and social integration, as these two factors have been shown to be associated with college student satisfaction and success (Astin, 1975, 1977, 1993, 1999; Pascarella & Terenzini, 1980; Tinto, 1975, 1993). The specific research questions were:

1. To what extent are community college students exposed to Early College students in academic and social campus environments?

2. What is the academic and social integration of college students enrolled at community colleges with embedded Early College High Schools?

3. What is the relationship between the academic exposure to Early College students in the classroom and community college students' academic integration?

4. What is the relationship between the social exposure to Early College students on campus and community college students' social integration?

5. Does the degree of exposure have an impact on community college student academic and social integration?

Overview of the Methodology

This study examined the relationship between exposure to Early College students and community college student academic and social integration. Since the few studies conducted on the Early College program have typically focused on the high school model, this study was centered on the effects of the program on community college students. Four community college campuses were chosen for the study based on their willingness to participate and the proportion of Early College students on campus and in the classroom. Campuses and classes were defined as either high exposure or low

exposure where high exposure campuses and classes had a higher ratio of Early College students to community college students and low exposure campuses and classes had lower proportions of enrolled Early College students. Classes ($N = 33$) were chosen in consultation with Early College Liaisons at each institution and with permission of the faculty responsible for the courses. All community college students were asked to participate in the research during the class period. Of the 268 students enrolled, 258 (96%) were willing and able to participate in the study. Each participant completed the Institutional Integration Scales (IIS; Pascarella & Terenzini, 1980; see Appendix A) to measure student integration, an instrument designed for the present study to measure community college student exposure to Early College students (Early College Student Behavior survey, ECSB; see Appendix B), and an informed consent form (see Appendix C).

The relationship between exposure (measured with the ECSB) and integration (measured with the IIS) was evaluated in several ways. First, the number of interactions, both academic and social, was compared to academic and social integration scores for each participant. This comparison was to determine if the quantity of interactions was related to integration. Second, the ratings of Early College Student behavior in the classroom and on campus from the ECSB were compared to integration scores. This comparison was to determine if the quality of academic and social exposure was related to integration. Finally, participant responses to the academic and social integration scales were compared to the Campus and Class Exposure categories. This comparison was to determine if the degree of exposure, based solely on enrollment ratios, was related to integration.

Assumptions and Delimitations

The assumption of the current study was that the participants would be aware of the Early College program on their campus. More specifically, they would be aware of the Early College students in their classes and on campus. This assumption was addressed directly in the ECSB instrument on two questions regarding the number of Early College students enrolled in the surveyed class and the number of Early College students encountered on campus. The assumption was deemed appropriate because there were minimal discrepancies between the self-reported estimates of enrolled Early College students and the actual enrollment statistics.

Among the delimitations, this study only included North Carolina Early College High Schools that enrolled Early College students in college classes with community college students. North Carolina Early College high schools that maintained segregated classes for Early College students were excluded from the research. However, this delimitation was important to gain an accurate reflection of the perceptions college students had of Early College students in the classroom as well as in the campus environment.

A further delimitation of the study was the exclusion of the universities that housed Early Colleges at the time of the study. In North of Carolina, two Early College high schools were affiliated with universities. Given the differences in mission, purpose, and student body composition between the two types of higher education institutions, only Early Colleges located on community college campuses were asked to participate in the study. In addition, North Carolina Early Colleges have only been in existence since 2002; therefore, the relative maturity of the programs could be considered a delimitation

of the research. North Carolina Early Colleges were chosen as a focus of the current study, however, because they constituted almost half of the nation's Early Colleges at the time of the study, (Early College High School Initiative, n.d.; New Schools Project, 2007, 2009; North Carolina Learn and Earn, 2009) and thus would possibly allow for more generalizability of the findings.

Data collection for the study also presented a delimitation in that data regarding other factors which can influence retention were not collected. These could include academic performance, psychosocial factors, and family education background. These data could have provided a richer background for the participants to better establish influences on academic and social integration. The nature of the course design was also an area not covered in the data collection. Courses were purposefully chosen from a variety of subject areas but the specific nature of the course design or topic was not used in the data analysis. It is possible that the nature of the course design or topic may have had an impact on student integration and satisfaction. Therefore, the lack of inclusion of this information is a possible delimitation of the research. Another delimitation of the study was the lack of information gathered on retention of the participants. Academic and social integration are related to satisfaction and retention. Such information about the participants could have been helpful in understanding more about the impact of the Early College program on the sample's satisfaction and persistence.

Finally, a delimitation of the design of the study was the inability to draw cause and effect relationships between exposure and integration. The study was designed to be a non-experimental, exploratory study on the potential relationship between exposure to Early College students and community college student integration. Significant

correlations were found for exposure and integration, but because the study was not experimental, the direct effects of the relationship between the variables could not be established.

<div align="center">Significance of the Study</div>

The purpose of this study was to investigate the relationship between exposure to Early College students and community college student academic and social integration. A non-experimental correlational approach was used to gather information about this relationship and its potential unintended consequences. The intent of the research was to add to the greater body of knowledge by investigating the impact of the introduction of child learners into a predominantly adult learning environment. The results of the study have implications for Early College programming. The findings lend support for collaboration between the high school and community college to improve the integration of Early College students with college students.

<div align="center">Definition of Key Terms</div>

The following is an overview of the operational and conceptual definitions of terms used in the study.

Academic exposure. For the purposes of this study, academic exposure was defined as the quality and quantity of classroom interactions with Early College students experienced by college students. The quantity of academic exposure was defined as the number of the types of academic or class interactions with Early College students cited by participants (i.e. class discussions, group work assignments, study groups, etc.). The quality of exposure was defined by the perceptions or ratings of classroom behaviors

exhibited by Early College students (i.e. class preparation, class discussions, participation in group work, etc.).

Academic integration. The extent to which an individual feels academically and intellectually connected to a campus as well as academically and intellectually fostered through interactions with members of the academic community. Academic integration also involves a sense of belonging to the greater community and that a student's academic and intellectual focuses and values are shared by others in the community (Astin, 1975, 1977, 1993, 1999; Pascarella & Terenzini, 1980; Tinto, 1975, 1993)

Andragogy. The practice and theory of educating adult students in a learner-centered format (Knowles, 1984, Mezirow, 1981).

Child learner. A student under the age of 18, who has not graduated from high school or assumed adult roles in society (Knowles, 1984).

College student. Any student who has graduated from high school or earned the equivalent (GED or Adult High School Diploma) and is enrolled in at least one course in a community college. (Merriam, 1988; Noble, Flynn, Lee, & Hilton, 2007/2008; Sorey & Duggan, 2008).

Concurrent Enrollment/Dual Enrollment. The simultaneous enrollment of high school students in a high school curriculum and college classes during one or more academic semesters (Levine, 1981). According to the North Carolina Community College System, concurrent or dual enrollment programs are publicly-funded programs which allow high school students to earn college credit while completing their high school degree requirements. Students earn credits by taking online or other college courses housed on college campuses. Students 16 years of age or older who are simultaneously

enrolled in high school may participate (Community College Laws of North Carolina, 2005; Hoffman, Vargas, & Santos, 2009; North Carolina Administrative Code, 2001; Southwestern Community College, n.d.). For the purposes of this study, concurrent and dual enrollment will be used interchangeably.

Degree of exposure. The degree of exposure to Early College students was a variable of interest for the current study. For the purposes of this study, the degree of academic exposure was defined as the proportion of enrolled Early College students in classes with community college students at colleges with embedded Early College high schools. The degree of social exposure was defined as the ratio of Early College students to community college students on campuses with embedded Early College high schools.

Early College. A publicly-funded, small, autonomous high school located on a college campus concurrently enrolling students beginning in the ninth grade. In this program students can potentially earn a high school diploma and a two-year college degree in five years (Early College High School Initiative, n.d.; Hoffman et al., 2009; Lieberman, 2004; New Schools Project, 2007; Slade, 2006).

Learning environment. The composition of a campus environment which includes both academic and social elements. The learning environment encompasses the social, emotional, and academic components of the campus and population which take place within the educational context (Ashar & Skenes, 1993; Astin, 1975, 1977, 1993, 1999; Braxton, 2000; Merriam, 1988; Noble et al., 2007/2008; Tinto, 1975, 1993).

Middle College. A publicly-funded, small, autonomous high school located on a college campus simultaneously enrolling students in college and high school courses

beginning in the eleventh or twelfth grade. (Lieberman, 1990; Slade, 2006; Wechsler, 2001).

Social exposure. Social exposure was defined as the quantity and quality of interactions with Early College students on campus. The quantity of social exposure was defined as the number of the type of formal and informal campus interactions with Early College students cited by participants (i.e. club or organizational memberships, campus social events, in common areas, and in the library). The quality of social exposure was determined by the ratings and/or perceptions of behaviors exhibited by Early College students on campus (i.e. respect for other students, interpersonal communication, appropriate use of the computer labs, etc.).

Social integration. The extent to which a student feels socially connected to a campus through interactions with faculty, staff, and peers. Social integration also involves a sense of belonging to the greater community and that a student's values are shared by others in the community (Astin, 1975, 1977, 1993, 1999; Pascarella & Terenzini, 1980; Tinto, 1975, 1993).

Chapter Summary

This chapter has explained the nature of the study, including background on the development and purpose of the Early College, an overview of several studies, and the reason for studying the Early College program's impact on community college students. The theoretical framework for this study was also discussed including development and learning theories, Tinto (1975, 1993) and Astin's (1975, 1977, 1993, 1999) theories on student retention, and Allport's (1954) intergroup contact theory. This was followed by a discussion of the need for the study, including the five research questions. The

methodology used to determine the relationship between exposure to Early College students and the academic and social integration of community college students was also described. This was followed by information on the significance of the study and its delimitations. Finally, key definitions used throughout this study were also provided.

CHAPTER TWO: REVIEW OF THE LITERATURE

The present study investigated the relationship between exposure to Early College students and community college student academic and social integration. The following is a review of the literature available on the topics of interest, including accelerated credit programs (Bailey & Karp, 2003), the differences between adult and child learners, and issues which impact student satisfaction and retention. This literature review is intended to provide an overview of the available literature and the justification of the need for the present study.

Literature will be provided which describes a brief history of college credit programs through the development of the new Early College High School Initiative. In addition, descriptions of theories of adult learning, the differences between younger students' and adult learners' approaches to education, and supporting research will be provided in this literature review. Student retention theories will also be presented as well as supporting research on the relationship between academic and social integration and student success and satisfaction. The argument will be made that while the Early College is a resourceful concept in high school reform and accelerated learning, the impact on community college students should be evaluated to promote the success of the program.

The dynamic composition of student populations is a fundamental concern of educators and administrators alike in higher education. The growing competition in proportion of child learners, traditional college students, and nontraditional college students has implications for best practices in teaching and student retention and success. This increase in the diversity of student populations is evident on community college campuses which currently serve students from age 13 to 90 (American Association of

Community Colleges, 2007, 2009; Cohen & Brawer, 2003). The community college has historically focused service on the nontraditional student population. Currently 53% of the national community college population is over the age of 22 (American Association of Community Colleges, 2009); in North Carolina approximately 50% of the community college population is nontraditional, 25 years of age or older (NCCCS, 2008).

Despite the predominance of adult students on community college campuses, younger student populations are also enrolling and increasing in proportion. Currently 45% percent of freshman and 44% of all undergraduates attend community colleges nationwide (American Association of Community Colleges, 2009). In North Carolina, 32% of the population of students on community college campuses are between the ages of 20 and 24 and 17% of the population is 19 or younger (NCCCS, 2008). Traditional-aged college students (18 to 24) have been a focal point in higher education as one of the centuries-old target consumers in the field (Cross, 1981). Increasingly, however, high school students are also seeking out higher educational opportunities at the community college. In addition, the declining public perception of K-12 education and the employability outlook for those who only earn a high school degree have placed increasing pressure on public and higher education to respond by creating additional accelerated learning programs (Smith, 2006).

Changes in the national and global economies have increased the need for a higher-skilled workforce in the labor market. The educational attainment of potential employees has become paramount in the hiring process, and individuals who do not complete a high school education are no longer considered a competitive population (Kirchhoff, 2003; Reynolds & Weagley, 2003). For example, the unemployment rates for

those with only a high school level education are higher and salary ranges lower than those of workers with any level of higher education (Croninger & Lee, 2001; Kirchhoff, 2003; Reynolds & Weagley, 2003). It is therefore important for those who wish to be competitive in the global economy to consider the pursuit of higher education.

Students who are often considered at-risk of dropping out of high school are in the most need of higher education, and often less likely to pursue further education. Frequently higher education is perceived as too expensive or outside the bounds of a student's typical familial behavior because his or her parents and siblings did not pursue higher education (Swail, 2000). However, the increased dissatisfaction with public education, evidenced by the high number of dropouts and lowered graduation rates, has led to a call for high school reform (Smith, 2006). Therefore, new educational programs have been developed to reach students who are disenchanted with the typical high school experience. Many of these programs have developed over the past several decades as partnerships between secondary and post-secondary educational institutions. These institutions have collaborated to create opportunities for students to earn higher-level education at a quicker pace and more affordable price (Luciano, 1993; Swail, 2000). The collaborations are designed to increase graduation rates while enhancing and expanding educational opportunities (Jacobson, 2005; Wolk, 2005). Programs such as Dual Enrollment and Middle and Early Colleges have created these opportunities for students. These programs, however, developed over time based on the successes and failures of other challenging college credit avenues designed for high school students.

Accelerated Credit Programs

Advanced Placement

Advanced Placement (AP) and similar high school courses were initially designed to challenge students with high academic potential. Since the inception of the AP program in 1961, AP courses have become an outlet for students to potentially earn college credit through specific examinations designed to reflect collegiate-level proficiency in a given subject area (Roberts, Scheaffer, & Watkins, 1999). This collaboration between secondary and post-secondary institutions existed purely as a relationship centered on the acceptance of college credit based on examination performance.

AP courses provided students with more challenging coursework than other available forms of advanced coursework including honors courses. While honors courses provided a rigorous curriculum, these courses alone did not allow students to earn college credit or experience coursework reflective of collegiate-level courses (Curry, MacDonald, & Morgan, 1999). AP classes, however, provided students with the opportunity to earn college credit based on their earned score on the final AP exam. A student's score on the exam (1-5) is the basis for awarded credit and this is based on the proficiency reflected in the scores: 1 = no recommendation, 2 = possibly qualified, 3 = qualified, 4 = well qualified, 5 = extremely well qualified (Greenberg, 1991). It is ultimately the decision of the receiving institution regarding credit awarded based on the designated score. Therefore, AP courses were designed for the purpose of earning college credit by examination as well as to encourage student matriculation and success in college.

There is some supporting evidence (Curry et al., 1999; Morgan & Ramist, 1998) that AP programming successfully prepares students for collegiate-level work while allowing them to earn college credit prior to matriculation. Despite results which support the AP program as an effective and challenging method of accelerated education, colleges have increasingly accepted fewer and fewer AP scores for college credit (Saulny, 2005). In addition, the AP program was designed for gifted and successful students, those students more likely to graduate and be successful in future education. The AP program was not designed for the average or at-risk student. To meet the needs of these groups, therefore, educators developed additional opportunities to earn college credit while in high school. Dual enrollment programs focused not only on allowing students to earn college credit in high school but also exposed students to the collegiate experience by providing educational opportunities on collegiate campuses**.**

Dual Enrollment

Dual enrollment existed as a collaboration of secondary and post-secondary institutions for accelerated study. The collaboration included shared resources and simultaneous institutional acceptance of earned college and high school credit (Andrews, 2004; Berry, 2003; Hanson, 2000, 2003, 2006; Hébert, 2001; Marshall & Andrews, 2002). Students earned both high school and college credit through dual enrollment by enrolling in college level courses to substitute for high school elective credit requirements. This conduit for advanced study has been of primary focus in earning college credit on the high school level because of the affordability created by shared resources between the high school and college, including facilities and instructors (Andrews, 2001).

Dual enrollment allows for direct collegiate control of the curriculum in terms of the depth of the material provided, while maintaining a mutually beneficial relationship with the public education counterpart. Dual enrollment courses additionally allowed motivated high school students a glimpse at real college curricula and collegiate-level work. The program provided students with an opportunity to experience collegiate life while still in the high school environment. Educators postulated these courses would increase academic performance and likelihood of college matriculation for all participating students (Andrews, 2001).

Several studies support the rationale regarding increased student academic and college matriculation motivation through the dual enrollment program (Hanson, 2000; Marshall & Andrews, 2002; Opp, 2001; Reynolds & Weagley, 2003). Opp (2001) found support for the logic of dual enrollment programs in his research on factors which influenced the enrollment of minority students at two-year colleges. The researcher found minority students were more likely to enroll in a two-year college where faculty members from those institutions were active in students' high school curriculum. Reynolds and Weagley (2003) studied the reasons students persist to earn a baccalaureate degree. They found students were more likely to successfully complete a degree if they had completed college credits on the high school level prior to college matriculation.

Marshall and Andrews (2002) investigated the success of the dual enrollment program relationship between an Illinois high school and Illinois Valley Community College (IVCC). The results of the study, based on 33 student surveys, demonstrated that students reported an improved opinion of the college as a direct result of participation in the dual enrollment program. Students also stated that they had completed an average of

1.18 semesters in their overall college curriculum before entering college as a direct result of the dual enrollment program. Further research has also demonstrated success in dual enrollment as a reflection of student performance after transferring (Hanson, 2000).

Hanson (2000) found dual enrolled students in the Running Start Program performed as well or better in future collegiate courses compared to typical college freshmen at the same institution who did not participate in dual enrollment. He found 41% of the program participants graduated from college within four years where 31% of typical college students who did not participate in the program graduated in the same amount of time. He also found the program produced freshman college students with a 3.42 GPA as compared to a 3.14 average GPA for other college freshman at the same institution. The results of Hanson's investigation revealed students in the Running Start program performed as well or better as their college peers (who did not enroll in dual-enrollment courses in high school) after matriculating to college.

Much of the research supports the position that dual enrollment programs were generally successful for high school students (Andrews, 2001; Berry, 2003; Hanson, 2000; Marshall & Andrews, 2002; Opp, 2001; Reynolds & Weagley, 2003). Similar to the AP dilemma, some students have experienced difficulty with the transferability of credits to other institutions of higher education outside of the community college system (Berry, 2003). Many, but not all states have circumvented these difficulties by establishing articulation agreements, which guarantee the transfer of certain core courses available through dual enrollment. However, AP and dual enrollment programs were primarily designed for and delivered to highly motivated and achieving students. The Middle College concept was developed partially to help address the challenges related to

transferability of credits and to encourage lower to average performing students to pursue higher education (Lieberman, 1990).

Middle College

Middle College high schools were developed as a form of high school reform to respond to issues such as difficulties with the transferability of credit. Perhaps more importantly, they were designed in an effort to increase the rigor of high school curricula and engage at-risk students. Like dual enrollment, the Middle College concept was a collaborative relationship between secondary and post-secondary institutions whereby students would potentially earn college credit while still enrolled in high school. Originating in 1972 in the primarily urban areas of New York, the program was designed to immerse at-risk students into a collegiate atmosphere. The program later encouraged the enrollment of junior and senior Middle College students in collegiate courses when they were better equipped to succeed. The first Middle College high school, located on the LaGuardia Community College Campus, was the innovation of Janet Lieberman (1990).

This Middle College was designed to attract students considered at-risk for dropping out of high school. These students were considered poor to average performers academically, but were viewed by teachers as students with potential. The small school environment and student-centered focus of the Middle College was theorized to encourage such students to become engaged in the educational process. Intense and consistent academic support from teachers and the stressed importance of positive adult/student relationships were also focal points of the Middle College program design. The theorized end result would be a student who was more receptive to education as a

whole and would seek out higher education as a result of the positive educational experiences at the Middle College. It was also anticipated that positive adult/student interactions fostered in the program would encourage maturity in high school students such that they would blend into the adult student populations.

Research on the LaGuardia Middle College High School demonstrated the effectiveness of programming on high school graduation rates as well as future college matriculation rates (Lieberman, 1986; Moed & Greenberg, 1982). Moed and Greenberg (1982) found a higher graduation rate for the Middle College high school (54.0%) as compared with graduation rates of other schools in the New York City area. They also found a lower attrition rate overall (14.5%) for Middle College students as compared with all students at local public high schools (46%). Middle College students in this study were also likely to continue their education; in fact 85% of Middle College graduates pursued further postsecondary education. No statistics were provided, however, comparing Middle College and public school students for college matriculation.

Additional research on the success of the Middle College program was conducted by the creator of the LaGuardia Middle College High School. Lieberman (1986) investigated the attendance and dropout rates of Middle College students as compared with local public school students. The researcher also investigated the academic achievement levels of Middle College students as compared to their public school counterparts. Descriptive statistics generated from data on student attendance and graduation rates from the New York area were compared with the same data from the LaGuardia Middle College High School students. The results of the analysis revealed higher attendance (81.0%) and graduation rates (87.8%) over a period of six years, as

compared with their New York City public school counterparts (69.0% attendance rate; 86.4% graduation rates). The Middle College student dropout rate was reportedly 5.8% as compared with the public high school students at 40.0%. Lieberman also found Middle College students performed better academically compared with their public school counterparts. The researcher determined the pass rate for Middle College students in reading was 98.2% which demonstrated a markedly higher rate as compared with the 77.0% pass rate for public schools. Results for mathematics pass rates, while still higher for Middle College students (49.5%) were not as distinctly different from the public school pass rate of 47%.

Regarding future success in college matriculation and job acquisition, Lieberman found Middle College students reported they were generally successful in both areas. Though the researcher did not compare survey results with a similar survey of public school students, Lieberman did find evidence to support the success of the program. Approximately 75% of those who responded to the survey indicated they had enrolled in further college programming. The students were enrolled in four-year colleges, other community colleges, and universities in programs ranging from Business Administration to Liberal Arts degrees. A small number of students also stated they had completed a degree, ranging from certifications to one master's degree. Additionally, 19% of the respondents indicated they were gainfully employed after graduation from LaGuardia.

Additional research expressed the benefits of the Middle College high school in terms of its collaborative nature and focus on students (Cullen, 1991). Cullen utilized data collected directly from students regarding their opinions and feeling about the program and its success. The researcher found students perceived the program as

collaborative and student-centered. Middle College students also reported they believed teachers were interested in their development as learners. Students indicated they felt motivated and enriched by the curriculum, the collaborative nature of the program, and the teachers, who were reportedly actively involved in their development as individuals and learners.

Clearly this small school atmosphere was beneficial for Middle College students. The intensely focused nature of the program for developing the motivation and maturity of junior and senior students was a priority and may well have allowed the students to blend in later with their traditional and adult student counterparts. In terms of high school reform, the available research on the Middle College has demonstrated the effectiveness of its programming on multiple measures and levels (Cullen, 1991; Lieberman, 1986; Moed & Greenberg, 1982). The results of these studies clearly reported the success of the Middle College in promoting school attendance, increasing graduation rates while simultaneously reducing dropout rates, increasing college matriculation, and encouraging career prospects. The new Early College program was based in large part on the success of such programming. The plan for the Early College movement was to transition the design further by extending collegiate curricula to younger students (Hoffman et al., 2009). The Early College was also modeled on the success of the historical Early College movement for gifted students.

The Historical Early College Movement

The Early College concept was originally intended to challenge and motivate academically gifted students as well provide accelerated access to higher education, beginning in the ninth grade or 12 to 14 years of age. The purpose of the new Early

College movement is to use similar principles to enhance the education of underprepared or at-risk students. The original Early College was also significantly different from dual enrollment and Middle College because of the targeted age group and the exposure to collegiate course work earlier in the student's high school career. The first Early College, founded in 1966 by Elizabeth Blodgett Hall, was intended to help academically gifted girls through their last years of high school and encourage them to seek higher education (Jacobson, 2005). Similar programs were developed to help academically gifted students simultaneously earn a high school diploma and college degree following Hall's initial endeavor. The majority of the accelerated programs were residential and a result of collaboration between secondary and four-year institutions. Empirical studies on these programs have demonstrated their overall success reflected by student satisfaction, academic performance, and high school and college graduation rates (Noble, Arndt, Nicholson, Sletten, & Zamora, 1998/1999; Sethna, Wickstrom, Boothe, & Stanley, 2001).

Noble et al. (1998/1999) investigated the effects of emotional and social development of participants in the Early Entrance Program (EEP) at the University of Washington. The subjects, academically gifted students, were selected based on their academic performance in middle school. In interviews, students compared their previous experience in middle school to the EEP. Overall, students reported an increased level of social acceptance as a result of the EEP. Students also reported the experience encouraged them to excel in their studies through exposure to other motivated students and the challenging nature of the curriculum. The results of this study demonstrated programs such as the EEP can allow for normal or exceptional growth in these areas despite the accelerated nature of the program.

Sethna et al. (2001) investigated the effectiveness of another residential accelerated program for gifted students. Their research on the Advanced Academy of Georgia (AAG) revealed AAG students performed significantly better academically (3.6 average GPA) compared to other college students (average GPA below 2.9). The retention rates reported for AAG students (80%) also far surpassed that of typical college students (60%). In addition, the researchers investigated other elements of AAG student success with the Dimensions of Self-Concept scale, which measured non-cognitive factors of academic success. The results revealed AAG students had slightly lower mean anxiety scores and similar academic interest and satisfaction scores as compared to other college level students. The researchers also noted AAG students received awards and recognition for their performance in many subject areas and at least one AAG student was chosen each year for a highly competitive scholarship at the University of West Georgia. The study findings supported the supposition that the AAG program was able to assist gifted high school students successfully through the rigors of high school and collegiate-level work. It is important to emphasize, however, that both studies investigated the effects of accelerated college credit programs on academically gifted students and not typical high school students.

Early College High School Initiative

More recently, educators and other societal stakeholders have considered how accelerated programming for college credit might effect typical high school students or potential high school dropouts (At-risk, 1991; Jacobson, 2005; Manzo, 2005; Newton, 2008). The Early College concept of targeting at-risk students is similar to the Middle College concept (Lieberman, 1986, 1990, 2004; Webb, 2004) in the approach of

immersing students in a collegiate setting. However, these two institutions differ in the type of curriculum offered and the age at which students begin taking collegiate-level courses (Jacobson, 2005; Lieberman, 1986, 1990, 2004; Manzo, 2005; Roberts, 2008). The Middle College was designed to expose high school students to the collegiate environment by immersing the high school on a college campus. However, the focus was on completing high school diploma requirements through the high school and not through a blended high school–college curriculum (Lieberman, 2004). Middle College students were encouraged in their last two years of high school to begin taking college courses and transition to a degree program after finishing high school graduation requirements. The Early College also differs from the Middle College in its approach to the high school and collegiate curricula and its end goal. The Early College was intended to accelerate the curriculum by blending the high school and college curricula such that by taking both high school classes and college classes, a student could fulfill high school graduation requirements and simultaneously earn up to two years of college credit.

Early College high schools are defined as small, autonomous schools typically immersed on a college campus (New Schools Project, 2007; Webb, 2004). Early Colleges provide accelerated education to a wide range of high school students, typically beginning in the ninth grade year. These institutions focus on rigor, relevance, relationships, equity, and sustainability, which are incorporated into all elements of the college including administration and instruction (New Schools Project, 2007). The underrepresented or underserved students in higher education, such as low income, minority, or first generation students are the target population for Early Colleges (Berger et al., 2005, 2007; Jordan, Cavalluzzo, & Corallo, 2006; Webb, 2004; Wolk, 2005).

However, Early Colleges serve students other than those who are underserved in higher education, incorporating a wide range of abilities and academic experience into the student body. Despite the range of abilities and academic experience, the goal of the Early College High School Initiative is to make every student college-ready. This readiness would be ideally accomplished through exposure to collegiate curriculum, supporting students in their educational and career goals, and assisting students in the completion of a high school diploma and college degree.

Wolk (2005) described anecdotal accounts of the first two Early College high schools (Wallis Annenberg High School and Dayton Early College Academy) as well as recommendations and plans for the development of future Early Colleges. This initiative, according to Wolk, would provide potential dropouts with a positive secondary school experience in which they could complete a high school degree and at least an Associate's degree in four or five years. Research has shown one of the most influential factors in the decision of students dropping out of high school was a perceived negative relationship with teachers (Croninger & Lee, 2001). According to Wolk (2005) and Croninger and Lee (2001), students' lack of confidence has a direct link to unsuccessful relationships with teachers and negative experiences in the classroom. Wolk (2005) stated,

> because Early College high school students tend to have had negative and disappointing educational experiences, and as such generally lack the skills and commitment needed to succeed in college, they are unlikely to realistically see themselves as future college students. Early college high school teachers and advisors keep a focus on the future and, without overwhelming their students, project high expectations for them. (p. 7)

Because of the difference in the targeted population, the collaboration between secondary and post-secondary institutions in this initiative sets the Early College apart from other accelerated learning programs. Berger et al. (2007) indicated the Early College High School Initiative

> targets students who are traditionally underrepresented in postsecondary institutions, and gives them the opportunity to pursue a high school diploma and college credit simultaneously. While many students entering these schools are performing below grade level, Early College High Schools (ECHSs) put students on an accelerated path to college readiness and to college. (p. 1)

Previously, the opportunity to earn college credit while concurrently enrolled was limited to only those students considered academically gifted and/or highly motivated. The philosophy behind this new program, however, is "that improved high school instruction and curriculum tied to the incentive of earning college credits will motivate and educate struggling students, thereby increasing their interest in and access to postsecondary education" (p. 1).

This program is also distinctive as a result of the low/no cost attainment of a high school diploma and college degree for students who might not otherwise be able to afford the education. Previous Early College residential programs designed for gifted students (Noble et al., 1998/1999) required the student to pay housing and other fees which far surpass the costs projected for the new Early College High School Initiative. The goal of student success for the new Early College is the same, but the target population, overall student investment, and end product are anticipated to be different (Berger et al., 2005, 2007; Jacobson, 2005; Wolk, 2005). The ultimate outcome would provide previously

disadvantaged students with the potential to achieve more success than they would have in a typical high school environment (Hoffman & Bayerl, 2006).

Some preliminary research is available on the new Early College program which reveals both its successes and challenges (Avilés-Reyes, 2007; Berger et al., 2005, 2007; Hall, 2008). In 2005 and 2007, reports were produced based on research which was conducted by the American Institutes for Research (AIR) and SRI International (SRI). The findings of the 2005 report (Berger et al., 2005) were similar to those of the 2007 report which revealed that the program was on track and in general meeting the goals established for the Early College High School Initiative (Berger et al., 2007). In addition, the 2005 report was based more on qualitative interviews and observations than quantitative data and analysis. This report was a preliminary evaluation and observation of the beginnings of the Early College initiative including the makeup of the student body and faculty and staff, a description of the general curriculum and instructional practices, an investigation of potential facilitators and barriers to the success of the program, and implications for the future. However, there were no data provided on student academic performance or social integration. Overall, the authors contended that the Early College High School Initiative was making positive movement with areas of improvement focused on enhancing relationships with partnering institutions, engaging faculty, and improving student learning and development.

The 2007 report generated by AIR and SRI (Berger et al., 2007) was based on both qualitative and quantitative data on the formation of the Early College program, the experiences of students, and general statistics on student body makeup and student performance. More data were available for the 2007 report than the 2005 report regarding

student performance on standardized testing and academic performance. The research

questions for the 2007 report were:

1. What are the demographic, structural, organizational, and instructional

   characteristics of ECHSs?

2. What factors support or inhibit the planning and development of ECHSs?

3. What are the intermediate and long-term outcomes for students attending

   ECHSs, especially for students traditionally underserved by the postsecondary

   system? (p. 4)

Data were collected for the study during the 2005-2006 academic year at 24 Early

Colleges nationwide. The 24 schools chosen were selected based on the following

criteria: previous data had already been collected for the school, schools were in their

second year of operation at a minimum, and/or some element of the program was unique

as compared with other Early Colleges which warranted further study. The following

states were represented in the sample: one school in Arizona, six in California, one in

Colorado, one in Florida, one in Georgia, one in Michigan, one in North Carolina, two in

New York, two in Ohio, four in Texas, two in Utah, and two in Washington.

Demographic information revealed Early Colleges were on average enrolling high

numbers of minority students who are historically underserved in higher education at a

rate of about 71% proportionally over the 24 institutions surveyed. Similar results were

also reported in 2005. Additionally, 67% of the Early Colleges enrolled higher

percentages of minority students than the traditional high schools in their service areas

(Berger et al., 2007). Fifty-two percent of students enrolled were reportedly from low-

income families, who are also traditionally underserved in higher education. The report

provided limited data on student academic preparation prior to entry into the Early

College. This was primarily due to the different academic measures in admissions

requirements and standards amongst the Early College high schools. Early Colleges were

also reportedly focused on an at-risk population while also enrolling students who scored

in the 90th percentile on end of grade tests from the year prior to entry. This wide range of

student abilities and demographics is a hallmark of the Early College and certainly one of

the distinctions between this type of high school reform and that of the gifted Early

College movement.

      The success of the Early College program was measured in multiple ways in this

report including increased attendance rates and state achievement measures compared

with the district attendance and performance. The researchers found attendance rates

increased from 91% in 2004-2005 to 94% in the 2005-2006 academic year. Berger et al.

(2007) noted attendance rates in typical high schools were significantly lower than that of

the Early College rates, although no relational statistics were provided.

      Regarding student performance on state achievement measures, the researchers

found 81% of Early College students scored at or above the proficiency level in reading

as compared with the 69% district rate (Berger et al., 2007). They additionally found 66%

of Early College students scored at or above the proficiency level in mathematics as

compared to 57% for the district. While the results demonstrated success in the high

school curriculum, information on student performance in collegiate courses was not

provided. The lack of data on Early College student performance in collegiate courses is

a significant limitation of this research and further research was warranted in this area as

well as in the area of student social integration and development. Accordingly, a

summary of the most recent evaluation of the Early College program by American Institutes for Research & SRI International was released in 2008. Data on Early College student academic performance in collegiate courses was provided in the report. According to the summary report on average students earned a 3.0 GPA in their college courses. In addition, at the time of the study 52% of students were enrolled in at least one collegiate course.

Avilés-Reyes (2007) also conducted some preliminary research on the success of the Early College High School Initiative. The study was an exploratory, qualitative case study on an Early College high school in Texas associated with a local university. The school had affiliations with the university and students were enrolled in college courses. However, the high school was not located on the university campus but rather as a "learning community" within a larger high school. The researcher conducted in-depth interviews with seven participants: four early college teachers, two administrators, and one county office representative. The four teachers and the county office representative were chosen based on their continuous affiliation with the high school since the inception of the program. The researcher used information from the interviews and compared it with student performance on state accountability measures and college GPAs.

The majority of the information gathered from the interviews concerned faculty views on the effectiveness of the program based on the successes and failures of the administration. Very little information about student academic success was revealed through the interviews. However, through evaluation of state performance measures the researcher did find that the Early College students in the study scored higher than average on state mathematics and English assessments as compared with other students in the

district. The researcher also found the pass rates for high school academic classes as well as the rate of enrolling in dual credit courses were higher than the district average.

On measures of college readiness, the researcher found the Early College high school administration and faculty felt students were generally more prepared for college than their public school counterparts. The researcher found the majority of students in the Early College had earned at least a 2.0 GPA. Two students earned a 4.0 and five earned between 3.5 and 3.9 GPAs on collegiate work. Information about the full range of collegiate academic performance was not included.

Hall (2008) also conducted a study on the performance of the Early College High School Initiative in western North Carolina. The researcher investigated the success of the program based on retention rates, academic performance measures for both high school and college, and student ($N = 51$) perceptions about the program. Hall found the Early College high schools in the study were successful in retaining their students (overall retention rate, 92.6%). She also found Early College students typically scored at or above proficiency levels on state performance measures in English and mathematics. For English, 88.0% of the Early College students who had taken the state performance measure received passing scores and for mathematics, 63.8% received passing scores.

The researcher found similar results to that of the 2008 ARI/SRI report for high school GPAs. Hall (2008) found the mean high school GPA was 2.92 and that Early College students had taken between 2 and 14 high school courses at the time of the study. The range of GPAs was 0.90 to 4.00 and this is reflective of the wide range of students the Early College High School Initiative serves. The researcher also found 45.2% of students earned GPAs of 3.10 or higher, and that on average ninth graders achieved

slightly higher GPAs as compared to tenth graders. For college performance, the results were similar to the high school GPA statistics; the average GPA was 2.94 with a range of 0.00 to 4.00. The range of college credit completed by Early College students was 0 to 24 courses, which indicated Early College students were in general taking more college courses than high school when comparing the range of courses completed. The researcher also found that 50.3% of Early College students had college GPAs between 3.10 and 3.90 and that ninth graders earned slightly higher college GPAs as compared with tenth graders.

In terms of student perceptions of the program, the researcher used the SERVE Student Opinion Survey used by the Regional Educational Laboratory for the Southeast to evaluate other North Carolina Early College high schools. The researcher dispersed the survey to 118 students, which constituted 35% of the total Early College student population at the four targeted schools, with a 100% response rate. Hall found the majority of respondents (53%) liked their Early College experience, 38% indicated they loved the experience, 8% stated they did not like their experience, and 2% said they hated their Early College experience.

The researcher also found students reported higher ratings of instructor expectations for high school faculty as compared with college faculty. Hall determined that the majority (53%) of students felt their high school faculty believed they were capable students, and 34% felt the same of their college faculty. This trend continued with the rating of high school and college faculty on the treatment and corresponding level academic and/or emotional support of students. Students reported feeling that the "smart" students were held in higher regard by college faculty compared to less prepared

students. The results of this survey subscale revealed Early College students might have felt academically disconnected from the collegiate elements of the Early College. This was also reflected in the results of the subscale on student perceptions of relationships with high school and college instructors. The researcher found 55% of students felt their high school instructors cared about them compared with 24% who believed the same of their college instructors. In fact, ratings for college instructors on all questions including whether faculty listened to their students, cared if they came to school, offered encouragement, had respect for their students, offered praise for hard work, expected them to do their best, or cared about their academic performance, were all notably lower for college as compared with high school faculty.

In addition to faculty support, academic support services are essential for the success of students enrolled in accelerated learning programs such as the Early College. The use of academic support services by students could indicate a higher level of motivation to achieve in college classes and a feeling of social connectivity to a campus. Hall (2008) found mixed results regarding the use of academic support services available through the high school or college. In general Hall found low levels of reported use of high school academic support services (e.g., 24% attended seminars and advisories, 21% attended school academic study sessions, etc.). The researcher also found low reported levels of college academic support services usage (e.g., 65% did not report using the library, 62% did not use the writing center, etc.). The most frequently used college academic support service was the computer labs. The majority of students (52.2%) reported using the computer labs at least once a day.

The results of the student survey regarding use of services and relationships with faculty revealed that participants in Hall's study may not have felt academically and socially connected to the college. Despite generally high overall program ratings, it is clear from the subscale ratings on college faculty, that the students did not feel connected academically or socially to their instructors. The wide range of high school and college GPAs was also concerning for administration as it related to student preparation for the accelerated curriculum. In fact, Hall indicated that one Principal suggested that the freshman students at his school "may have been placed in college courses prior to being academically or socially prepared for college level work" (p. 161).

Faculty in the Berger et al. (2007) study expressed similar concerns regarding Early College student preparedness for the college environment, academically and socially. The academic preparedness of students, particularly in regard to their readiness to take on collegiate-level work and contribute in a significant way to the collegiate environment, was noted as a concern. Several faculty members indicated concern over the wide range of abilities and the detriment it might cause the higher functioning high school students. One faculty member was noted as having significant reservations about the preparedness of some of the Early College students. Berger et al stated

> tensions between enrolling the target population of students who were often
> academically behind and the struggle these students would encounter in obtaining
> the 2 years of college credit became clear almost immediately. ECHS instructors
> reported difficulties in providing students with college preparatory work… (p. 15)

The researchers additionally stated that many of the surveyed Early Colleges indicated the lack of academic preparedness of the majority of their student body would be a

significant barrier to obtaining a two-year degree in an accelerated program of study. In fact, Berger et al. suggested many of their students would not earn a high school degree and a two-year degree in four or five years. Instead, such students would have to continue beyond the Early College program itself to complete both degrees, if at all.

While some Early Colleges do not incorporate freshman or sophomore students into mixed classes with adult students nationwide, several in North Carolina have done so. The concerns regarding student preparedness for college work and relative maturity pose questions regarding entry into mixed classes with adult students. Additionally, the concept that the satisfaction of adult students on community college campuses does not solely reside in the academic or classroom environment must also be considered. In fact, student retention is also contingent upon student satisfaction with the campus environment (Alexitch & Page, 2001; Astin, 1975, 1977, 1993, 1999; Chaves, 2006; Kamuche, 2005; Tinto, 1975, 1993; Wild & Ebbers, 2001). It is certainly clear the input of the community college student population is vital when considering the implementation and impact of this type of programming, both ethically and academically. Perhaps at the forefront of this argument is the difference in learning approach and styles of adults (andragogy) versus that of children (pedagogy).

<div align="center">Learner Characteristics in the Learning Environment</div>

Child Learners

Pedagogy, the practice of educating children, was historically the focus of educational practices and curricula in 1926, when Linderman first introduced the concepts behind the theory of andragogy (Ozuah, 2005). Dependency on the educator, or a teacher-centered focus, was the premise for the theory and practice of pedagogy

(Knowles, 1984; Ozuah, 2005). This didactic approach indicated that a student's main source of motivation was the teacher and was therefore primarily extrinsic (Ozuah, 2005). Students at this stage in their intellectual development were described as not yet mature enough to decide what and how to learn, nor possess the self-motivation or need to learn independently (Khishfe & Abd-El-Khalick, 2002).

Many child learning theories have steered away from the rigid approach to static learning that was outlined in the theory of pedagogy. The importance of a continuum of development and socio-emotional maturity to acquisition of knowledge was still incorporated as fundamental elements of child learning theories (Eisold, 2001; Hedegaard, 2002). Passive learning is not the most appropriate description of the pedagogic approach to education today. The key areas necessary for the understanding of the differences between child and adult learners, however, are the underlying sources of motivation and maturity. Human development theories, such as those of Erikson, Piaget, and Maslow, also apply to learning models. Such theories suggest that while development is not necessarily tied to age chronologically, the stages of development are "hierarchical in nature and therefore [build] on one another" (Merriam & Caffarella, 1999, p. 103). The impact of development is the eventual maturation of the learner and motivations for learning rather than the teacher facilitation of growth and learning. These theories, in fact, indicate that learning and growth are inherent, tied primary to our physical and mental development as individuals, independent of the formal educational environment. These theories, however, also indicate that based on the continuum of development expressed in almost every human development theory, child learners are generally at a different

developmental level than adults. Their maturity levels and motivations in the learning environment, accordingly, are also different: this is the core of adult learning theories.

Adult Learners

Leading theorists and researchers in the field of adult education indicate adult students are fundamentally different from younger learners and thus have unique educational and developmental needs (Ausburn, 2002; Beder & Darkenwald, 1982; Brookfield, 1999; Herr, 2003; Gorham, 1985; Knowles, 1968, 1980, 1984; Knowles, Holton, & Swanson, 1998; McKenzie, 1979; Merriam, 1988). Herr (2003) stated, "adult learning styles differ from those of traditional students and adults benefit the most from a learning environment which involves alternative delivery systems and instructors with a knowledge of and who can accommodate these learning styles" (p. 8). Adult learning theories are generally focused on the learner-centered concept of education and focus on the needs of the student, assume a certain maturity level, and are centered on the motivations of the student in returning to the educational environment.

Considered by many to be the father of adult learning theory, Knowles first proposed the theory of andragogy in 1968. The primary emphasis of andragogy is a student-centered and directed approach to the learning environment. The learner decides what is important to learn and is self-directed in the learning process (Beder & Carrea, 1988; Gehring, 2000; Knowles, 1980, 1984; Merriam & Cafferella, 1999; Ozuah, 2005). Adult learners are described as having an intrinsic educational motivation and are actively involved in and committed to learning (Gehring, 2000; Knowles, 1980, 1984; Merriam & Cafferella, 1999; Ozuah, 2005).

Theorists and researchers have debated the merits of the theory of andragogy and its applicability as the science of teaching adults rather than a theory about how they learn. However, common threads in research and theory of adult learner development predominantly reside in their approach to the educational environment. Maturity and motivation are mentioned often in the literature as hallmarks of the adult learner. They are described as primarily intrinsically motivated (by life events, self-improvement, etc.) and they bring with them life experiences and a corresponding level of maturity which lend to their approach to education as well as their ultimate success as learners. Each of these theories, as with those of child and biological development, express the importance of a continuum of development which is hierarchical and not necessarily chronological. It can be inferred, however, that in general, younger learners have had fewer life experiences and are less mature both mentally and emotionally compared to adults.

The influence of psychological theories of development have had an impact on and can be applied to adult learning theory (Tusting & Barton, 2003) including behaviorism, cognitivism, cognitive constructivism, activity theory and social constructivism, situated cognition, human developmental theories, and brain science. Adult learning theories were developed in large part with a basis in the fundamentals of these psychological models. Within the scope of humanism, Rogers (1969) and Maslow (1970) were influential in adult learning theory. The humanistic approach indicates that fundamentally the human potential for development, growth, and learning is inherent, limitless, self-actualizing, and in the case of Maslow's theory (1970), hierarchical based on individual needs. The influences of the humanistic psychological approach are

discernible in adult learning theories in their hierarchical nature and focus on individualism.

The theory of andragogy outlined the "art and science of helping adults learn" (Knowles, 1984, p. 43). This theory created a distinction between how adults and children learn, and how curricula and academic environments should be adjusted to fit the unique needs of adult learners (Huang, 2002). At the forefront of Knowles' argument is the concept that adults differ from child learners in several ways. Differences included active involvement in educational planning, self-directivity, readiness to learn, and motivations for learning. Additionally, the inclusion of prior life experience in the learning environment to enhance the learning experience was also cited as a difference.

Among the assumptions of andragogy is a focus on adult learner needs in regard to the how, what, and why of learning. Adult learners require an understanding of: "how learning will be conducted, what learning will occur, and why learning is important" (Knowles et al., 1998, p. 133). In essence, the adult learner must be actively involved in decision-making regarding the context and content of learning. Knowles et al. also postulated that self-direction in the learning process is central to the theory of andragogy. This self-direction indicates adult learners function best within an academic environment in which the learner has some control over what is learned and when, and an environment where the learner takes responsibility for the acquisition of knowledge (Gorham, 1985; Knowles et al., 1998).

The prior experience and knowledge students bring to the academic environment is the second feature of andragogy and adult education practices within higher education (Knowles, 1968; Knowles et al., 1998). This element of the theory recognizes the validity

and vitality of using the prior experience of adult students to make education more meaningful and relevant (Merriam, 1988). Highlighting the rich and vast experiences adults provide for the academic environment allows for a unique approach to education which focuses on the individual and their self-identity (Huang, 2002). Knowles et al. (1998) also indicated another assumption regarding adults is that they are distinctive as learners because of their readiness to learn. This conjecture focused on the life changes such as job loss and divorce which are often the impetus for adults seeking education. Knowles (1980) postulated such motivations propel adults into education but also insure they remain and complete their education because it is vital that they do so.

Knowles indicated adults also differ from children with regard specifically to their approach to learning. According to Knowles, adults approach learning from a problem-solving orientation; additionally, learning ideally takes place, in this context, with real-world or reality-based application. Service learning is a response to this assumption about adult learners and has been demonstrated as an effective addition to classroom learning (Knapp & Stubblefield, 2000). Finally, Knowles (1980) stated that adult learners often have a different motivation to seek education and that they learn best when they have real problems to solve. Their motivation, therefore, is the real-world application of knowledge to solve problems, whether personal, professional, societal, or academic, and is intrinsic in nature.

Many theories present in the literature describe the adult learning process and the subsequent modifications that should be made in the educational environment to accommodate the needs of adult learners. Such theories were developed based on the core of the theory of andragogy (that adults as students are different from younger learners), as

well as in response to some of its weaknesses (Brookfield, 1999; Dewey, 1933; Freire,

1972; Mezirow, 1981; Tough, 1979). Brookfield's (1999) theory on lifelong learning

built on the theory of andragogy, in its focus on the continuum of development of the

learner over time. This theory took into account the context of learning as a vital aspect

of the learning process. The lack of the context of learning in the theory of andragogy has

been cited as a weakness. The context in Brookfield's approach to lifelong learning was

not only a part of adult learning but integral to growth and knowledge. In an evaluation of

Brookfield's work, Tusting and Barton (2003) postulated that Brookfield's argument was

that the "ability to be critically reflective is only developed as adults pass through

experiences of breadth, depth, diversity and differential intensity, over a long period of

time" (p. 22). This concept emphasized the continuum of development: individuals learn

over time, developing from childhood through adolescence and continue the learning

process by adapting and assimilating previously acquired knowledge into their

educational constructs and adult life. Mezirow's (1981) and Freire's (1972) theories of

transformational learning echoed much of the same qualities.

The theory of transformational learning for adults focused on an individual's

ability over time to learn from his or her experiences and understand their ultimate

personal meaning. Merriam and Caffarella (1999) indicated this theory was

fundamentally about how change and experience allow us to grow and develop over time

as individuals. This growth and development results in learning: learning to see ourselves

in a different way. While the continuum was present in this theory, it was less about a

hierarchy and more about changing the way individuals see things and the way they view

their lives, hence transformation. This theory focused on learning in context, which leads

to a fundamental shift in the shape of an individual's life. It also focused on experience and critical thinking, hallmarks of the adult learner according to Knowles. This theory, however, has been criticized in the adult learning field because it requires a fundamental change or shift in the adult learner's thinking that is not always the goal of adult education or for the individual learner (Merriam & Caffarella, 1999; Tusting & Barton, 2003).

Learning theories such as self-directed (Tough, 1971) and experiential learning (Dewey, 1933) are largely considered to be more applicable in general to the learning environment as compared to transformational learning. These theories focused on the process of adult learning rather than the grander outcomes of learning proposed in transformational learning. Tough (1971) indicated adults have personal motivations for learning and tend to engage in more autonomous and thus self-directed types of learning. He suggested that adults seek out learning and are actively involved in planning and discovering the purpose for their own individual learning experiences. This theory mirrors andragogy in the assumption that adults are mature enough to be self-directed and take responsibility to plan their own educational experience. Experiential learning (Dewey, 1933) concentrated on the importance of experience and reflection in the learning process resulting in real-world solutions to problems and questions. This theory centered on the ability of the learner to adapt to and think critically about the world. While experiential learning did not indicate the importance of a continuum of development, the motivations for learning (e.g., solutions to real problems in one's life such as job loss) were a key component of this theory.

Much of what is available in the literature over the past several decades since Knowles is either theory or explanation of theory concerning how adults learn or the process of acquiring knowledge (Rachal, 2002). This available literature, spanning more than thirty years, both supports and refutes the postulations of Knowles (Darkenwald, 1982; Elias, 1979; Gorham, 1985; Kasworm, 1980, 2003; Knapp & Stubblefield, 2000; Rachal, 2002). It is clear, however, many researchers have found support for Knowles' theories about adult learners (Ausburn, 2002; Beder & Darkenwald, 1982; Darkenwald, 1982; Kasworm, 1980, 2003; Kember, Jenkins, & Chi Ng, 2004; Knapp & Stubblefield, 2000). It is also evident, as explained previously, that elements of Knowles' theory can be seen in many of the adult learning theories in practice today. These elements chiefly pertain to the continuum of development and the differences between adults and children in their general maturity and motivations in their learning approach

Learning Theory in the Current Study

It is important to note that Knowles later articulated that the classification of "adult" is not solely contingent upon age. He and other theorists postulated that while age can be a factor, an individual's maturity and approach to learning are more central to the differences between adult and child learners. The impact of previous life experiences is also essential in the definition of an adult (Clarke, 1980; Knowles, 1984; Knowles et al., 1998; Merriam, 1988). Even an adolescent, therefore, could potentially be considered an adult learner if his or her approach to education fits with the assumptions of an adult learner. Previous research on academically and emotionally gifted or mature students in high school has emphasized this point. Such students appear to fit well in the academic environment of the community college (Noble et al., 1998/1999; Sethna et al., 2001).

They in fact appear to thrive in the presence of adult learners because they are more socially and emotionally mature and because they are highly motivated students.

Based on this understanding of developmental maturity, the evolution of a learner accordingly takes place on a continuum contingent upon the maturity, goals, and experiences of the learner (Knowles, 1980). Despite the continuum, there are clear differences in learner needs among contrasting groups. Clarke (1980) indicated adults who return to academics after a period of time in which they have developed work and life experiences, re-enter with a sense of maturity and motivation different from typical younger learners. Clarke suggested these elements, which are reflective of adult learners, make changes in approaches to teaching necessary because adults are different from those in the adolescent phase of development. He proposed adults re-entering the academic environment, in order to feel more comfortable, should have adjustments made in their curricula. For example, Clarke stated adult learners:

> enter an established preserve for the young, a place where late adolescents receive preparation for adult roles. Returning adults do not need the same kind of preparation that the adolescent needs, particularly if the mode of instruction restricts their sense of autonomy. (p. 92)

Kasworm (1980) found significant differences exist between the performance of nontraditional (25 and over) and traditional-aged (18 to 24) college students, consistent with the concept of a continuum of development. He found nontraditional students scored higher and performed better academically as compared to traditional-aged college students. He also found nontraditional students scored higher on self-confidence measures as well as those regarding general well-being and anxieties, as compared with

traditional students. Further support for the cited differences was noted by Whisnat, Sullivan, and Slayton (1992). Whisnat et al. found nontraditional students scored significantly higher on their first major exam in a course as compared to traditional students (under 25). They found similar significant results when evaluating final grades for the two types of students. These results held true regardless of the course type, which included both transfer courses and developmental courses.

Whisnat et al. (1992) noted a difference in the maturity with which adult and younger learners approach the learning environment based on identity formation. The researchers stated, "nontraditional students exhibit a developed identity, one that is structured and secured, whereas traditional students show that they are still in the process of having their identity and maturity develop" (p. 9). The more secure, well-adjusted, and emotionally mature the learner, therefore, the more likely he or she will be able to be successful in the learning environment. Whisnat et al. also indicated, "traditional students tend to be more rash and impetuous. They have the need for immediate gratification and focus on the short range goals" (p. 9).

In addition to available research on the differences between adult and younger students in the learning environment, some research has also been conducted on how adult and child learners are perceived by faculty. There is evidence that instructors view adult and child learners differently and treat them differently. With the exception of one study, however, none of this research has been conducted in a college environment where child and adult students were enrolled simultaneously (Ausburn, 2002; Beder & Darkenwald, 1982; Darkenwald, 1982; Kember, Kwan, & Ledesma, 2001)**.**

Beder and Darkenwald (1982) conducted a study to examine the perceived differences between adults and adolescents or "pre-adults" (p. 142) in academic environments. They surveyed faculty at public schools, community colleges, and four-year institutions to ascertain if instructors viewed adults and children differently as well as approached teaching these individuals differently. All faculty surveyed were involved in teaching both adult and adolescent learners by teaching in both public and higher educational environments. The researchers surveyed instructors who taught at institutions which were rural and urban, small and large, public and private, and focused on curriculum as well as personal enrichment curricula. Beder and Darkenwald determined the difference in reported teaching behavior was greater when a noted difference in learning styles was larger between adults and adolescents. This was also true when the instructors reported a greater perception that different groups should be taught differently according to their needs as students. The variable which accounted for the most differences in teaching behaviors was the identified difference between adults and children as learners. In fact, the researchers found 30% of the variance in teaching behavior could be accounted for by the noted differences between adults and children as learners. Teachers reported significant differences between adults and children on every presented question regarding this issue. Teachers reported adult students were

> perceived as more intellectually curious, more concerned with the practical applications/implications of learning, more motivated to learn, less confident in their ability as learners, more willing to take responsibility for their own learning, clearer about what they want to learn, more willing to work hard at learning, and less emotionally dependent on the teacher. (p. 152)

The researchers also found the instructors reported they approached learning and teaching differently for adult and child learners. Instructors stated adult students needed less discipline and implicit directions in the classroom environment. They reported an increased use of group discussion, more variation in teaching methods and techniques, and more relation of class material to practical implications and students' prior life experience for adult students. Teachers also reported the use of less structured activities in class, and increased adjustments to instructional techniques as a result of student feedback. This indicated teachers perceived adult students were more mature learners who required different approaches in the curriculum to be successful. However, the researchers did find that the identified differences in teaching had less to do with student age or a belief that different groups of students should be taught differently, and more to do with the noted differences in learning styles and behaviors of adults versus child learners.

The researchers also found teachers recognized a significant difference between the maturity, motivation, and importance of prior experiences for adult and child learners. Based on survey responses and data analysis, instructors reported they focused more on learner-centered behaviors when working with adult students. Additionally they conveyed the ability to concentrate more on classroom activities and learning as opposed to student direction and discipline. It is possible instructors may intend to teach the two groups differently but not actually implement any changes in methodology. This distinction is exceptionally important when considering current reform in higher education which introduces adult and child learners in the same classroom environment.

Darkenwald (1982) conducted follow-up ex post facto research based on the data compiled in the Beder and Darkenwald (1982) study. The purpose of Darkenwald's (1982) research was to determine if the differences noted in the previous study might exist directly in response to student age, a factor not fully covered in the previous study. The researcher stated, "if there is any underlying order to *difference* in teaching behavior as a function of student age, it can be determined empirically through factor analyzing difference scores generated from paired items" similar to the elements of the previous study (p. 200). In the Beder and Darkenwald (1982) study, teachers perceived a difference in the manner in which they taught students (e.g., more group discussion, use of student prior experiences, etc.) but there was no rank order of usage based on student age. Teachers' expression of a difference in teaching styles based on student age is important when considering the continuum of socio-emotional and academic development of students over time. This reasoning provides conclusions such as: a 13-year old on the continuum would be less mature than an 18-year old who would also be less mature than a 25-year old. Thus it is vital to discern if age range has an impact on the perceived teaching differences for adolescents and adults.

Darkenwald (1982) used the eight factors covered in the initial survey which were

a. Time teacher spends on classroom discipline

b. Extent to which teacher varies teaching techniques

c. Time teacher spends giving directions

d. Extent to which teacher tightly structures instructions

e. Extent to which teacher uses group discussion

f. Extent to which teacher relates class material to student life experience

g. Amount of emotional support teacher gives to individual students

h. Extent to which teacher adjusts instructional content in response to student feedback (p. 201).

Darkenwald used these items in factor analyses conducted to determine if student age had an impact on the teachers' ratings of the level of adherence to the eight criteria. The findings of these analyses demonstrated teachers viewed the eight factors pertaining to instructing adult and adolescent students under two primary themes: control and response. Control was a theme concerning the teacher's structure of the "teaching-learning transaction" (p. 201), and response was a theme relating to how the teacher reacted to students and the extent to which he or she was flexible in that response. Teachers of younger students (under the age of 18) reported the exertion of more time and energy on classroom discipline, and higher levels of the use of tightly structured instruction, as compared with teachers of adult students. Instructors of adult students on the curriculum level (i.e., not basic skills or personal enrichment classes), reported higher levels of the use of group discussion, relation of class materials to life experience, and adjustment of teaching based on student feedback. It is apparent from these results that student age could have an impact on the manner in which instructors approach the classroom environment. Regarding structure and discipline, it is also apparent instructors perceived younger students as less mature learners both academically and socially compared with adult learners.

The research of Kember et al. (2001) also demonstrated teachers' acknowledged differences in approaches to the learning environment between adults and children. The study conducted at the University of Hong Kong, was naturalistic and qualitative. It

specifically investigated faculty perceptions of the differences between adult and younger learners. The researchers conducted semi-structured interviews with 17 university faculty who taught both adult (referred to as part-time and adult) and traditional-aged students (referred to as full-time). Faculty were chosen based on the criteria that they taught both adult and traditional-aged college students. They were also chosen from several departments to provide a variety of fields which would be representative of most university settings: a technical field, a liberal arts field, and a health field. It is interesting to note, these are the primary areas of study at most comprehensive community colleges.

The qualitative analysis produced intriguing results regarding faculty perceptions of adult and younger students, as well as the manner in which they approached teaching students. The first salient finding was that each interviewee perceived there were differences between adult and traditional-aged college students. The participants also stated that they viewed their adult students "as towards the Andragogy end of the experience and perhaps learning orientation and motivation poles" (p. 395). The majority of those who were interviewed indicated adults were more practically-oriented in their studies, had more work experience to contribute to their learning, were more mature and motivated, were more willing to participate in collaborative learning and class discussion, and were more autonomous in their work as compared with traditional-aged students.

The researchers also examined how the participants reacted in classroom activities to the differences between their adult and traditional-aged students. Some reported utilizing the adult learners' work experience, higher motivation to learn, and increased degree of autonomy to facilitate learning experiences. One participant stated he utilized case study work with adult students because their practical experience would aid them in

explicating and understanding the assignment. Interestingly, some faculty who reported the use of case studies for adult students indicated they would not use case studies for traditional-aged students. They stated that they lacked the work experience to make the lesson academically relevant. Another interviewee expressed similar sentiments regarding student weaknesses and resolving them instructionally. The participant indicated that the content of the course was primarily lecture-based because traditional-aged college students do not have the relevant work or general experience to be able to relate text to practical application. These distinctions clearly related andragogic assumptions about the differences between adult and younger learners' life experiences and maturity. They also reflect the instructors' understanding of the differences between younger and more mature learners.

Finally, Kember et al. (2001) found interesting results regarding the constitution of good teaching practices. They found some faculty members were teacher-centered, focused on teaching as merely a means of transferring material and information to students. Within this category the researchers found instructors who viewed teaching as a way of passing on knowledge and some who felt teaching was intended to enlighten students and encourage learning. In contrast, they also found a number of faculty who believed teaching should be considered a facilitation of learning which is student-centered. These faculty members were reportedly concerned with meeting the needs of their students and helping students become more autonomous as learners. What is perhaps the most interesting about these findings is the comparison of the faculty perception of good teaching practices and teaching adult and younger learners. The researchers found "those who perceived teaching primarily as a process of transmitting

bodies of knowledge either made no distinction between teaching adults or other students, or tended to cater for the weaker characteristics of their students" (p. 403). These research findings suggested that not only do instructors perceive that differences exist between adult and younger learners, but many find it important to teach adults and younger learners differently to meet the needs of both student types.

The perceptions of educators regarding the differing traits associated with adult and younger learners are important to consider in education. The practice and impact of incorporating elements of adult learning theory into education are also vital to understanding adult learning and programming. Several studies have been conducted which examined adult education programming issues (Beder & Darkenwald, 1982; Conti, 1985; Darkenwald, 1982; Kasworm, 1980, 2003; Kember et al., 2001) and one in particular which examined the perceptions of adult and adolescent students regarding an adult education-oriented course (Ausburn, 2002).

Ausburn (2002) investigated the differences in faculty, administrator, and student perception of self-directed learning curricula at a community college. Ausburn stated that "learner choice, self-direction, and individualization of learning time and strategy are hallmarks of the module system," present in community college programming nationally (p. 226). In this study the researcher examined the perceptions and attitudes of faculty and administrators regarding the differences between adult and children in self-directed learning classes. The researcher also examined student perceptions of the self-directed learning environment. Specifically addressed were issues regarding what students felt were the advantages and disadvantages of the approach, and whether it was viewed as an effective learning environment.

Both adult and high school students were involved in Learning Activity Package (LAPs) courses which were self-directed in nature. These classes were a part of a curriculum for students in career and vocational programs of study. The participants were 46 instructors from a variety of programs, ten administrators from the same variety of programs, and 63 students from the same types of programs as instructors. Seventy-eight percent of the students were dual enrolled (high school) and 22% were nontraditional (adult). Ausburn found that there were not many significant differences in faculty and administrators ratings of adult and younger learners in self-directed learning environments. There were significant differences in how the learners themselves rated the self-directed curriculum in terms of their own individual learning preferences.

Faculty ($n = 18$) reported reading comprehension skills were a factor in how students performed in the LAPs. They believed students who had less than adequate skills in this area struggled in the course and future students with a similar lack of skills would struggle in these types of courses. The majority of faculty reported that adults in general reflected a higher level of reading comprehension than did the high school students. In addition, half of the faculty directly reported that self-directed learning was not an appropriate format for younger students because they lacked the maturity and motivation levels necessary to be successful. They reported younger learners needed "more supervision and guidance," which detracted from the educational progress of the adult learners in the class (p. 229).

In reporting data derived from student surveys Ausburn found both adult and dual enrolled students felt the LAPs were an effective learning method. However, adult students consistently rated it higher as compared to high school students. Interestingly,

the author also discovered that both adult and high school learners felt traditional

classroom settings were superior to the LAP setting. He did find, however, the adult

learners only rated the LAP slightly lower than the traditional classroom experience.

Additionally, the respondents reported the LAPs were as effective as traditional

classroom settings. On the other hand, the high school students rated the courses

significantly lower than the traditional format. The participants stated that traditional

classroom settings were more conducive to learning and effective for their needs than the

LAP setting.

The most striking results were drawn from questions about the advantages and

disadvantages of the self-directed program. Both groups acknowledged the most

important advantage of the LAP was the individually controlled or self-paced learning

aspect leading to a sense of personal control and freedom. However, the high school

students also cited the increased freedom and self-direction as a significant personal

challenge for the course. These students reported the freedom they were given made it

difficult to stay on task, be motivated, and stay interested. They reported feeling

overwhelmed and lost, and that it was difficult to stay in contact with the professor of the

course to remain on task. Additional comments from younger students indicated they

needed more structure in the class, such as more lectures and tests. Adult students,

however, did not report that the self-directed nature of the class had the disadvantages

listed by the younger students. According Auburn, "not a single adult learner reported

lack of focus or maintenance of personal motivation as a negative aspect or challenge of

self-directed LAPs" (p. 233).

In fact, the adult students did not have a consistent or significant complaint about the course or its self-directed nature. The difficulties experienced by high school students expressed in educational needs such as more structure and guidance, are also reflective of their maturity in their approach to education. This research provides further direct evidence for the areas in which adult learners differ from younger learners, and how programs can be modified to meet their educational goals and needs. The researcher was able to demonstrate self-directed learning is a preferred format for adult learners. It can also be a perceived detriment to younger learners because they are not mature enough as learners to move away from instructor-centered formats. The obvious and subtle differences between adult and younger learners, as well as the differences between varying age groups within the adult population, therefore, should be considered when developing educational programs.

Student Integration

Student satisfaction and retention are also central themes in higher education due to the increased focus on public accountability in higher education (Ewell, 1994; Wild & Ebbers, 2001). Institutions of higher education are driven to enroll and retain students to demonstrate their effectiveness to stakeholders in their service areas as well as the general public (Ewell, 1994). Community colleges, in addition, receive annual operation funding based on the number of students enrolled in their institutions. Therefore, if enrollment decreases the budget allotted to the college accordingly decreases (Sorey & Duggan, 2008). Student satisfaction and retention are, consequently, priorities at most educational institutions, reflected in the creation of services, policies, and practices directly related to retention.

Research has demonstrated multiple factors affect student retention. Some of these factors cannot necessarily be altered by institutional polices or practices (Astin, 1975, 1977, 1993, 1999; Bean & Metzner, 1985; Pascarella, Smart, & Ethington, 1986; Schmid & Abell, 2003; Terenzini, Lorang, & Pascarella, 1981; Tinto, 1975, 1993). These may include external factors such as job requirements conflicting with class schedules, issues at home preventing a student from studying, psycho-social issues, and commitments at home or work preventing the student from becoming involved in study groups or learning communities. External barriers typically cannot be addressed through policy, services, or practice for the greater population on a college campus as these are individualistic issues. Other factors associated with student retention such as satisfaction with the academic environment and social connectivity to a campus can be affected by institutional actions. These factors have been demonstrated in the literature as central components of student retention (Astin, 1975, 1977, 1993, 1999; Fox, 1986; Halpin, 1990; Hu & Kuh, 2002; Maxwell, 1992; McClenney, 2007; Munro, 1981; Napoli & Wortman, 1996; Noble et al., 2007/2008; Pascarella et al., 1986; Schmid & Abell, 2003; Sorey & Duggan, 2008; Tinto, 1975, 1993).

Several theories regarding student retention and attrition exist in the literature with supporting research, including Tinto's (1975, 1993) theory of student departure and Astin's (1975, 1977, 1993, 1999) theory of student involvement. The theory of student departure presented by Tinto (1975, 1993) was based on Spady's use of Durkheim's theories of suicide, which indicated that the less connected one feels to society the more likely he or she is to depart. Tinto's theory of student departure asserts that the more academically and socially connected a student feels to an institution, the more likely he or

she is to persist. Additionally, according to Tinto (1993) the attrition process is a direct

result of the

> dynamic nature of the social and intellectual life of the communities which are
>
> housed in the institution, in particular of the daily interaction which occurs among
>
> its members. Student departure may then serve as a barometer of the social and
>
> intellectual health of institutional life as much as of the experiences of students in
>
> the institution. (p. 5)

Tinto believed that academic and social interactions affect student retention and that

institutional actions can have a direct impact on student success and satisfaction. Thus,

institutions of higher education have the ability to address directly issues which affect

student retention through policies, practices, services, and programs to promote student

academic and social integration.

In addition, Astin's (1999) theory of student involvement emphasized that the

amount a student learns and develops as the result of educational programming and

encounters is directly related to the quality and quantity of the effort and involvement the

student devotes. Satisfaction and retention are also related to the institutional ability to

instill policies, procedures, practices, and services which foster student engagement and

involvement. Astin defined this involvement as the "amount of physical and

psychological energy that the student devotes to the academic experience" (p. 518) and is

directly related to the sense of belongingness described by Tinto.

Tinto (1975, 1993) and Astin (1975, 1977, 1993, 1999) both emphasized the

importance of the academic and social environments in the successful retention of college

students, specifically the focus on integration into those environments. Napoli and

Wortman (1998) defined integration as "the extent to which an individual identifies with or shares and incorporates the normative attitudes and values of his or her instructors and classmates and becomes a member of the college community" (p. 420). Accordingly, Tinto (1975, 1993) and Astin (1975, 1977, 1993, 1999) indicated the more a student is connected to a campus and the more satisfied he or she is with the academic and social functions of the institutions, the more likely the student is to be integrated.

The more integrated a student is based on satisfaction with the academic environment, the more likely he or she is to be satisfied with the institution and his or her education. This in turn increases the likelihood the student will be retained and persist to degree completion. Napoli and Wortman (1998) expressed a similar sentiment; they stated, "satisfying and rewarding interactions with the formal and informal academic and social systems of the institution lead to greater integration and persistence. Unpleasant or limited interactions inhibit integration and decrease the likelihood of persistence" (p. 420). In support of these postulations, Munro (1981) found academic integration was a significant predictor of student persistence, in a study using data derived from the National Longitudinal Study of the High School Class of 1972. Many other researchers have confirmed the importance of academic integration in terms of student persistence (Fox, 1986; Graham & Donaldson, 1999; Halpin, 1990; Hu & Kuh; 2002; Maxwell, 1992; Pascarella et al., 1986; Schmid & Abell, 2003; Terenzini et al., 1981).

Academic Integration

Astin (1999) indicated satisfaction with the academic and campus environments are interrelated. He stated "… the amount of student learning and personal development associated with any education program is directly proportional to the quality and quantity

of student involvement in that program" (p. 519). He also suggested, "the effectiveness of any educational policy or practice is directly related to the capacity of that policy or practice to increase student involvement" (p. 519). Thus policy and practice at an institution must reflect the considerable effects of academic and social involvement on student satisfaction in order to better retain students. Astin contended from previous research he conducted on dropouts and student retention issues (1993, 1999) that academic involvement and satisfaction with the academic environment were positively related to retention. If students are satisfied with the instructional techniques, the content of material, quality of classroom activities and discussion, and the academic quality of the institution, they are more likely to be retained. It can be postulated based on Astin's theories and findings that student attrition may increase if factors which are known to reduce satisfaction with the academic environment are present (i.e. lowered academic quality of discussion, changes in instruction, etc.).

It is important to consider the available research which supports the theories of Tinto (1975) and Astin (1975, 1977). The academic environment, as indicated in both theories, is an essential element of a higher education institution. Academic integration has been defined as a student's academic performance and development as a result of the academic environment and intellectual interactions with faculty and other students (Pascarella et al., 1986). The perceptions of the academic environment, additionally, have been demonstrated in the research as an element of student retention and satisfaction (Halpin, 1990; Hu & Kuh; 2002; Maxwell, 1992).

Interested in the applicability of the Tinto model of student departure to the community college student population, Halpin (1990) conducted a study which

specifically investigated whether the model was a predictor of student persistence and exit behavior at the community college. Tinto's (1975, 1993) model was developed based on research on students enrolled in four-year, residential colleges and universities, and thus Halpin (1990) was interested in the model's applicability to a non-residential population of students. This population tends to differ on multiple facets from the population of students enrolled in four-year institutions. The results indicated student academic integration was a principal factor in student retention and attrition. The researchers found student perceptions of "Academic and Intellectual Development," (r = .43) and perceived "Faculty Concern for Teaching and Student Development," (r = .45) were the most influential predictors of student behavior as far as persistence and attrition (p. 28).

Other researchers, such as Maxwell (1992), have additionally investigated student perceptions of the importance of academic integration variables as a function of student enrollment choices. Maxwell conducted a study to investigate the reasons why certain students chose to commute to suburban community colleges when they live in inner-city areas with community colleges. Maxwell used data collected from surveys administered to students enrolled in one of three suburban community colleges who appeared to choose suburban over inner-city colleges. The survey asked students to rate the importance of institutional characteristics which influenced their decision to attend the college. Among the results of the analysis, Maxwell found students rated the quality of programs of study and academics more often than any other factor as the key reason for choosing to attend the college.

Hu and Kuh (2002) also studied student perceptions of an institution's academic quality and the educational environment. The researchers used data from the College Student Experiences Questionnaire (CESQ), which was designed to measure aspects of the undergraduate experience. The questionnaire addressed three primary areas associated with the undergraduate experience including perceptions of the amount of time and effort spent on college related activities (studying, student related activities, classroom time, reading, writing, etc.), the importance of elements of the educational environment, and perceptions of what was secured by attending the college. Based on CESQ responses, students were divided into one of three categories of engagement for analysis: engaged, typical, and disengaged. The researchers found of the sample, 76.4% were classified as typical, 18.4% were considered disengaged, and 5.4% were considered engaged at the college.

The results of the analyses demonstrated that student engagement was positively associated with student perceptions of the academic environment. They also found students were "more likely to be engaged if they perceived that their institution emphasized scholarship and intellectual and critical analysis…" (p. 568). There were limitations of the study including the lack of diversity in institutions surveyed and the composition of the sample (only full-time undergraduate students). Despite the limitations, the results lend support to the concept that student perceptions of the academic environment affect student engagement and retention. Thus engagement must be a consideration for higher educational administration concerning student satisfaction and retention when creating programs which might have an impact on the academic environment at an institution.

Social Integration

Both Tinto (1975, 1993) and Astin (1975, 1977, 1993, 1999) postulated social integration was key in the satisfaction of students in a collegiate environment. They indicated it must therefore directly and indirectly influence student persistence. The extent to which a student is socially involved and integrated in the campus environment impacts his or her commitment and persistence. A student's social/peer relationships with other like-minded and committed students are therefore a significant predictor of his or her likelihood to persist. Astin (1993) stated, "the single most powerful source of influence on the undergraduate student's academic and personal development is the peer group" (p. 8). As evidenced in an analysis of the Cooperative Institutional Research Program data, Astin determined that a student's peer group and thus social integration directly affected almost all aspects of student development. He found, specifically, a student's peer group interactions had an impact on their learning, cultural awareness, leadership development, academic performance and development, and overall satisfaction with the college environment. Other researchers have found similar results regarding the impact of social integration on student persistence (Ashar & Skenes, 1993; Schmid & Abell, 2003).

Ashar and Skenes (1993) conducted a study to confirm the factors which influenced the persistence of adult college students. They were interested in whether Tinto's model of student departure held true for adult students in a nonresidential environment. They determined dropout rates and academic and social integration scores for adult learners as well as overall class sizes and career integration in 25 adult learning classes. The researchers found social integration and class size were the only items which

appeared to have a significant impact on dropout rates (Social Integration: $r = .447$, $p < .05$; Class Size: $r = .405$, $p < .05$). Ashar and Skenes found "Classes that were professionally more homogeneous, and thus socially more integrated, and smaller classes lost fewer students than less socially integrated and larger classes" (p. 96). Additionally, the effects of academic ($r = .243$, $p > .05$) and career ($r = .094$, $p > .05$) integration did not appear to have significant effects on dropout rates. Beta weights were generated as well and produced similar effects indicating social integration ($b = .471$, $p = .013$) had a larger impact on dropout rates than academic integration ($b = .179$, $p = .301$). These results lend support to Tinto (1975, 1993) and Astin's (1999) assumptions that social integration does have an impact on student persistence. Thus student satisfaction with and perception of the social climate on a college campus does affect the extent to which he or she remains engaged and thus persists in his or her educational pursuits.

Consistent with the findings of Ashar and Skenes (1993), Schmid and Abell (2003) found social integration had an effect on student persistence at community colleges. Schmid and Abell conducted the study at a North Carolina community college and used three surveys: one for non-returners on the reasons for their departure, one designed to collect data on enrolled student demographics and college experiences, and an exit survey designed to gather student experiences from graduates of the institution. The researchers generated descriptive statistics from the three surveys to determine the effects of academic and social integration on student retention and departure. In addition to certain risk factors determined by demographic information analysis, the researchers found academic integration did not have a significant effect on student withdrawal or persistence.

They did find, however, student involvement and integration did have an effect on student departure and retention. The researchers found higher percentages of prospective graduates (52%) and currently enrolled students (66%) who reported interacting with faculty outside of class as compared with non-returnees (41%) who responded to the survey. Prospective graduates (37%) and currently enrolled students (41%) were also more likely to participate in peer study groups as compared with non-returnees (22%). The researchers also found non-returning students were significantly less involved in campus related activities than currently enrolled students. Schmid and Abell indicated of non-returning students, " they are 19% less likely to participate in study groups, 25% less likely to speak with faculty outside of class, and 14% less likely to participate in school clubs than" those who were retained (p.11). Thus the researchers concluded social integration is a key element in student retention and attrition and an important part of the learning environment.

Learning Environments: Academic and Social Integration

The academic environment according to Tinto (1975, 1993) and Astin (1975, 1977, 1993, 1999) is not independent of other aspects of the institution. Academic integration, in fact, can also be directly affected by elements such as the student's social connectivity to the campus. The more involved a student is in interacting with other students and faculty or staff, the more likely he or she will feel connected to the campus both socially and academically. Available research on the subject has both refuted and supported the supposition that the two concepts are interrelated. Some indicate academic integration is more influential (Fox, 1986; Graham & Donaldson, 1999; Halpin, 1990; Hu & Kuh; 2002; Maxwell, 1992), while several indicate social integration is more

influential (Ashar & Skenes, 1993; Schmid & Abell, 2003). Others demonstrate both are

factors in student retention and attrition (Karp, Hughes, & O'Gara, 2008; Napoli &

Wortman, 1998; Pascarella et al., 1986; Sorey & Duggan, 2008; Strauss & Volkwein,

2004). Some research suggests, however, that both academic and social integration are

integral components of the puzzle of student retention and attrition and that in fact the

two concepts are interdependent (Mannan, 2007; Pascarella et al., 1986; Schmid & Abell,

2003; Sorey and Duggan, 2008; Strauss & Volkwein, 2004).

Pascarella et al. (1986) conducted a study with the purpose of determining the

differences in elements thought to be associated with student retention including

academic and social integration (Tinto, 1975, 1993) and the corresponding effects on

student persistence. Data were collected over a period of nine years from 1971 to 1980

through the Cooperative Institutional Research Program surveys for students ($N = 825$).

Participants were initially enrolled in a two-year institution with aspiration for a four-year

degree or higher (Pascarella et al., 1986). In addition to background characteristics, the

researchers specifically examined the impact of academic and social integration as

elements of student persistence consistent with Tinto's model. They defined academic

integration as the combination of undergraduate GPA and membership in an academic

honor society. Social integration was defined as noted interactions with faculty and peers,

participation in student organizations, and participation in student activities (cultural,

athletic, and literary). The dependent measures were student persistence (measured by

degree completion) and withdrawal (measured by student withdrawal from the

institution).

The researchers found academic and social integration had a significant effect on the persistence and degree completion for male survey respondents. They did not find similar effects for women, but did find prior academic experience had a significant effect on degree persistence and degree completion for female participants. The researchers also determined that involvement in school activities was a significant predictor of degree persistence and completion for women.

Strauss and Volkwein (2004) conducted a study which investigated possible predictors of student commitment. The researchers specifically examined the effects of student-reported institutional commitment, organizational characteristics, pre-college characteristics, encouragement from outside sources, and receipt of financial aid. They additionally collected data on social and academic integration and growth and cumulative GPAs. The researchers found social integration was a more significant predictor of student commitment at four-year institutions than two-year institutions. Strauss and Volkwein, however, indicated social integration was a significant measure, despite the difference, for both institutions.

They also found academic integration was one of the strongest predictors of student commitment and thus student persistence. The "classroom experience" was one of the measures of academic integration and growth, and regardless of institutional type was one of the strongest predictors overall of student commitment. Particularly for the present study, it is notable that the impact of classroom experience was higher (slope .02 higher) for two-year institutions as compared with four-year institutions. While this study was limited in scope, the results provide support for the argument that academic

integration and perhaps to an extent social integration in the classroom have an impact on student commitment, persistence, and satisfaction with the academic environment.

In addition to studies which have revealed significant effects of both academic and social integration on student persistence and retention, recent research is also available in the literature which denotes the interactive nature of the two variables (Karp et al., 2008; Mannan, 2007; Sorey & Duggan, 2008). This research truly reflects the suppositions of Tinto (1975, 1993) and Astin (1999) who suggested not only does the extent to which a student is socially and academically integrated have an effect on student departure, these two variables can be inter-related and dependent upon one another.

Mannan (2007) investigated the effects of academic and social integration on student attrition in response to Tinto's theory of student departure. The researcher was interested in the relationship between student-reported involvement in academic and social integration factors. Interestingly, the researcher found negative relationships between the two variables such that high academic integration was related to a lower reported level of social integration and high social integration was related to a low level of academic integration. However, the researchers did find high levels of academic and social integration, individually, were associated with higher levels of student persistence.

Sorey and Duggan (2008) conducted a recent study on the differences between adult and traditional-aged college students concerning predictors of student persistence. The research was conducted at a large, multi-campus community college in southeastern Virginia with a sample of 700 students: 350 adult students (25 and older) and 350 traditional-aged students (18-24). Academic integration was defined as "a measure of a student's perceptions regarding intellectual and academic development" (p. 85) and

social integration was defined as "a measure of a student's satisfaction with the formal and informal social systems of the college" (p. 85). The researchers established the relationship between academic and social integration for the two groups of community college students, adult and traditional-aged. For traditional-aged students, academic integration was found to be a significant predictor of student persistence. The researchers found students who reported higher levels of academic integration were more likely to persist than those with lower levels. Social integration, however, produced a much smaller correlation, indicating this was not as strong a predictor of student persistence for traditional-aged students.

For adult students, on the other hand, Sorey and Duggan found social integration was the strongest predictor of student persistence. This finding indicated "adult students more satisfied with student friendships, interpersonal relationships, and the nonclassroom interactions with faculty at the college were more likely to persist than adult students who assessed the items at lower levels" (p. 91). In addition, there was a smaller but significant correlation between academic integration and adult student persistence ($r = .365$, p < .05). Academic integration was the second highest correlation coefficient with persistence among adult students, but the results were not as strong as compared with their traditional-aged counterparts.

Karp et al. (2008) also conducted research on community college student academic and social integration. The researchers were interested in the applicability of Tinto's (1975) model of student departure for the community college student population. Karp et al. (2008) were also interested in the overall academic and social integration of community college students and which factors specifically affected integration. The

exploratory study was conducted at two community colleges in the Northeast over a period of two academic semesters. The pool of potential participants was randomly selected from a list of newly enrolled students for the academic year. A snowballing technique was also used to determine the sample because of a reportedly low level of response to the initial request to participate. Of the 176 requests sent, 44 were willing and able to participate in the study. The sample participants were interviewed in their second semester at the institution and re-interviewed after a six month period (both persisters and non-persisters). The researchers "defined integration as having a sense of belonging on campus. Analytically, this meant that students were coded as being integrated if they reported feeling comfortable on the campus or reported enjoying their time in college and/or their classes" (p. 7). Of the 44 respondents, 70% were coded as being integrated according to the researchers' definition. In addition, 90% of those who were integrated were retained to the following semester.

Karp et al. (2008) were also interested in determining what factors affected the sense of belonging reported by participants. They determined a theme within the interview transcripts which revealed that the more integrated participants were part of "information networks." The information networks were mentioned in some capacity for those students who were integrated and retained but not for those who did not persist. These networks were defined as both formal and informal interactions which connect students to faculty and peer groups, where the transfer of information takes place. Within the peer group this could include structured student activities such as club memberships and general campus events. The researchers also indicated that information networks were present in peer group friendships where students were more than just mere

acquaintances. According to Karp et al., information networks also included factors considered as both academic and social including study groups, peer mentoring, and group work projects. This finding in particular illustrated the concept that academic and social integration are not mutually exclusive. Thus academic activities (group work, peer mentoring, etc.) can also be considered an element of social connectivity.

It is clear from the research and theories of student retention that a student's sense of engagement and belongingness in the learning environment is crucial for satisfaction, success, and retention. Multiple factors, some not associated with the learning environment itself, can affect this sense of connection to a campus including financial difficulties, conflicts with work schedules, and family issues such as child care. However, it is also clear that factors directly associated with the learning environment such as those that influence a student's sense of academic and social integration can also have an impact on student satisfaction, success, and retention. Institutional services, policies, and practices can create or eliminate barriers to education which can affect how a student feels about institutional commitment (Tinto, 1993). The extent to which students are involved in academic or social activities as a direct result of a feeling of connectivity to the community, also has an impact on student retention (Astin, 1999). It also follows that the more a student feels his or her values are shared or respected in the educational community, the more likely he or she is to feel connected and be retained. Therefore, any element that shifts the equilibrium of that sense of connectivity could also change the student's sense of belongingness. Such elements could include the introduction of a new student population with differing approaches to the learning environment.

Impact of New Student Populations

Intergroup contact theory (Allport, 1954) indicates that the controlled exposure of one group to another under certain circumstances can affect the manner in which each group views the other. Allport theorized that only the controlled exposure of one group to another could result in positive effect of the reduction of prejudice in school settings. He indicated that the mere introduction of groups within the same environment would not result in positive group growth. Allport also supposed that given the correct, controlled situation, intergroup contact could reduce group prejudice. The conditions under which intergroup contact would result in positive effects could occur only where the following four conditions were met: equal group status within a given situation or environment, shared goals, intergroup cooperation, and the active support of intergroup interactions by administration at the institution. Research has been conducted in the field of inter-group relations and reduction of group prejudice, which substantiated Allport's postulations (Chavous, 2005; Knapp & Stubblefield, 2000; Schoem & Hurtado, 2001).

Knapp and Stubblefield (2000), for example, were interested in the effects of intergenerational learning. They found controlled exposure of younger students (18-24) to "elderly" students (over 55) had an overall positive impact on the younger students' perceptions of that population. In effect, it reduced their prejudice about the older generations and their contributions to society and education. In the book *Intergroup Dialogue: Deliberative Democracy in School, College, Community, and Workplace* (Schoem & Hurtado, 2001) several researchers described the positive effects of intergroup contact on perceptions of groups and relationships between groups. In every case described from public school to college to work settings, facilitated dialogue

between two different groups (usually minorities with predominantly Caucasian groups) produced positive effects on both groups' perceptions of the other group.

Additionally, Chavous (2005) conducted a study on racial climate on historically White campuses and the impacts of intergroup contact on variables including sense of belonging and social integration. Among the findings, the researcher determined White students who had previously been exposed to minority populations prior to enrollment and African Americans who were exposed to Caucasian populations prior were more likely to participate in voluntary intergroup activities. Conversely, White and African American students chiefly exposed to homogenous populations prior to enrollment were less likely to participate voluntarily in intergroup relations. Chavous also determined that because the institution itself made intergroup associations a priority and incorporated this into services and events, "both groups' personal intergroup associations were related to their perceiving intergroup associations as a normative behavior on campus as well as to perceiving interdependence between African Americans and Whites on campus" (p. 251). These results in particular indicate that the institution and its approach to controlled exposure of minority and majority groups did appear to have an impact on how students' intergroup behaviors were shaped.

The researcher found African American students at the institution were less likely to be socially involved in structured social settings such as clubs or organizations unless they were homogenous groups as compared with White students. Chavous also found that both groups' perceptions of campus normative behavior regarding intergroup interactions were related to perceptions and integration outcomes. Specifically, White students who

determined that intergroup relations were not the campus norm reported lower sense of community or belonging scores.

These studies and intergroup contact theory do not directly address how the presence of younger learners in a predominantly adult setting will impact such groups, but they do provide an impetus to infer that the mere presence of a "minority" group can affect the "majority." The level of integration of younger learners in the college environment, therefore, could have an impact on adult learners. Thus as the younger population constitutes an increasing percentage of the total student body or the composition of a specific class, this shift could result in more reported impact on the adult or community college student population. In addition, it is also possible that a much smaller proportion of younger learners may not have a noticeable influence on the community college student population. At this time, it is not clear what the impact will be of young learners in a collegiate setting of mostly adult students such as those in the Early College. It is also not clear to what extent their integration both as a function of the continuum of development as well as their prominence on campus and in the classroom may have on the perceptions of community college students. It is apparent that administrators play a vital role in the success of intergroup contact and its successes and failures. It is also evident that the presence of the younger learners could have some impact on adult learners' perceptions of the environment both academically and socially. The level of integration in the learning community as well as the impact of the continuum of development may also play a role in these perceptions.

Conceptual Framework

It is apparent society recognizes significant differences exist between children and adults reflected in their principal functions and responsibilities. Their roles as students and approaches to learning and the academic environment reflect many of these differences, particularly regarding maturity and motivation (Knowles, 1968, 1980, 1984; Merriam & Caffarella, 1999). Learning and development theories for adults and children alike provide indications of the differences and similarities between these student types (Merriam & Caffarella, 1999).

Previous extreme distinctions drawn from the theories of andragogy and pedagogy, which depicted the education of children as didactic and teacher-centered (Knowles, 1968, 1980), are no longer accepted (Kaufman et al., 2008). Concepts previously considered unique to adult students including problem-based learning, individualized instruction, and relevancy-based education have increasingly been incorporated into learning on the secondary and elementary levels. Approaches such as brain-based, social, constructivist and transformational learning, for example, focus on establishing true learning environments centered on the needs of the learner and the value of their experience in the educational environment (Merriam & Caffarella, 1999).

Adult learning theories evolved from the foundation of the theory of andragogy, which classified adults as distinctive in the learning environment (Brookfield, 1986; Cross, 1981; Dewey, 1933; Freire, 1972; Jarvis, 1987; Mezirow, 1991; Spear, 1988; Tough, 1979). Tusting and Barton (2003) stated of the development of adult learning theory:

Most of the models of adult learning developed from within adult education move beyond examinations of learning as a decontextualized process to address questions relating to the meanings of and motivations for learning. This may be in terms of self-direction, reflection, autonomy, problem-solving or transformation and recalls, from a different perspective, the intrinsically socially-situated nature of learning that emerged from the review of the psychological literature. The key point to take from this is that learning for adults is always related to their real lives, their real problems and their real issues, and that we therefore need to try to understand and make links with these… (p. 32)

Articulated clearly in this statement is the concept that theories of adult learning possess a common thread: as learners develop over time, they approach the learning environment with an increased level of maturity and with primarily intrinsic motivations. This development is not necessarily dependent upon age but on a continuum of development and life experiences. The maturity and motivation levels which impact a student's approach to the educational environment, therefore, are not always contingent upon age, but are generally reflected in a continuum of physical and emotional development. Theories of human development such as those of Erikson, Piaget, and Maslow, indicate that development is not necessarily tied to age chronologically. However, the stages of development are "hierarchical in nature and therefore [built] on one another" (Merriam & Caffarella, 1999, p. 103). These concepts reinforce the continuum regarding adult and child development in the learning environment, centered on the learner rather than the teacher.

As the community college currently serves a diverse array of students including traditional-aged, adult, and child learners, it is clearly important to understand the continuum of development and the potential impact on the learning environment. In addition, student retention is increasingly becoming a focus of accountability in higher education (Ewell, 1994; Wild & Ebbers, 2001). Therefore it is important to consider factors that influence student attrition and satisfaction, which could potentially be affected by conflicting continuums of development in different groups of students (Astin, 1975, 1977, 1993, 1999; Bean & Metzner, 1985; Halpin, 1990; Noble et al., 2007/2008; Tinto, 1993).

Theories on the topic of student retention indicate that the more connected a student feels to the learning environment, the more likely he or she is to persist at that institution (Astin, 1999; Tinto, 1993). In fact, Tinto stated "…it is the individual's integration into the academic and social systems of the college that most directly relates to his continuance in college" (1975, p. 96). Therefore, according to these theories the academic and social connectivity to multiple facets within the learning community have a direct impact on a student's satisfaction, success, and retention.

Much of the available research on student retention lends support to the theories of Tinto (1975, 1993) and Astin (1975, 1977, 1993, 1999) on the impact of social and academic integration for retention (Fox, 1986; Halpin, 1990; Hu & Kuh, 2002; Maxwell, 1992; McClenney, 2007; Munro, 1981; Napoli & Wortman, 1996; Noble et al., 2007/2008; Pascarella et al., 1986; Schmid & Abell, 2003; Sorey & Duggan, 2008). Specifically the studies indicated that students who believed that their attitudes, values, and opinions were harmonious with others at the institution were more likely to be

satisfied with their experience, integrated, and thus retained. The findings also revealed that those who perceived incongruence or inconsonance with such elements of the college were more likely to be dissatisfied, and less likely to be integrated and persist. Therefore positive interactions with facets of the learning environment, including peer groups and academia, led to student satisfaction, success, and retention (Astin, 1999; Napoli & Wortman, 1998). Conversely, negative interactions often resulted in dissatisfaction and the likelihood of attrition (Astin, 1999; Napoli & Wortman, 1998).

Astin (1999) suggested the peer group and student-to-student interactions often influence academic and social integration. The introduction of and inter-relation of student groups, therefore, might have an influence on academic and social integration. Allport's (1954) intergroup contact theory expressed the potential impact of the introduction of a new student population on the pre-existing population. Whether this impact is negative or positive, it is important to consider how merely introducing a large group of younger learners into a predominantly adult environment might impact both student populations. Given also the theories of student retention and the differences cited between adults and children as learners, it is reasonable to consider how the introduction of child learners in the classroom might have an effect on community college student integration. The focus of the current study was to investigate these concepts by directly exploring the relationship between exposure to Early College students and community college student academic and social integration.

Chapter Summary

This chapter has provided literature on the development of college credit earning programs including the new Early College High School Initiative. Literature was

provided on the differences between adults and children in terms of their development as learners and the level of maturity and motivation with which they approach the learning environment. Additionally, research and theory on the satisfaction and retention of college students in terms of academic and social integration or a sense of belongingness was provided. The argument presented by this culmination of literature is that the introduction of younger learners into an adult environment, directly as a result of the typical differences between adult and child learners in maturity and motivation, could have an impact on the adult student's sense of belongingness.

CHAPTER THREE: METHODOLOGY

The purpose of this research was to investigate the impact of exposure to Early College students on community college student academic and social integration. A non-experimental, correlational approach was utilized to collect preliminary information about this impact and its potential unintended consequences. The study investigated the impact of Early College students on community college students' sense of academic and social integration, two factors associated with college student satisfaction and success (Pascarella & Terenzini, 1980; Tinto, 1975, 1993). The specific research questions were:

1. To what extent are community college students exposed to Early College students in academic and social campus environments?

2. What is the academic and social integration of college students enrolled at community colleges with embedded Early College High Schools?

3. What is the relationship between the academic exposure to Early College students in the classroom and community college students' academic integration?

4. What is the relationship between the social exposure to Early College students on campus and community college students' social integration?

5. Does the degree of exposure have an impact on community college student academic and social integration?

Research Design

A non-experimental, correlational research design was chosen for this study because this type of research design is typically used to examine the possible relationship between and influence of variables on one another (Creswell, 2005). As the purpose of

the research was to determine the impact of the Early College student population on community college student academic and social integration, it was important to ascertain the relationship between college student exposure to Early College students and their overall academic and social integration. It was also essential to determine the perceived impact of Early College students on the learning environment.

Allport (1954) indicated that the exposure of a minority group to a majority group can have an impact on the majority perception of the minority. While no research exists on the effects of a younger group on the perception of a pre-existing adult group, it is important to consider the possibility that the introduction of the Early College population might have an impact on the pre-existing college population. Theories of adult learning and human development have noted the differences between adults and children directly related to the maturity and motivation exhibited in the learning environment (Brookfield, 1986; Cross, 1981; Dewey, 1933; Freire, 1972; Jarvis, 1987; Kaufman et al., 2008; Knowles, 1968, 1980, 1984; Mezirow, 1991; Tough, 1971, 1979). Research has also demonstrated that college student academic and social integration is directly related to satisfaction, success, and retention. Accordingly, the correlational research design was chosen to determine if a relationship existed between the degree and type of exposure to Early College students and community college student academic and social integration.

<center>Population and Sample</center>

The population of the study was comprised of North Carolina community college students enrolled at North Carolina community colleges that housed Early College high schools, identified by the New Schools Project and the Early College High School Initiative project (sponsored by Jobs for the Future). Purposeful sampling procedures

were utilized to determine the four campuses that met the selection criteria for the

research project. Choosing multiple campuses for the research increased the

generalizability to other North Carolina community colleges that house Early College

high schools. Campuses were purposefully sampled and classes were purposefully chosen

for the research study based on enrollment criteria. Community college students within

the selected campuses and classes were asked to complete the surveys for data collection.

Campuses and Classes

Forty-five community colleges in North Carolina were identified by the New

Schools Project as those that housed Early College programs at the time of the study.

Each college was contacted to determine which institutions were willing to participate in

the research study and provide Early College student enrollment information during the

Spring 2009 semester. Institutions were asked to provide the number of Early College

students enrolled at the Early College high school as well as the student body size for the

campus where the high school was located. The college officials were also asked to

provide the courses and course sections of classes in which Early College students were

enrolled and as well as the number of Early College and college students in the class. Of

the 45 colleges contacted, 11 responded regarding their willingness to participate as well

as enrollment data requested. Campuses were chosen based on the percentage of Early

College students enrolled, purposefully selected for representations of the extreme low

and highs of enrollment. Classes were then selected with the assistance of the College

Liaisons at each campus to determine classes which also represented the extremes for

enrollment (low vs. high) based on the ratio of Early College to college students in mixed

classes. For the purposes of this study, an Early College student was defined as any

student enrolled in a full-time Early College high school in North Carolina. An Early

College high school was defined as any public high school designated as an Early

College with the New Schools Project, located on a community college campus in North

Carolina.

Classification of Selected Colleges

Degree of exposure was an important variable for this study and was defined on

two levels: degree of academic exposure and degree of social exposure. Institutions were

chosen for the study based on enrollment criteria and were identified as high exposure or

low exposure. Classes were also indentified as high or low exposure. With a focus on the

greatest contrast within the distributions, the final definition of high and low exposure for

classes and campuses was dictated by the existing enrollment distributions at the

institutions chosen for the study. Two campuses were selected for each exposure

category, high and low, to represent the greatest contrast in campus on the each end of the

scale.

High exposure campuses. High campus exposure was defined as a community

college campus in which the Early College student population made up 25% or more of

the student population. Campus A was located in western North Carolina and was a

satellite campus of a larger institution that served a three-county service area. The Early

College began at this institution in the 2006-2007 academic year. Due to delays in

campus construction, college and high school classes were initially held at a former

elementary school location. In the Summer 2007 semester, the new campus was

completed and all academic programs, including the Early College, moved to that

location. In the Spring 2009 semester, the Early College student population made up

approximately 27% of the total population on the campus (108 of 406 students). At the

time of the study, the Early College enrolled freshman through junior level students.

Initially, the campus itself consisted of one large academic building. An additional

smaller building designed primarily for the Early College high school classes was opened

two weeks prior to the administration of the survey. All high school classes were held in

the primary academic building on the campus until that time.

The second campus, Campus B, was also a satellite campus of a larger institution

in the piedmont region of North Carolina. The larger institution served a three-county

region and the campus was located in one of the service area counties. In the Spring 2009

term, Early College students accounted for approximately 40% of the total population on

the campus (103 of 256 students). At the time of the study, the Early College enrolled

freshman and sophomore level students. The campus consisted of three buildings: one

primary academic building which housed both continuing education (extension

education) and curriculum (degree-based) classes, one smaller academic building housing

predominantly curriculum courses, and one building (several mobile units together) was

in place for the Early College. During the academic year, high school classes were mainly

held in the Early College unit but some classes were held in the smaller academic

building. The campus was opened in 1994 and the Early College was founded on that

campus in the 2007-2008 academic year.

Low exposure campuses. Low campus exposure was defined as a community

college campus in which Early College students made up 5% or less of the total student

population. The first campus, Campus C, was located in western North Carolina and was

the main campus associated with Campus A. It was initially established in 1964 as a

satellite campus of a larger technical college in the region and offered curriculum and continuing education courses in a variety of disciplines. The Early College at this campus was opened in the 2008-2009 academic year and enrolled both freshmen and sophomore level students. The Early College made up approximately 3% of the total student body on Campus C during the Spring 2009 semester (59 of 2,010 students). This campus was composed of five academic buildings and one library. The Early College shared a portion of one academic building located toward the back of the campus. This building was used as a central location for the majority of high school classes and administration but several classrooms throughout the campus were also used to offer additional high school classes.

The second college in this category, Campus D, was located in the piedmont region of North Carolina and served a three-county region. Campus D was considered the main campus for the institution and served generally one county with both curriculum and continuing education courses. The college offered its first curriculum classes in 1962 and officially became part of the North Carolina Community College system in 1963. The Early College was opened in the 2006-2007 academic year and enrolled freshman through junior level students. During the Spring 2009 semester, the Early College constituted approximately 5% of the total campus population (210 of 4,236 students). The Early College on this campus resided predominantly in one building that was shared during non-high school hours. During the high school academic day, which ran from 10:00 a.m. to 5:00 p.m. five days a week, the building was used solely by Early College with the exception of offices used by two college faculty members. Most high school classes were held in this building but classrooms were also used in three other buildings across campus to accommodate the needs of the high school curriculum. This building

was centrally located on the campus directly beside the library and adjacent to the student center.

Classification of Selected Courses

Courses were selected in cooperation with the Early College liaisons at the selected institutions. With a focus on the greatest contrast within the distributions, courses were chosen based on the percentage of Early College students enrolled. The category of High Class enrollment was defined as a course in which Early College students made up between 30% and 62% of the course enrollment. The Low Class enrollment category was defined as a course in which Early College students constituted between 4% and 15% of the total course enrollment. A total of 33 classes were chosen for the study from a variety of disciplines including: physical education; study skills; developmental English, reading, and mathematics; psychology; English composition; English literature; sociology; computer science; anthropology; and foreign language.

Student Participants

The participants ($N = 258$) were community college students enrolled in mixed classes with Early College students. The sample was drawn from three community colleges in North Carolina with four campus environments. For the purposes of the study, a college student was defined as any student 18 years of age or older who had graduated from high school, or earned the equivalent, and was enrolled in at least one course in a community college. All community college students enrolled in the selected courses present at the time of the survey implementation were asked to participate in the research. Any student who elected not to participate in the research was asked not to complete either survey and nine students elected not to participate. Additionally, students who were

under the age of 18 were asked not to complete any part of the survey packet including

the informed consent form but were allowed to remain in the class at the time of the

survey administration. One student under the age of 18 did respond to the surveys but the

student's scores were excluded from the final data analysis. Of the 268 students asked to

participate in the study, 258 were willing and able to participate resulting a 96% response

rate.

<div align="center">Instruments</div>

Two instruments were used to collect data pertinent to the research questions: the

Institutional Integration Scales (Pascarella & Terenzini, 1980; see Appendix A) and an

instrument designed for this study to measure the community college student exposure to

Early College students, the Early College Student Behavior instrument (ECSB; see

Appendix B). Responses to the ECSB were used to answer research question one. Data

collected from the Institutional Integration Scale (IIS) were used to answer research

question two. Data collected from the scales were also used with the ECSB responses to

answer research questions three and four and with enrollment classification to answer

research question five.

<div align="center">*Institutional Integration Scales*</div>

The Institutional Integration Scales instrument was designed to measure academic

and social integration of college students and was specifically designed to test Tinto's

model of college student departure (Pascarella & Terenzini, 1980). The instrument was

created by Pascarella and Terenzini (1980) to determine student levels of interaction by

measuring their levels of academic and social integration as well as institutional and goal

commitment. The purpose of Pascarella and Terenzini's study in which the IIS

instrument was evaluated was to create a scale to validate Tinto's theories of student integration and departure. The thirty-item questionnaire contained three scales (social integration, academic integration, and institutional and goal commitment) with two subscales each for academic and social integration. Academic integration subscales were Faculty Concern for Student Development and Teaching and Academic and Intellectual Development. The social integration subscales were Peer-Group Interactions and Interactions with Faculty. The scales and subscales were designed based on the concept that the educational or learning environment (both academic and social) can have a significant impact on student integration and that multiple factors in the educational environment can influence integration. Academic integration scale scores are determined based on the mean score of responses from the first two subscales, Peer-Group Interactions and Interactions with Faculty, with a range of scores from one (*low*) to five (*high*). Social integration scale scores are determined based on the mean score of responses from the last two subscales, Faculty Concern for Student Development and Teaching and Academic and Intellectual Development, with a range of scores from one (*low*) to five (*high*).

The IIS is considered to be the most widely used instrument in student retention and integration research in higher education (French and Oakes, 2004). According to French and Oakes, this instrument is particularly suited to use with college students because it is easily administered and in general takes a short amount of time to complete. The scales have been used in and validated by many research studies and dissertations (Beard, 1998; Bers & Smith, 1991; Burns, 1994; Ferrer, 1997; Fox, 1984; French & Oakes, 2004; Howell, 1999; Lavine, 1992; Muckert, 2002; Robinson, 2003; Ross, 1992;

Schutt, 1996). The IIS additionally has been tested and revised both in small manners,

such as changing the word University to College in accordance with the focus of the

institution (Wilmer, 2007), as well as in structure and wording (Fox, 1984; French &

Oakes, 2004). Revisions have been made by researchers such as Fox (1986) to improve

the discriminant validity of the instrument but these revised IIS have chiefly been used in

four-year settings. Most often, the original 30-item IIS questionnaire has been used in

research on student retention and integration at community colleges (Allison, 1999; Bers

& Smith, 1991; Halpin, 1990; Wilmer, 2007).

The Use of the IIS in Community College Settings

As Tinto's (1975, 1993) model was developed based on research on students

enrolled in four-year, residential colleges and universities. Halpin (1990) was interested

in determining if the model applied to a non-residential population of students at a two-

year college, using the IIS as a measure of student integration. Halpin indicated the

results of this study not only supported the applicability of Tinto's model to the

community college student population, but also that the IIS could be used effectively to

measure academic and social integration of community college students as well as to

predict attrition.

Bers and Smith (1991) also used the IIS in their study of community college

student persistence. This study investigated whether persistence could be predicted by

social and academic integration and/or by a student's original educational goals or

objectives. The researchers used the IIS to determine that social and academic integration

could be factors predictive of a student's intention to persist or withdraw from the

community college. Allison (1999) conducted a study to determine the impact of

integration of nontraditional student persistence at the community college, using the IIS as a measure of student integration. Wilmer (2007) used the IIS in a study on issues affecting the retention of developmental community college students. Wilmer's study investigated the differences as well between integration and retention of those students in learning communities and those not in learning communities. In addition to the instrument's applicability to both four and two-year college students, the IIS has been determined to be a valid and reliable measure of student integration and predictor of persistence.

Validity

In order to establish content validity evidence of the IIS, through systematic analyses Pascarella and Terenzini (1980) created five subscales designed to measure academic and social integration, and institutional and goal commitment. Additionally they based the instrument on the research and theories of Tinto (1975) regarding student attrition. The researchers assessed multiple facets of academic and social integration and commitment, and created a series of five groups of items, each with a five-level Likert scale response (Pascarella & Terenzini, 1980). The five groups of items were created to illustrate the various aspects of retention and success proposed by Tinto (1975).

The survey was dispersed to college freshmen ($N = 763$) and a factor analysis of responses was used to establish content validity of the IIS. The results of the analysis indicated five factors with eigenvalues ranging from 6.14 to 1.67. Additionally, Pascarella and Terenzini (1980) determined that 44.5% of the variance in the correlation matrix could be accounted for by the five factors. The five determined factors were also found to be generally consistent with the factors that influenced student attrition

according to Tinto's model of student departure. The factor loadings for the items were: Peer-Group Interactions subscale ranged from .37 to .84; Interactions with Faculty subscale ranged from .47 to .86; Faculty Concern for Student Development and Teaching subscale ranged from .54 to .77; Academic and Intellectual Development subscale ranged from .41 to .68; and Institutional and Goal Commitments subscale ranged from .44 to .69.

To determine the predictive validity of the instrument, a Multivariate Analysis of Covariance (MANCOVA) was conducted and no significant differences were found for responses for persisters and dropouts even when controlling for pre-enrollment variables, academic achievement, and involvement in extracurricular activities. Setwise discriminant and classification analyses were also used to determine the predictive validity of the scales. Small positive correlations (ranging from .01 to .33) were found between the five subscales, providing further evidence that each scale measured different components of student integration. In addition, the results of the study indicated that there were significant differences on each of the five subscales between those students who were retained and those who were not, which provided support for the predictive validity of the instrument. The Canonical R^2 for persistence and the covariates of pre-college characteristics, academic performance, and involvement in extracurricular activities was .0445; with the addition of the five Institutional Integration Scales, the Canonical R^2 increased to .2146. In addition, a factorial Analysis of Variance was conducted and significant differences were found between persisters and dropouts for responses to each of the five subscales.

Reliability

The IIS instrument was tested by Pascarella and Terenzini (1980) and found to be a reliable instrument with alpha reliabilities for the subscales ranging from .71 to .92. The scales have been tested in several studies and found to be reliable measures of community college student integration (Allison, 1999; Bers & Smith, 1991; Ferrer, 1997). Bers and Smith (1991) found reliability coefficients in the .80 range for each subscale. They determined an alpha level of .84 for the Academic and Intellectual Development and Faculty Concern for Student Development and Teaching subscales. In addition, Bers and Smith found a .88 alpha coefficient for the Peer-Group Interactions subscale and a similar but slightly lower reliability coefficient ($\alpha = .84$) for the Interactions with Faculty subscale. Allison (1999) found the social integration subscales produced higher alpha reliability coefficients as compared with the academic integration. Specifically Allison determined the following for the sample: Academic and Intellectual Development ($\alpha = .73$); Faculty Concern for Student Development and Teaching ($\alpha = .58$); Interactions with Faculty ($\alpha = .84$); and Peer-Group Interactions ($\alpha = .75$). Ferrer (1997) also determined that the academic integration scales produced higher alpha levels of reliability ($\alpha = .85$) as compared to the social integration scales ($\alpha = .78$). The results of the subscale reliability analyses were in general similar to those of the Pascarella and Terenzini (1980) study in which the IIS was originally evaluated.

To further test reliability within the sample ($N = 258$) in the present study, Cronbach's alphas were calculated for the two constructs of interest: academic and social integration. Strong reliability coefficients were found for both the academic ($\alpha = .86$) and social ($\alpha = .90$) constructs. A visual comparison of overall alpha to alpha if items deleted

indicated there would be little difference if any of the questions were removed for both constructs (see Table F1; Appendix F). In addition, each of the four subscales for academic and social integration also had strong reliability coefficients.

For social integration the reliability analysis indicated high alpha levels: Peer-Group Interactions ($\alpha = .86$); and Interactions with Faculty ($\alpha = .87$). For the academic integration subscales, high alpha levels were also found for the subscales: Faculty Concern for Student Development and Teaching ($\alpha = .81$); and Academic and Intellectual Development ($\alpha = .81$). The overall reliability analysis of the IIS for the present study was similar to but stronger than the reliability findings of Pascarella and Terenzini (1980) and other studies using the scales (Allison, 1999; Bers & Smith, 1991; Ferrer, 1997).

Subscales Used in the Current Study

The two primary scores of interest for the present study were academic and social integration. In this research study, social integration was measured by combining the scores of the subscales Peer-Group Interactions and Interactions with Faculty to produce a mean social integration score. The combination of these subscales to measure social integration with the IIS has been used in many research studies of student integration, satisfaction, and retention (Allison, 1999; Beard, 1998; Bers & Smith, 1991; Ferrer, 1997; Fox, 1984; Grosset, 1991; Howell, 1999; Lavine, 1992; Lyons, 2007; Robinson, 2003; Ross, 1992; Schutt, 1996; Terenzini, Pascarella, Theophilidies, & Lorang, 1985).

Academic integration for the present study was measured by combining the scores of the subscales of Faculty Concern for Student Development and Teaching, and Academic and Intellectual development to produce a mean academic integration score. The combination of these subscales to measure academic integration with the IIS has

been utilized in previous research (Allison, 1999; Beard, 1998; Bers & Smith, 1991; Ferrer, 1997; Fox, 1984; Grosset, 1991; Howell, 1999; Lavine, 1992; Lyons, 2007; Robinson, 2003; Ross, 1992; Schutt, 1996; Terenzini et al., 1985).

Early College Student Behavior Instrument

The Early College Student Behavior instrument (ECSB, see Appendix B) was created to measure community college student exposure to Early College students. The inspiration for the survey items was derived from research on issues affecting campus and classroom climate (Fassinger, 1995; Hallinan & Smith, 1989; Hirschy & Wilson, 2002). Campus and classroom climate is considered to be effected by issues that influence the learning environment such as student and peer commitment to learning, interactions among students and faculty in the classroom, and interactions with peers on campus. Student behaviors within the classroom and campus environment, therefore, potentially have an impact on how students view their institution. Campus climate is also closely related to academic and social integration, which were foci of the present study.

The ECSB instrument was composed of questions directed at community college student opinions about Early College student behavior in the classroom and on campus. The instrument also measured the types of interactions experienced with Early College students in the classroom and on campus. There were a total of 16 items including two interaction checklist questions, two fill-in-the-blank questions regarding enrollment numbers, five demographic questions, and one open-ended question allowing participants to provide additional comments. Participants were asked to rate Early College student behavior on a scale from 10 (*Very Positive*) to 1 (*Very Negative*) for three questions, one in the academic and two in the social sections. Some examples of the rating items are:

classroom participation, respect for the instructor, interpersonal communication, respect for campus property, and appropriate use of the computer labs. Participants were asked one question about the likelihood of future enrollment in courses with Early College students with the following options for responses: *Yes*, *No*, *I don't know*; one question about prior enrollment with Early College students; and one question comparing Early College student behavior with college student behavior, with the same response options.

Validity

An expert panel of individuals directly familiar or involved with the Early College program in North Carolina was asked to review the instrument for content validity (see Appendix D). Once the instrument was revised based on the expert panel evaluation, it was pilot tested at a small, regional community college in western North Carolina that met the selection criteria for the research study. The instrument was pilot tested with a sample of community college students from this institution enrolled in at least one class with Early College students. The campus chosen for the pilot test was omitted from the list of potential schools for the final survey. Pilot test participants ($N = 20$) were asked to provide feedback about the survey instrument (see Appendix E) and this information and the feedback from the expert panel were used to refine the instrument before its final dispersal.

The pilot test did not result in a great deal of feedback for alteration of the instrument. However, an open-ended question which allowed students to provide additional comments as they felt inclined was included as a result of the pilot test. The pilot data were also examined to determine if there were any apparent patterns or trends such as the possibility students unanimously rated items on the high or low end of the

scale. Responses were also examined to determine if there were any commonly skipped survey questions, though none were apparent. During this analysis, the frequency distributions for each of the questions were calculated and analyzed to determine if the responses were distributed among each of the possibilities.

Reliability

Data from the pilot test were used to calculate the initial reliability of the instrument using Cronbach's Alpha. The initial reliability coefficient for the academic (classroom) construct (item four on the ECSB) was strong with an alpha of .96. The reliability coefficient for the social (campus) construct (items seven and eight on the ECSB) was also strong with an alpha of .94. The pilot data were then combined with the sample data and reliability coefficients were calculated for the academic and social constructs. The final reliability coefficient for the academic construct of the ECSB based on the combined pilot and sample data was strong with an alpha of .90. The results of the reliability analysis are provided in Table G1 (see Appendix G). The final reliability coefficient for the social construct of the ECSB was strong with an alpha of .96. The results of the reliability analysis are provided in Table G2 (see Appendix G). A visual comparison of the alpha to alpha if item deleted element of the analysis indicated there would be little to no change in the reliability of the instrument if items were deleted from either construct.

Data Collection

The IIS and the ECSB were administered to each identified class after week ten of the class to allow students adequate time to integrate into the course and experience Early College students if they had not previously. The surveys were administered, however,

after the withdrawal date for the semester which excluded students who chose to withdraw from the class during the Spring 2009 semester. Early college students were not present at the time the survey instruments were administered, through cooperation with the Early College liaison and the course instructor. I was a College Liaison at Campus A at the time of the study but to avoid conflicts of interest, a colleague administered the surveys to student participants at Campus A.

Instructors were contacted via email and/or phone, and appointments were scheduled to administer the instruments selected at the beginning or end of the class period. The instruments were administered in person to community college students during the beginning or end of the class period. Early College students enrolled in these courses were not asked to participate in the research and were not present at the time of the survey implementation. At the beginning of the survey implementation, the community college students were presented with a survey packet which included an informed consent form (Appendix C). This form explained the nature and purpose of the study. The form included an overview of the topic being examined and the data collection methods. Each student was also informed of the measures that would be taken to assure his or her complete confidentiality. Every student was asked to complete the consent form as an indication that the survey results would be included in the study. Those students who chose not to participate in the research study as indicated on their informed consent forms did not complete either survey. They were counted in order to determine the total response rate for the research study. Finally, the participants were also offered the opportunity to receive a copy of the study results and one student made this request.

Each participant was given the IIS and the ECSB and each survey was coded with a number in the upper right hand corner so that responses for each participant for each instrument could be matched for correlation. The IIS was given to each participant prior to the ECSB to avoid any possible influence on the answers to the IIS based on the questions on the ECSB. Early College students were asked to enter the classroom only after the instruments had been dispersed, completed, and collected. In the case of three classes where surveys were administered at the end of class, Early College students were asked to leave prior to the administration of the survey instruments. The total response rate on the surveys was 96%. This rate was anticipated, as the administration of the instrument in person by the researcher or researchers typically results in a higher response rate (de Leeuw, Hox, & Dillman, 2008).

<center>Data Analysis</center>

Scores were recorded for each participant for both the IIS and the ECSB and analyzed based on responses on the instruments. Data for each participant were transferred from the instruments by hand to the Statistical Package for Social Sciences (SPSS; version 11.0) and each entry was checked three times for accuracy. In addition, frequencies were run for each variable to identify any values that were out of the items' expected range. SPSS was also used to interpret the data. Frequencies were calculated to provide information about the sample using the demographic questions on the ECSB. Responses regarding the perceived number of Early College students in the class were evaluated to determine any trends in responses for participants that might affect the validity of their other responses to the instrument. This information was evaluated to determine if any respondents inaccurately estimated the Early College class enrollment

figures and whose answers therefore might not be based solely on the Early College students in the class.

Research Question One: Student Exposure to Early College Students

To answer research question one, to what extent are community college students exposed to Early College students in academic and social campus environments, data derived from the ECSB questions on classroom and campus interactions and behavior ratings, and the provided comments section were utilized. Academic interactions with Early College students were recorded from question one of the ECSB. Prior Enrollment with Early College students was recorded from question two; the perceived number of Early College students in the class was calculated from question three on the ECSB. Question four on the ECSB was used to determine a total Early College Student Classroom Behavior Rating for each participant with possible responses ranging from 1 (*Very Negative*) to 10 (*Very Positive*).

For social exposure, questions five, six, seven, and eight were utilized. Question five measured participant campus interactions with Early College students. Question six consisted of the number of Early College students encountered on campus and questions seven and eight were utilized to create a total Early College Student Campus Behavior Rating. Question nine asked whether Early College students behaved like other college students on campus. Question ten asked about future enrollment in classes with Early College students.

Question 16 provided an opportunity for participants to express any additional comments they had about the Early College or its students. Frequencies and descriptive statistics were calculated for each of the listed questions on the ECSB to answer research

question one. Finally, an analysis of the qualitative comments section on the ECSB was also conducted. The comments were visually appraised and themes and tones immerged in the five evaluative readings of the provided comments. Comments were designated as positive, negative, or mixed in general tone and themes were generated based on prominent phrases in the data. Finally, after the comments were sorted by tone and themes were established, frequency data were generated for themes based on comment tone. This was done to determine if there were any consistent themes mentioned across comment tone as well as to determine any differences based on comment tone in mentioned themes.

Research Question Two: Student Academic and Social Integration

Data derived from the IIS were used to answer research question two, what is the academic and social integration of college students enrolled at community colleges with embedded Early College high schools. Item responses for each subscale ranged from 1 (Strongly Disagree) to 5 (Strongly Agree). Subscale scores were determined based on the average response for the subscale items and possible score ranges were from 1.0 to 5.0. Descriptive statistics, including frequency distributions, mean scores, and standard deviations were calculated for each subscale. Confidence intervals were also reported to estimate population parameters based on the sample results.

Research Question Three: Relationship between Academic Exposure to
Early College Students and Academic Integration

The IIS academic integration subscale scores (Faculty Concern for Student Development and Teaching, and Academic and Intellectual Development) and responses to ECSB questions one and four were used to answer research question three, is there a

relationship between the academic exposure to Early College students in the classroom and community college academic integration. The data for responses to ECSB question one regarding the type of classroom interactions experienced were visually examined and frequencies and percents were determined for each interaction. A total interactions variable was created reflecting the total number of types of interactions reported by the participants in question one with a range of zero to four total listed interactions. This was done to determine if the quantity of the types of interactions effected academic integration. The mean scores for each participant on the academic integration scale and the total interactions variable were used to determine the relationship between the two variables using a Spearman's correlation coefficient.

The data collected in question four regarding the quality of academic interactions experienced with Early College students were visually examined for patterns. A Classroom Behavior Rating variable was created ($\alpha = .90$) by summing the responses to each item on question four regarding classroom behavior, with responses ranging from 8 to 90. A Pearson's correlation coefficient was calculated using the academic integration scores recorded and the Classroom Behavior Rating for each participant to determine the relationship between the two variables. Finally, the effect size of the correlation (r^2) was calculated.

Research Question Four: Relationship between Social Exposure to

Early College Students and Social Integration

The results of the IIS social integration subscales (Peer-group Interactions, and Interactions with Faculty) and ECSB questions five, seven, and eight were used to answer research question four, is there a relationship between the social exposure to Early

College students on campus and community college student social integration. Responses were visually examined and frequencies and percents were determined for each interaction. A total interactions variable was created that reflected the total number of the types of campus interactions reported with a range of zero to seven. This variable was created to measure the quantity of the types of social exposure. The score for each participant on the social integration scale and the total interactions variable were used to determine the relationship between the two variables using a Spearman's correlation coefficient.

The data collected in questions seven and eight regarding the quality of social interactions experienced with Early College students were visually examined for patterns. A Campus Behavior Rating variable was created to determine the quality of social exposure ($\alpha = .96$). The variable was created by summing the rating responses from questions seven and eight with a range of response from 6 to 80. To determine the relationship between Campus Behavior Ratings and social integration, a Pearson's correlation coefficient and the associated effect size (r^2) were calculated.

Research Question Five: Impact of the Degree of Exposure on Academic and

Social Integration of Community College Students

Research question five, does the degree of exposure have an impact on community college student academic and social integration, was answered using the degree of exposure classification, or Campus and Class exposure categories, (i.e. High-High, High-Low, Low-High, Low-Low) and the results of the IIS subscales. A 2x2 factorial Analysis of Variance (ANOVA) was used to determine if there was a significant difference in the academic integration scores on the IIS for each Campus-Class category

(interaction effect) and also by each Campus and Class exposure category (main effects). An additional 2x2 factorial ANOVA was conducted to determine if there was a significant difference in the social integration scores on the IIS for each Campus-Class category and by Campus and Class exposure separately. Interaction and main effects were included in each model and Partial eta-squared (η^2) was reported as an effect size measure.

Chapter Summary

This chapter has outlined the purpose, research design, and methodology for the present study. The purpose of this study was to investigate the impact of exposure to Early College students on community college student academic and social integration. A non-experimental, correlational approach was used to acquire preliminary information about this impact and its potential unintended consequences. The study was specifically designed to determine if a relationship existed between the degree and type of exposure to Early College students and community college student academic and social integration. Chapter three has described the methodology and research design for the proposed study including the specific research questions, description of the participants and instruments and materials to be used, as well as the data collection and data analysis procedures.

CHAPTER FOUR: RESULTS

This chapter will provide details on the data gathered in the study and several explanatory tables and charts. Overall, the analysis of these data will be framed by the five predetermined research questions regarding the relationship between community college student academic and social integration and exposure to Early College students:

1. To what extent are community college students exposed to Early College students in academic and social campus environments?

2. What is the academic and social integration of college students enrolled at community colleges with embedded Early College High Schools?

3. What is the relationship between the academic exposure to Early College students in the classroom and community college students' academic integration?

4. What is the relationship between the social exposure to Early College students on campus and community college students' social integration?

5. Does the degree of exposure have an impact on community college student academic and social integration?

In this study, students from four North Carolina community college campuses with embedded Early College high schools were surveyed regarding their academic and social integration as well as their exposure to Early College students. Campuses were categorized as High exposure (26% to 40% of the total campus enrollment was comprised of Early College students) or Low exposure (3% to 5%). Classes were categorized as either High exposure (30% to 62% of the class was comprised of Early College students) or Low exposure (6% to 15%). Classes were chosen based on both

campus and class status of enrollment of Early College students to help determine the

relationship between exposure to Early College students and academic and social

integration of community college students. Students from four categories of classes were

therefore chosen to participate in the research; the four categories and number of

participants in each category are provided in Table 1.

Table 1

Participation in Each Campus – Class Category (N = 258)

Campus - Class Category	n	%
Low Campus - Low Class	82	31.8
Low Campus - High Class	80	31.0
High Campus - High Class	52	20.2
High Campus - Low Class	44	17.1

Courses were selected with the assistance of the college liaisons at each of the

four campuses and appointments were scheduled for the survey instruments to be

administered in person in the selected courses in the Spring 2009 semester. Students were

asked to review the informed consent form and indicate their willingness to participate in

the research. Students were asked to complete two surveys, the Institutional Integration

Scales (IIS) and the Early College Student Behavior (ECSB) survey. Of the 268 survey

packets administered, 258 were willing and able to participate in the research; therefore,

96% of the students asked to participate in the research completed the survey instruments.

These data were then entered by hand into and analyzed using the Statistical Package for the Social Sciences (SPSS) version 11.0. The collected data and the results of the data analyses will be presented throughout this chapter.

These data are presented in accordance with the order of the five research questions. First, the academic and social exposure of participants to Early College students, measured through select responses to the ECSB are analyzed and presented. Second, the data collected on academic and social integration of the participants compiled from the responses to the IIS instrument are analyzed and presented. Third, the data from both the ECSB and IIS are analyzed to determine the relationship between academic exposure to Early College students and participant academic integration. Fourth, the data derived from both the ECSB and IIS are analyzed to determine the relationship between social exposure to Early College students and social integration of the participants. Finally, the data derived from IIS are analyzed using the four classifications of Campus and Class exposure (High-High; High-Low; Low-Low; Low-High) to examine the relationship between the degree of exposure to Early College students and academic and social integration.

<div align="center">Characteristics of the Sample</div>

The sample in this study consisted of 258 students enrolled in three community colleges at four campuses during the Spring semester of 2009. Demographic data were collected on the ECSB. These data were compiled and demographic characteristics (age, gender, and ethnicity) of the sample are provided in Table 2. In terms of gender, the sample was representative of female ($n = 150$, 58%) and male ($n = 108$, 42%) enrollment at community colleges nationwide for female (58%) and male (42%) students (American

Association of Community Colleges, 2009). The sample was underrepresentative of the

female population statewide (63%, NCCCS, 2008) and overrepresented in the male

population (37%, NCCCS, 2008) as compared with North Carolina community college

statistics. In terms of ethnicity, Caucasians were overrepresented in the sample (76%) for

both North Carolina institutions (67%, NCCCS, 2008) and national statistics (61%,

American Association of Community Colleges, 2009). Minorities were also

underrepresented in the sample (23%) as compared with North Carolina community

college statistics (34%, NCCCS, 2008) and community colleges nationwide (39%,

American Association of Community Colleges, 2009).

The age of participants in this study was collected based on age ranges which

differ from the North Carolina Community College System age range statistics and the

national statistics. However, it was determined that adult students (25 years of age or

older) in the sample ($n = 100$, 38.8%) were underrepresented as compared with North

Carolina community colleges (49.5%, NCCCS, 2008). In addition, students between the

ages of 18 and 24 were overrepresented in the sample ($n = 158$, 61.2%) as compared with

North Carolina community colleges (46.5%, NCCCS, 2008).

Table 2

Demographic Characteristics of the Sample (N = 258)

Characteristic	*n*	%
Age		
18 – 24	158	61.2
25 – 31	64	24.8
32 – 38	17	6.6
39 – 45	11	4.3
46 – 52	7	4.2
53+	1	0.4
Gender		
Female	150	58.1
Male	108	41.9
Ethnicity		
Caucasian	196	76
African American	21	8.1
Native American	14	5.4
Hispanic	9	3.5
Other	8	3.1
Asian	4	1.6
Multi-Ethnic	4	1.6
Chose Not to Respond	2	0.8

Further analysis revealed that 37% of the participants were enrolled in their second semester at the time of the study with a mean of 3.06 semesters ($SD = 2.08$) and enrollment ranged from 1 to 16 semesters. Finally, it was determined that the majority ($n = 192, 74\%$) of the sample were those enrolled predominantly in day classes with 2% ($n = 5$) identified as primarily evening students, and 24% ($n = 61$) identified as enrolled in both evening and day courses. For North Carolina community colleges, 78% of students were enrolled in day courses (NCCCS, 2008) and this is consistent with the sample for the current study. However, 22% of students were enrolled in evening courses which is not consistent with the sample results (NCCCS, 2008). Statistics on enrollment in day versus evening classes were not available from the American Association of Community Colleges at the time of the study.

<div align="center">Student Exposure to Early College Students</div>

To answer research question one, to what extent are community college students exposed to Early College students in academic and social campus environments, participant responses to the ECSB instrument were analyzed. Specifically the responses used to determine academic exposure included checklist responses from questions one, "please indicate which of the following interactions you have had with Early College students in this class, this semester," to which there were six possible responses for the checklist, and an open-ended section to allow participants to specify an interaction if they selected "other." Responses were also used from question two, "have you taken other classes with Early College students," with yes, no, and I don't know as possible responses, and question three, "how many Early College students are in this class." Finally, responses to the Classroom Behavior Rating items were also used to determine

the quality of academic exposure. To determine social exposure to Early College

students, ECSB questions regarding interactions experienced, number of Early College

students encountered, and Campus Behavior Ratings were used. In addition, qualitative

data derived from an open-ended comments section on the ECSB were analyzed and

reported.

Academic Exposure

A validity check of survey responses to the perceived number of Early College

students in the class was conducted to determine any trends in responses for participants

that might affect the validity of the subsequent responses on the ECSB instrument. The

data analyzed for question three on the perceived number of Early College students

enrolled in the class ranged from 0 to 18, with a mean of 5.24 ($SD = 4.02$). The

distribution of reported numbers was positively skewed, primarily due to the larger

number of participants in Low exposure classes as compared with High exposure classes

(see Table 1). Four participants (1.6%) indicated there were no students enrolled in the

course despite actual Early College student enrollment in the course. In two cases there

were actually two enrolled Early College students and in two cases there was one

enrolled Early College student. The perceived numbers reported for each participant were

then compared with the actual number of students in the class to determine if there were

any differences in how many Early College students were perceived to be in the class

verses the actual number of Early College students in the class. There was a strong,

positive correlation between the actual and perceived number of Early College students (r

$= .91, p < .001$). In addition, descriptive statistics suggested that there was not a

significant discrepancy between the perceived number of Early College students in the

class and the actual number ($M_D = -.13$, $SD = 1.74$, $p = .238$). Therefore, the perceived number was consistent with the actual number of Early College students in the class. Because the perceived number and actual number were similar, the perceived number of students was the variable used in all subsequent analyses for research question three.

Frequencies and percents derived from the data for the ECSB question regarding identified academic interactions are provided in Table 3. The results of the analysis indicate that 97.0% ($n = 250$) of the participants experienced at least one interaction with Early College students in their class during the Spring 2009 semester. The most frequently cited class interaction was "Class Discussions" ($n = 222$, 86.0%). The other most frequently listed interactions were "Small Group Discussions" ($n = 122$, 47.3%) and "Group Work Assignments for a Grade" ($n = 111$, 43.0%). Eight participants (3.1%) selected "No Interactions" in this section; four of those had previously indicated that there were no Early College students enrolled in their class. The remaining four in this category still provided a response to the question regarding perceived numbers of Early College Students in the class, and also ranked Early College student performance in the class for the items in question four on Early College Student Classroom Behaviors.

Table 3

Total and Percentage of Responses to Classroom Interactions

Interaction	n	%
Class discussions	222	86.0
Small group discussions	122	47.3
Group work assignments for a grade	111	43.0
Other	33	12.8
Studying together/Study group	29	11.2
No class interactions	8	3.1

Of the 33 participants who listed "other" as a classroom interaction, the most frequently described interaction was "Gym Class Activities" ($n = 8$, 3.1%), followed by "Icebreakers" ($n = 3$, 1.2%), and "In Class" ($n = 3$; 1.2%). In addition, despite the wording on the question limiting interactions to classroom experiences only, some participants also listed campus interaction items as "Other" interactions such as: Campus Video Game Day ($n = 2$, 0.8%), Around Campus ($n = 1$, 0.4%), Student Center/Cafeteria ($n = 1$, 0.4%), In Lounge Areas ($n = 1$, 0.4%), and After Class ($n = 2$, 0.8%). Further, the majority of participants were enrolled in classes previously with Early College students ($n = 174$, 67.4%). Twenty-three percent ($n = 60$) indicated they had not previously taken classes with Early College students and approximately 9.0% ($n = 24$) indicated that they did not know if they had taken classes previously with Early College students.

Data collected on the Classroom Behavior Rating sections were analyzed and

frequencies and descriptive statistics were calculated for each item on the Classroom

Behavior question. The highest mean ratings were reported for the following items:

"respect for the instructor" ($M = 6.30$, $SD = 2.70$), "class participation" ($M = 6.17$, $SD =$

2.24), "respect for the class environment" ($M = 6.15$, $SD = 2.65$), and "overall classroom

behavior" ($M = 6.12$, $SD = 2.65$). All descriptive statistics for these items are provided in

Table 4.

Table 4

Descriptive Statistics for Classroom Behavior Rating Items

Item	*n*	*M*	*SD*
Respect for the instructor	254	6.30	2.70
Class participation	254	6.17	2.24
Respect for the class environment	254	6.15	2.65
Overall classroom behavior	254	6.12	2.65
Respect for class topics and lectures	254	6.10	2.54
Participation in assigned group work	217	6.05	2.45
Engagement in learning activities	254	6.00	2.31
Respect for other students	254	5.85	2.87
Class preparation	254	5.82	2.45

Finally, when asked "if given the choice, would you enroll in a class if you knew Early

College students would be taking the same class," 35.3% of the participants ($n = 91$)

indicated they would not. In addition, 34.1% ($n = 88$) indicated they would and 30.2% ($n = 78$) indicated they did not know.

Social Exposure

The responses provided to the question on the perceived number of Early College students encountered on campus ranged from 0 to 200, with a mean of 30.2 ($SD = 29.75$). The distribution of reported numbers was positively skewed in accordance with the larger number of respondents from Low exposure campuses. Four participants (1.6%) indicated there were no students encountered on campus despite the fact that Early College students were enrolled. All four of these participants were from Low exposure campuses; three cases were from a campus with 59 enrolled Early College students and one attended a campus with 210 enrolled Early College students.

Frequencies and percents were derived from the data for the ECSB question regarding identified campus interactions and are provided in Table 5. Overall, the results of the analysis indicated that 95.0% ($n = 245$) of the participants interacted with at least one student in some capacity on campus. The most frequently cited campus interaction was "In other common areas" ($n = 212$, 82.2%), followed by "In the Computer Labs" ($n = 150$, 58.1%), and "In the Library" ($n = 143$, 55.4%). Twelve participants (4.7%) selected "No Interactions" in this section. Eight of the participants in this category still provided responses to the questions regarding the number of Early College students on campus and the Campus Behavior Rating question. In addition, despite the specific wording of the question to exclude class interactions in the campus interactions question, several students listed classroom-related activities as "other" interactions experienced on campus. In fact, 18 out of the 25 of those who stated they experienced "other"

interactions on campus, described classroom-related activities (72.0%) as the "other"

interaction. The remainder of "other" responses each individually accounted for 0.4% (n

= 1) of the comments section respectively: Activity Day, Informal Intellectual

Conversation, Friend in the Early College, Sports, Passing in the Hallway, In the Break

Area, and In the Parking Lot.

Table 5

Total and Percentage of Responses to Campus Interactions

Campus Interaction	n	%
In other common areas (hallways, lounge areas, etc.)	212	82.2
In computer labs	150	58.1
In the library	143	55.4
In the cafeteria	49	19.0
General campus social event (dance, Welcome Back event, etc)	40	15.5
Campus social event sponsored by a club or organization	27	10.5
Other	25	9.7
No interactions	12	4.7
Cultural activities	9	3.5
Club or organization membership	3	1.2

Frequencies and percents were calculated for items on the Campus Behavior

Rating question. In all cases the most frequently occurring scores were between five and

seven on a ten-point scale with larger numbers reflecting more positive views, and in general the distributions were symmetrical for each item. However, the distribution for the rating item for "what others said about early college students on campus" was slightly but noticeably positively skewed. Descriptive statistics were also calculated and are provided in Table 6.

Table 6

Descriptive Statistics for Campus Behavior Rating Items

Item	n	M	SD
Appropriate use of the library	198	5.88	2.59
Respect for campus property	254	5.70	2.52
Interpersonal communication	254	5.62	2.22
Appropriate use of computer labs	213	5.61	2.60
Overall experience with Early College students on campus	254	5.57	2.50
Overall campus behavior	254	5.50	2.57
Respect for other students	254	5.37	2.63
What others on campus say about Early College student behavior	254	4.81	2.45

Finally, when asked the question "in general, do you believe Early College students behave similarly to other college students on campus," the majority of participants ($n =$ 186, 72.1%) responded no, 46 (17.8%) responded yes, and 25 (9.7%) indicated that they did not know.

Participant Comments Analysis

A comments section was provided for participants at the end of the ECSB survey allowing for additions regarding their interactions with Early College students. Of the 258 surveys completed, 66 (26%) added comments regarding their perceptions of or interactions with Early College students. The comments were manually typed into a spreadsheet and evaluated for general tone and themes. The comments were evaluated and determined as positive, negative, or mixed tone. Of the 66 comments, 11% ($n = 7$) were classified as having a generally positive tone regarding the Early College and/or Early College students. Fifty percent ($n = 33$) were classified as having a generally negative tone regarding the Early College and/or Early College students. Finally, 39% ($n = 26$) were classified as mixed, with both positive and negative comments about the Early College and/or the students. Common themes and phrases were determined through close evaluation of the provided comments, including: immaturity, behavioral issues, and the Early College is a wonderful program and/or a great opportunity. Frequencies and percents for all phrases/themes are provided in Table H1 (see Appendix H).

The phrases and/or themes were evaluated based on the general tone of the comment (positive, negative, and mixed) to determine if any commonalities existed in the themes or phrases for each comment tone. For those with positive toned comments ($n = 7$), the majority of the phrases or themes were, the program is wonderful and/or a great opportunity ($n = 3$) and Early College students were pleasant, okay, or likeable ($n = 3$). The remaining phrases or themes were Early College students were well-behaved ($n = 2$) and Early College students were serious and/or motivated ($n = 1$). For the negative tone comments ($n = 33$), the majority of the themes or phrases were about the immaturity of

Early College students ($n = 17$), that there were behavioral issues with Early College students ($n = 13$), and that Early College students were different from adult college students in motivation, goals, etc. ($n = 9$). Four comments were made that the program itself was wonderful and/or a great opportunity and one comment was made that Early College students were okay overall. For the mixed tone group ($n = 26$), the majority of comments were about immaturity of Early College students ($n = 7$). The other most prominent themes were behavioral issues ($n = 6$) and that Early College students were different from adult college students in motivation, goals, etc. ($n = 6$). Other prevalent themes were Early College students were found to be pleasant, okay, or likeable ($n = 7$), the program was wonderful and/or a great opportunity ($n = 6$), some Early College students were motivated and/or serious ($n = 7$), and Early College students were generally well-behaved ($n = 5$).

Overview of Exposure to Early College Students

In general it was found that most participants had experienced at least one interaction with Early College students either academically ($n = 250$, 97%) and/or socially ($n = 245$, 95%) and were aware of Early College students' presence both in the classroom and on campus. It was also determined that, with a few exceptions, classroom and campus behavior ratings were within in the average range (5 on a scale of 1 to 10). In addition, a small percentage (26%) of the participants provided written comments regarding their academic and social interactions with Early College students. The results indicated the majority of the comments had a negative tone (50%) or mixed tone (39%) and the majority of comments were about the immaturity of Early College students,

behavioral issues, the wonderful opportunity the program presented, and the differences between adults and children.

<div align="center">Academic and Social Integration</div>

Data collected from the academic and social integration subscales of the IIS were used and descriptive statistics were calculated to answer research question two regarding the academic and social integration of college students enrolled at community colleges with embedded Early College high schools. The results of the analyses are displayed in Table 7. The means and standard deviations for the entire sample on both academic and social integration were indicative of average integration with similar standard deviations as compared with previous studies using the IIS to measure student integration (Beard, 1998; Bers & Smith, 1991; Ferrer, 1997; Fox, 1984; Grosset, 1991; Howell, 1999; Lavine, 1992; Lyons, 2007; Robinson, 2003; Ross, 1992; Schutt, 1996).

Table 7

Academic and Social Integration Scores for the Sample (N = 258)

Integration	*M*	*SD*	95% CI	
			Lower	Upper
Academic	3.49	0.62	3.41	3.56
Social	3.47	0.66	3.39	3.55

The minimum score for academic integration was 1.58 with a maximum of 4.83 and the minimum score for social integration was 1.42 and the maximum was 4.92.

Additionally, it can be inferred with 95% confidence that in a similar population academic integration scores for students enrolled in community colleges with embedded Early Colleges would be between 3.41 and 3.56. The same inference with 95% confidence can be made that in a similar population social integration scores would fall between 3.39 and 3.55.

Academic Integration Subscale Analysis

The responses to the academic integration subscales, Faculty Concern for Development and Teaching and Academic and Intellectual Development, were evaluated to examine extreme responses as well as trends in the data. In general the responses on the subscale items were in the average or typical range. Descriptive statistics, specifically means and standard deviations, and confidence intervals were calculated for each item on the academic integration subscales and the results are provided in Table I1 (see Appendix I).

The frequencies and percentages of responses for each item on the Academic Integration subscales are provided in Table I2 (see Appendix I). There were extreme scores (e.g. *strongly agree*, *strongly disagree*) on both ends of the continuum for the Faculty Concern for Student Development and Teaching subscale. In general, for most of the items in the subscale the ratings were equally dispersed across response options. A few exceptions were for the item on faculty interest in student growth and development where 71.7% (*n* = 185) either strongly agreed or agreed with the statement. In addition, for the item regarding faculty having a genuine interest in teaching, 80.6% (*n* = 208) either strongly agreed or agreed.

The results for the Academic and Intellectual Development subscale were generally more favorable than the Faculty Concern for Student Development and Teaching subscale. There were some higher percentages of extreme responses mainly on the positive end of the scale. In general the items were fairly well dispersed over response options with some notable exceptions. For the influence on the participant's experience at the college on intellectual growth, 74.0% ($n = 191$) either strongly agreed or agreed with the statement. For overall satisfaction with the academic experience at the college, 72.1% ($n = 186$) either strongly agreed or agreed with the statement. For the statement regarding overall satisfaction with participant intellectual development at the college, 71.7% ($n = 185$) either strongly agreed or agreed with the statement. Finally, close to 70.0% either strongly agreed or agreed with the statements regarding academic performance ($n = 177$) and increased interest in ideas and intellectual matters ($n = 174$).

Social Integration Subscale Analysis

The responses to the social integration subscales Peer-Group Interactions and Interactions with Faculty were examined for extreme responses as well as trends in the data. In general the responses on the subscale items were reflective of average or typical integration, as indicated by the overall social integration score listed in Table 7. Descriptive statistics including means and standard deviations were also calculated for each item on the social integration subscales and the results are presented in Table J1 (see Appendix J).

In addition, frequencies and percents were calculated for each item on the social integration subscales. The frequency and percent of responses for each item on the social integration subscales are provided in Table J2 (see Appendix J). There were extreme

scores (i.e. strongly agree, strongly disagree) on both ends of the continuum for the Peer-Group Interactions subscale. In general the items were fairly well dispersed across response options with two exceptions. For the item regarding difficulty in making new friends 61.7% ($n = 159$), participants strongly agreed or agreed with the statement. Finally, for the item regarding personal satisfaction with developed relationships, 60.9% ($n = 157$) strongly agreed or agreed with the statement.

The data from the Interactions with Faculty subscale revealed that in general students felt more integrated with faculty than peers. There were extreme scores for each question as with the Peer-Group Interactions subscale, but in general, the items were also well-dispersed from strongly agree to strongly disagree with a few exceptions. For the statement regarding satisfaction with opportunities to interact informally with faculty, 66.3 % ($n = 171$) either strongly agreed or agreed. The statement regarding the influence of non-classroom activities on intellectual growth yielded 65.5% ($n = 169$) who either strongly agreed or agreed with the statement. Finally, for the statement regarding non-classroom activities' influence on values development, 62.4% ($n = 161$) either strongly agreed or agreed.

Overview of Academic and Social Integration

In general the results of the IIS analysis indicated that participants exhibited typical levels of integration as compared with previous research using the IIS with college students (Beard, 1998; Bers & Smith, 1991; Ferrer, 1997; Fox, 1984; Grosset, 1991; Howell, 1999; Lavine, 1992; Lyons, 2007; Robinson, 2003; Ross, 1992; Schutt, 1996). Academic integration ($M = 3.49$, $SD = 0.62$) was slightly higher on average than social integration ($M = 3.47$, $SD = 0.66$) for the sample. Individual subscale analysis

indicated ratings were well dispersed across response options for each item on the

subscales with a few exceptions primarily on the strongly agree or agree end of the scale.

The Relationship between Academic Exposure to Early College Students and

Academic Integration

Data derived from both the IIS and ECSB were utilized to answer research

question three regarding the relationship between the academic exposure to Early College

students in the classroom and community college student academic integration.

Specifically, the data derived from IIS academic integration subscales (Faculty Concern

for Development and Teaching and Academic and Intellectual Development) and ECSB

questions concerning interactions in the classroom and Classroom Behavior Ratings were

used. Of interest was determining academic exposure, which was defined by the quantity

and quality of classroom interactions with Early College students reported by the

participants. First, frequencies were calculated for responses to ECSB question one on the

type of classroom interactions experienced. The total number of interactions listed by

each participant was tallied and totals ranged from 0 to 4 interactions per participant.

A Spearman's correlation test was used to determine if a relationship existed

between academic integration and the total number of classroom interactions for each

participant. The results of the analysis ($r_s = -.088$, $p = .16$) indicated a slight, but not

statistically significant, negative correlation between the number of interactions reported

and the academic integration score. Further, means and standard deviations were

calculated for academic integration by interaction type and these results are provided in

Table 8. The highest academic integration scores were recorded for those who reported

the following under classroom interactions: no interactions ($M = 3.64$, $SD = 0.51$), class

discussions (*M* = 3.50, *SD* = 0.62), other (*M* = 3.47, *SD* = 0.72), and small group

discussions (*M* = 3.45, *SD* = 0.64).

Table 8

Descriptive Statistics for Academic Integration by Interaction Type

Interaction type	*n*	*M*	*SD*
Class discussions	222	3.50	0.62
Small group discussions	122	3.45	0.64
Group work assignments	111	3.38	0.61
Other	33	3.47	0.72
Studying together	29	3.27	0.54
No Interactions	8	3.64	0.51

A variable comprised of the ratings from each item on the classroom behavior

rating scale was created as an overall Early College Student Classroom Behavior Rating.

This variable was used with the academic integration scores for each participant to

determine the relationship between the two using a Pearson's correlation coefficient. The

results indicated a moderate, positive relationship ($r = .464$, $p < .001$, $r^2 = .22$) between

academic integration and the Early College Student Classroom Behavior rating. These

results suggested respondents with more positive ratings for classroom behavior had

higher academic integration scores. It was also determined that 22% of the variance in

academic integration scores could be accounted for by the total Classroom Behavior

Rating score. A graphic representation of the relationship is provided in Figure 2.

Figure 2. The relationship between academic integration and Early College student classroom behavior rating

Early College Student Classroom Behavior Rating
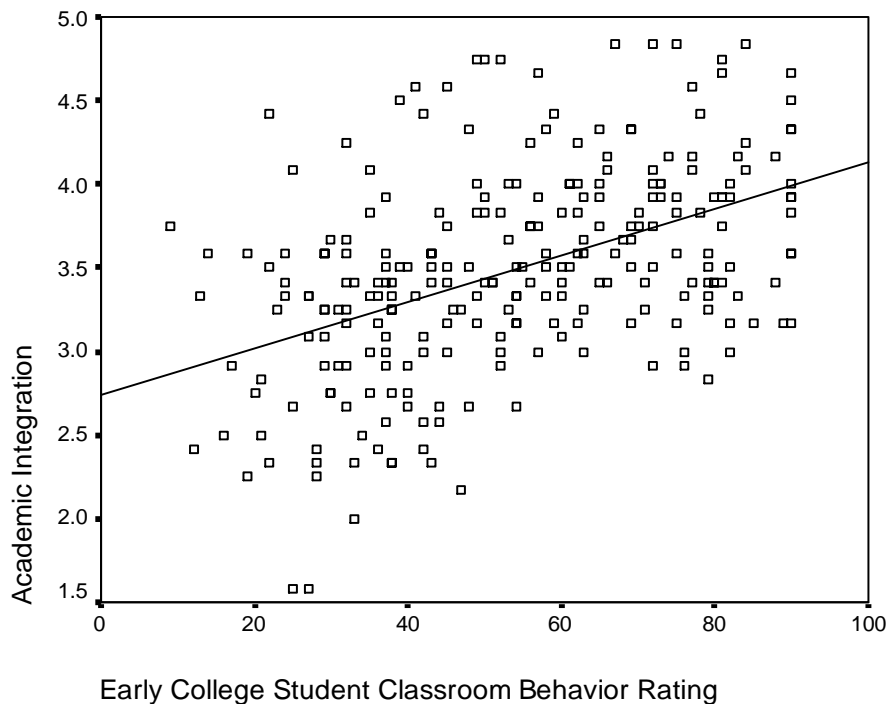
Overview of the Relationship between Academic Exposure and Academic Integration

Analysis of the data for research question three on the relationship between academic exposure to Early College students and academic integration yielded interesting results. It was determined that the quantity of types of classroom interactions was not related significantly to academic integration scores. However, there was a statistically significant positive relationship between the quality of academic exposure (reflected in the Classroom Behavior Rating) and academic integration. These results indicated that as the Classroom Behavior Rating increased the academic integration scores also increased, thus those participants who rated Early College Student Classroom Behavior more positively had higher academic integration scores.

The Relationship between Social Exposure to Early College Students and

Social Integration

To answer research question four, "is there a relationship between the social exposure to Early College students on campus and community college student social integration," the data derived from IIS Social Integration subscales (Peer-Group Interactions and Interactions with Faculty) and ECSB questions regarding interactions in on campus and Campus Behavior Ratings were used. Of interest was determining social exposure, which was defined by the quantity and quality of campus interactions with Early College students reported by the participants. First, frequencies were calculated for responses to the campus interactions question and the total number of types interactions listed by each participant was tallied and total responses ranged from 0 to 7 interactions.

This information was then compared with the social integration score for each participant to determine if a relationship existed between the two variables. The results (r_s = .101, p = .10) indicated a slight, but not statistically significant, positive correlation between the number of campus interactions reported and social integration. Further, means and standard deviations were calculated for social integration by interaction type and these results are provided in Table 9. The highest social integration scores were recorded for those who reported the following campus interactions with Early College students: club or organizational membership (M = 4.06, SD = 0.05), cultural activities (M = 3.95, SD = 0.42), campus social event sponsored by a club (M = 3.74, SD = 0.37), and in the cafeteria (M = 3.71, SD = 0.51).

Table 9

Descriptive Statistics for Social Integration by Interaction Type

Interaction type	n	M	SD
In other common areas	212	3.44	0.64
In computer labs	150	3.45	0.68
In the library	143	3.48	0.67
In the cafeteria	49	3.71	0.51
General campus event	40	3.56	0.58
Campus social event sponsored by a club	27	3.74	0.37
Other	25	3.43	0.59
No interactions	12	3.47	0.64
Cultural activities	9	3.95	0.42
Club or organizational membership	3	4.06	0.05

A variable comprised of the ratings from each item of the campus behavior rating scale was created as an overall Early College Student Campus Behavior Rating. This variable was used with the social integration score for each participant to determine the relationship between the two using a Pearson's correlation coefficient. The results indicated a moderate but statistically significant positive relationship ($r = .313$, $p < .001$, $r^2 = .10$) between social integration and the Campus Behavior Rating. These results suggested that participants who rated Early College student campus behavior more positively also had higher social integration scores. It was also determined that 10% of

the variance in social integration scores could be accounted for by the Campus Behavior

Rating score. A graphic representation of the relationship is provided in Figure 3.

Figure 3. The relationship between social integration and Early College student campus

behavior rating

Early College Student Campus Behavior
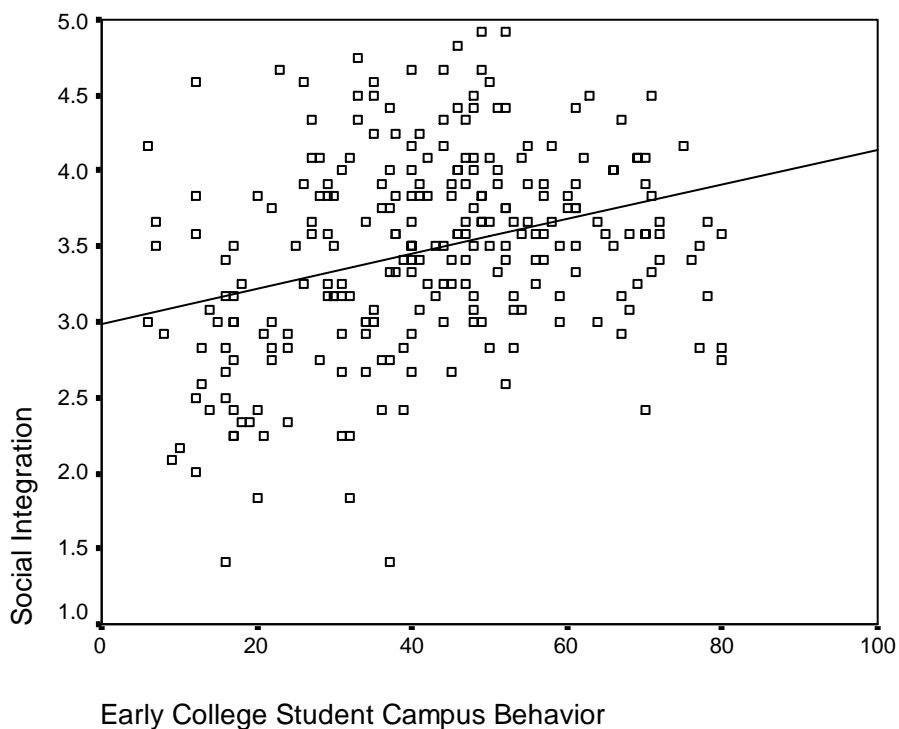
Overview of the Relationship between Social Exposure and Social Integration

The analyses of the data for research question four on the relationship between

social exposure to Early College students and social integration also revealed interesting

results. It was determined that the quantity of campus interactions (social exposure) was

not significantly related to social integration scores. However, there was a significant

positive relationship between the quality of social exposure (reflected in the Campus

Behavior Rating) and social integration. These results indicate that as the Campus

Behavior Rating increased, social integration scores also increased.

The Impact of the Degree of Exposure on Academic and Social Integration of

Community College Students

To answer research question five, "does the degree of exposure have an impact on

community college student academic and social integration," the Campus and Class

exposure categories were used in conjunction with academic and social integration data

for each participant. Descriptive statistics were calculated for academic and social

integration scores based on Campus and Class exposure variables. Factorial ANOVAs

were also conducted for academic integration and Campus and Class exposure categories

as well as for social integration and Campus and Class exposure categories.

Academic Integration

Descriptive statistics for academic integration by Campus and Class exposure

categories are provided in Table 10. These results indicated that the Low Class-Low

Campus exposure participants had a mean academic integration score ($M = 3.82$, $SD =$

0.52) that was slightly higher than all other classifications: Low Class-High Campus (M

$= 3.64$; $SD = 0.44$); High Class-Low Campus ($M = 3.24$; $SD = 0.65$); High Class-High

Campus ($M = 3.22$; $SD = 0.55$).

Table 10

Descriptive Statistics for Academic Integration by Class and Campus Exposure

					95% CI	
Class Exposure	Campus Exposure	*n*	*M*	*SD*	Lower	Upper
Low	Low	82	3.82	0.52	3.70	3.94
Low	High	44	3.64	0.44	3.48	3.81
High	Low	80	3.24	0.65	3.12	3.36
High	High	52	3.22	0.55	3.07	3.71

A 2x2 factorial ANOVA was conducted in order to test the significance of the differences in academic integration scores based on the levels of the two independent variables (Campus exposure and Class exposure) and to test for any interaction effects between the levels of the independent variables. The results indicated there was not a significant interaction effect for the two independent variables of Class and Campus exposure: $F(1, 254) = 1.23$, $p = .27$; $\eta^2 = 0.01$. In addition, there were no significant main effects for the Campus category: $F(1, 254) = 1.88$, $p = .17$; $\eta^2 = 0.01$. There was, however, a significant main effect for the Class category: $F(1, 254) = 49.38$, $p < .001$; $\eta^2 = 0.16$. The mean difference between Low ($M = 3.76$, $SD = .49$) and High ($M = 3.23$, $SD = .61$) Class exposure was 0.53 on a scale of 1 to 5. The calculation of Cohen's d produced a large effect size ($d = 0.95$) indicating that the Low Class exposure group had a higher academic integration score compared to the High Class exposure group, with a magnitude of nearly one standard deviation unit. The factorial ANOVA results also

indicate that 16% of the variance in academic integration can be accounted for by the level of Class exposure. The results of the factorial ANOVA are provided in Table 11.

Table 11

2 x 2 Factorial Analysis of Variance Results for Academic Integration

Source	df	MS	F	p	η^2
Corrected Model	3	6.32	20.46	< .001	0.20
Intercept	1	2908.85	9421.26	< .001	0.97
Class	1	15.25	49.38	< .001	0.16
Campus	1	0.58	1.88	.171	0.01
Class x Campus	1	0.38	1.23	.268	0.01
Error	254	3.09			

Social Integration

Descriptive statistics for social integration based on Campus-Class Category are provided in Table 12. These results indicated that the Low Campus-Low Class exposure participants had a mean social integration score ($M = 3.74$, $SD = 0.60$) that was higher than all other classifications: Low Campus-High Class ($M = 3.59$; $SD = 0.57$); High Campus-Low Class ($M = 3.22$; SD = 0.64); High Campus-High Class ($M = 3.08$; $SD = $ .63). The Low Campus exposure social integration scores were also higher than either of the High Campus exposure categories.

Table 12

Descriptive Statistics for Social Integration by Class and Campus Exposure

Campus Exposure	Class Exposure	n	M	SD	95% CI Lower	Upper
Low	Low	82	3.74	0.60	3.70	3.94
Low	High	80	3.59	0.57	3.48	3.81
High	Low	44	3.22	0.64	3.12	3.36
High	High	52	3.08	0.63	3.07	3.71

A 2x2 factorial ANOVA was also conducted in order to test the significance of the differences in social integration scores based on the levels of the two independent variables (Campus exposure and Class exposure) and to test for any interaction effects between the levels of the independent variables. The results indicated there was not a significant interaction effect for the two independent variables of Class and Campus: $F(1, 254) < .001$, $p = .98$; $\eta^2 = 0.00$. Additionally, no significant main effects were found for Class category: $F(1, 254) = 3.61$, $p = .06$; $\eta^2 = 0.01$. There were, however, significant main effects for the Campus category: $F(1, 254) = 42.82$, $p < .001$; $\eta^2 = 0.14$. The mean difference between the Low ($M = 3.66$, $SD = .59$) and High Campus ($M = 3.14$, $SD = .63$) exposure was 0.52. The calculation of Cohen's d produced a large effect size ($d = 0.84$) indicating that there was a difference of approximately one standard deviation unit between Low and High Class exposure groups. The data for the Low Campus exposure group produced a higher social integration score compared to the High Campus exposure group. The results of the factorial ANOVA suggest that 14% of the variance in social

integration can be accounted for based on the level of Campus exposure. The results of the factorial ANOVA are provided in Table 13.

Table 13

2 x 2 Factorial Analysis of Variance Results for Social Integration

Source	df	MS	F	p	η²
Corrected Model	3	5.88	16.03	< .001	0.16
Intercept	1	2784.63	7597.01	< .001	0.97
Class	1	1.32	3.61	.059	0.01
Campus	1	15.70	42.82	< .001	0.14
Class x Campus	1	< 0.01	< 0.01	.980	< 0.01
Error	254	0.37			

Overview of the Relationship between Degree of Exposure and Academic and Social Integration

Analysis of the data for research question five on the relationship between the degree of academic and social exposure to Early College students and academic and social integration yielded significant and interesting results. The findings revealed that the level of class exposure had a significant effect on academic integration in that Low Class exposure participants had higher academic integration scores as compared to High Class exposure participants. The results also revealed that the Campus exposure category had a significant effect on social integration in that participants at Low Campus exposure

institutions had higher social integration scores as compared to High Campus exposure participants.

Chapter Summary

This chapter has presented the results and analyses of the data collected in the present study. The demographic data collected during the course of the study were presented in detail. The quantitative data collected from the survey instruments were also provided in detail for each research question. This chapter also included additional analysis of comments made by participants on the ECSB. The majority of community college students in the sample were exposed in some way to Early College students both academically and socially. In general, participants demonstrated average or typical levels of academic and social integration as consistent with the previous research using the IIS as a measure of integration (cf. Fox, 1984; Lyons, 2007; Robinson, 2003; Schutt, 1996).

In addition, there was a moderate positive relationship between academic exposure to Early College students and academic integration as well as between social exposure and social integration. Finally, the analyses for the fifth research question on the relationship between the degree of exposure to Early College students and academic and social integration also produced significant results. Significant differences existed for academic integration based on the level of classroom exposure. For social integration, significant differences were found based on the level of campus exposure.

CHAPTER FIVE: CONCLUSIONS AND RECOMMENDATIONS

The present chapter will discuss the study results presented in Chapter Four and will provide several conclusions and recommendations based on the findings. Overall, these conclusions will be framed by the five primary research questions regarding the relationship between exposure to Early College students and community college student academic and social integration. The five research questions are:

1. To what extent are community college students exposed to Early College students in academic and social campus environments?

2. What is the academic and social integration of college students enrolled at community colleges with embedded Early College High Schools?

3. What is the relationship between the academic exposure to Early College students in the classroom and community college students' academic integration?

4. What is the relationship between the social exposure to Early College students on campus and community college students' social integration?

5. Does the degree of exposure have an impact on community college student academic and social integration?

The statistical analyses presented in Chapter Four revealed interesting findings for each research question and significant results for research questions three, four, and five. This chapter will include information on the implications of these study results as well as provide recommendations for future research on the Early College program and the impact on the community college student. Most importantly, this final chapter will outline several key implications for practice which should be aimed at the improvement

of the Early College movement, its success on community college campus, and
community college student integration at Early College sites.

<div align="center">Discussion of Findings</div>

This section provides an overview of the findings including the data analyses,
interpretations, and results of the statistical tests. The overall purpose of this study was to
determine the relationship between exposure to Early College students and community
college student academic and social integration. To answer these research questions,
participants at each of the four campuses in the selected courses were asked to complete
two surveys, one on integration at the college and the other on perceptions of exposure to
and behavior of Early College students. Campuses ($N = 4$) were chosen based on the ratio
of Early College to college students and the colleges' willingness to participate in the
research. Based on the ratio of Early College to college students, campuses were
classified as either High (25% or more of the campus population was composed of Early
College students) or Low Exposure (5% or less were Early College students). Classes ($N
= 33$) were also chosen on exposure levels; High Exposure classes ($n = 19$) were those
that consisted of 30% to 62% Early College students in the class and Low Exposure ($n =
14$) classes were those that consisted of 4% to 15%. Participants were selected based on
the selected course and campus they were attending at the time of the study.

Campuses were visited after the midpoint of the semester (8th week) so as to allow
students adequate time to integrate into the course and experience Early College students
if they had not previously. The surveys were administered after the withdrawal date for
the semester (10th week) which excluded students who chose to withdraw from the class
during the Spring 2009 semester. It is possible the addition of students who chose to

withdraw from the course or were planning to withdraw, would have affected the results of the study as students who remain in a course until its conclusion are typically more integrated (Tinto, 1993). It might also have been valuable to determine if the reasons for withdrawal were in some way tied to the presence of Early College students in the class. Of the 268 survey packets dispersed, 258 participant responses on the IIS and ECSB were used for the research study based on those who were willing and able to participate (96% response rate).

The characteristics of the sample were slightly inconsistent with those of the national and North Carolina student populations. The gender composition was the same as the national community college student population. As compared with the North Carolina population, the sample overrepresented females and underrepresented males. In terms of ethnicity, Caucasians were overrepresented and minorities were underrepresented in the sample compared with North Carolina and national statistics. For age, adult students (25 +) were underrepresented and traditional-aged students (18-24) were overrepresented in the sample as compared with North Carolina community college statistics. As this study was based in part on the differences between adults and children as learners, this discrepancy may have affected the research findings. It is possible that an increased number of adult students in the sample would have produced stronger results regarding the impact of exposure to Early College student and academic and social integration of the sample. Finally, in terms of enrollment the percentage of students enrolled in predominantly day classes was consistent with that of North Carolina community college students. Those who enrolled in primarily evening classes, however, were underrepresented. This is likely due to the enrollment patterns of Early College

students which are mainly during the typical high school academic day (8 a.m. to 3 p.m.). Some later classes in the 4 p.m. to 5 p.m. range were surveyed but the majority of classes took place during the hours of 8 a.m. to 3 p.m.

Student Exposure to Early College Students

To determine community college student exposure to Early College students, data from the ECSB were used for both classroom and campus experiences. More specifically, participants' responses to the type of interactions experienced, prior enrollment with Early College students, the perceived number of Early College students reported in the class versus the actual number enrolled, and Classroom Behavior Ratings data were used. Social exposure was also measured using data derived from the ECSB, including campus interactions experiences, perceived number of Early College students interacted with on campus versus actual number of Early College students on campus, and Campus Behavior Ratings. Additional comments provided by participants were also analyzed and discussed regarding overall academic and social exposure.

Academic exposure. The results revealed that community college students were cognizant of the Early College students in their courses. It is important to note that a high percentage of respondents reported that they had enrolled in courses with Early College students prior to the semester at the time of the study. It is possible that previous exposure to Early College students might have affected the reporting, either positively or negatively, for the term in question. Allport (1954) indicated that a challenge in reducing prejudice in the majority group often occurs at the onset of group inter-relation. Over time and with repeated exposure, group prejudice was theorized to lessen and stabilize. As the majority of participants had been exposed to Early College students previously, it

is likely that the opinions expressed on the ECSB behavior rating scale reflected well established feelings regarding Early College students.

Overall the majority of participants reported some type of interaction with Early College students in their courses. Data analyses also revealed a strong, positive relationship between the perceived number of Early College students in the course and the actual number enrolled. The findings indicate that not only are community college students interacting with Early College students consistently in their classes, they are also clearly aware of the Early College students themselves. Perhaps more important, this indicates that college students were able to identify Early College students as different from other college students (Knowles, 1968).

In addition, participant responses to the ECSB Classroom Behavior Ratings revealed that on average, Early College student behavior was rated in the middle of the scale (range from 1 to 10) and considered neither "Very Negative" nor "Very Positive." Closer examination of the data revealed that in terms of frequency of response, participants rated Early College students lower on items relating to the academic nature of the course (class participation, class preparation, engagement in learning activities, participation in assigned group work, and respect for class topics and lectures). Participants tended to rate Early College students higher on items related to social-academic behavior such as respect for other students, respect for the instructor, respect for the class environment, and overall behavior. These results may indicate that the participants noticed more of a difference in the quality of Early College student academic preparation and participation in the class than in typical "behavioral" issues as compared with other college students. These results potentially reflect some concerns mentioned by

faculty (Berger et al., 2007) and administrators (Hall, 2008) regarding Early College

student preparedness for college-level work.

Human development and learning theories have presented the distinctions

between adults and children in the learning environment (Brookfield, 1999; Dewey,

1933; Freire, 1972; Knowles, 1980, 1984; Mezirow, 1981; Tough, 1979). It is possible

that differences in motivation and maturity were reflected in participant evaluations of

Early College student participation, preparation, and other academically-related

classroom behavior items. Perhaps the discrepancy between the approaches to the

learning environment (maturity, motivations for learning, life experience, etc.) was

clearer on the academic items more so than typical behavioral items. Even given the ratio

of traditional-aged to nontraditional college students in the sample, it is possible that the

Early College students in the class merely had not had enough life or classroom

experience to blend in with the traditional and nontraditional students.

There was variability within the data but in general there were average to

favorable ratings for the Classroom Behavior Ratings. Overall, it is apparent the

participants were clearly aware of the presence of Early College students in their classes

and the majority of participants interacted with Early College students in at least some

academic capacity. It was also evident from the data that participants typically reported

classroom behaviors in the neutral or average range (not very positive or very negative).

Social exposure. The majority of participants reported interacting with Early

College students on campus and the most commonly cited interactions were those in the

commons area, library, or computer labs on campus. These results indicate that Early

College students were encountered less in more structured social environments (i.e.

campus events and club or organizational membership) as compared to unstructured social environments which were generally more academic in nature.

Similar to the results found for the Classroom Behavior Ratings, the rating levels for all items on the Campus Behavior Ratings scale fell generally in the mid-range on the scale (1 to 10), neither very positive nor very negative. Evaluation of the mean scores for each item revealed that Early College student behavior was rated highest for appropriate use of the library, respect for campus property, and interpersonal communication. The lowest rated items were what was heard about Early College student behavior on campus and respect for other students. There was also a small but visible difference in what was heard about Early College students' behavior on campus and what was actually experienced by the participant. This finding indicates that in general participants' experiences with Early College student behavior on campus were not as negative as what they heard about Early College students' behavior on campus.

Based on Allport's (1954) intergroup contact theory, Chavous (2005) found previous and repeated exposure to ethnic minority groups had an impact on the majority group perception of intergroup relations. Chavous indicated increased exposure to minority students positively influenced the acceptance of the majority in intergroup relations with minority groups and led to less overall disconnection based on race. While this was not a significant finding for this research, it is possible that while some at the community college may vocalize issues with the Early College students, actually experiencing and being exposed to such students reduced the prejudice regarding the Early College student population and their behavior. Additionally, the majority of participants also reported that they had taken classes with Early College students prior to

the semester in which the study took place. Allport (1954) indicated one of the most tentative times in intergroup contact facilitation is the initiation of the inter-relation. Repeated controlled exposure, therefore, should produce more constant results in inter-group perceptions. Thus the repeated controlled classroom exposure might reflect more stabilized opinions of Early College student behavior and might have a bearing on the perceptions of social exposure. Overall, the evaluation of social exposure to Early College students indicated that the participants were aware of the students on campus and that the majority experienced at least one social interaction with Early College students at the time of the study. The interactions were also generally academic in nature. It was also evident that participants typically reported campus behaviors in the neutral or average range (not very positive or very negative).

Comments. The qualitative comment data derived from the ECSB also had implications for overall academic and social exposure. Provided comments were likely disproportionately from those who had generally negative dispositions toward Early College students as reflected in the comment tone analysis. This has implications for the findings of the analysis because it is possible that those who had more extreme opinions were more apt to provide comments. It is important to note that the respondents who provided comments accounted for slightly more than a quarter of the total sample. Therefore the results of the comment analysis cannot be applied indiscriminantly to the entire sample.

However, an evaluation of the data revealed the majority of the comments provided had a negative tone and they generally referred to the immaturity of Early College students, that adults were different from Early College students (i.e. motivation,

goals, etc.), and general behavioral issues. These results are supportive of the conceptual

framework of the current study including adult learning theory which suggested that

adults approach the learning environment differently, and the differences exist primarily

in maturity and motivation (Brookfield, 1999; Knowles, 1980, 1984). Mixed toned

comments (those that had both negative and positive tones) also cited immaturity and

behavioral issues predominantly. The mixed tone group did include positive feelings as

compared to the negative tone group. These comments included that they enjoyed the

Early College students, and that some of them were motivated and/or serious.

While the results of the comment analysis cannot be applied comprehensively to

the sample, those who provided comments generally expressed that Early College

students were less mature and different from other college students. However, a small

number of participants reported that a few Early College students exhibited more

maturity and motivation as compared to Early College students in general. Overall these

results for a small portion of the sample support the ideas of Knowles and other adult

learning theories which stipulate that there is a difference between adults and children in

the learning environment and that often those differences center around maturity and

motivation.

Academic and Social Integration

The data collected from the IIS were used to determine academic and social

integration. Overall compared with previous research using the IIS, the participants

exhibited moderate or typical integration levels for both academic and social integration.

The academic integration subscales of the IIS were Faculty Concern for Student

Development and Teaching and Academic and Intellectual Development.

The Faculty Concern for Student Development and Teaching subscale was composed of five items regarding participants' experiences with college faculty. Item topics included visible faculty interest in students and their academic and personal growth, as well as faculty interest in and success with teaching. For the most part the responses on the Faculty Concern for Student Development and Teaching subscale were fairly well dispersed. The results also indicated that participants were generally satisfied with their relationships with instructors at their college.

The Academic and Intellectual Development subscale was composed of seven items centered on overall academic experience and growth at the college. In general the participant responses were well dispersed on each item. For the several items on satisfaction with intellectual development, growth, overall academic experience, increased interests, and overall academic performance, the distributions of responses were noticeable negatively skewed. This suggested more participants noted that they strongly agreed or agreed with these statements than were neutral in feeling, disagreed, or strongly disagreed with the statements. Overall, the results of the academic integration subscales analyses demonstrated participants were fairly well integrated academically at their institutions.

The subscales used to determine participant social integration levels were Peer-Group Interactions and Interactions with Faculty. The Peer-Group Interactions subscale was composed of seven items related to participant interactions with other students. The results of the subscale analyses revealed responses that were generally well dispersed with a few exceptions. According to the findings, on average the participants were generally socially integrated with regard to their relationships and experiences with other

students. However, the data did not reveal a general level of satisfaction for every item. There appeared to be a lower level of satisfaction on some of the items on the Peer-Group Interactions subscale of the social integration construct as compared with the academic integration subscales and Interactions with Faculty.

Astin (1999) noted the singular importance of the peer group on the academic and social development of college students, which is related to student satisfaction and persistence. In his research, he specifically found that peer group interactions had an impact on learning, academic performance and development, and overall satisfaction with the institution including faculty relationships. The results of the subscale analyses, which indicated lower levels of satisfaction on some of the Peer-Group Interactions items, could be connected to the rating of academic integration variables (i.e. Astin's discussion of the impact of peer group interactions on academic performance and development) and Interactions with Faculty.

The Interactions with Faculty subscale was the final component of the social integration construct and consisted of five questions regarding student interactions with faculty members in non-classroom settings. The item responses to the subscale were well dispersed across response options with a few exceptions. The findings suggest that participants generally felt satisfied with their non-classroom or informal interactions with faculty. The range of mean scores was reflective of a higher level of satisfaction overall with faculty interactions than with peer-to-peer interactions when comparing the results of the subscales within social integration. Comparing the data derived from the IIS subscales for social integration, it was determined that students were more socially integrated with faculty than with peers.

The Relationship between Academic Exposure and Academic Integration

Data derived from the ECSB and IIS academic integration scores were utilized to answer the question regarding the relationship between academic exposure to Early College students and academic integration levels of community college students. As outlined in Chapters Three and Four, academic exposure was defined by the quantity and quality of interactions reported by the participants. The number of the types of classroom interactions indicated by the participants were tallied to create a total classroom interactions variable. It is notable that the quantity was reflective of the number of types of interactions listed by the participants and not the frequency of the interactions. There was not a significant relationship between the number of reported types of interactions and academic integration. An evaluation of academic integration scores by the interaction type indicated scores for participants who listed classroom interactions were highest for those who listed "Class Discussions" as an interaction and lowest for those who listed "Studying Together" as an interaction.

The Early College Student Classroom Behavior Ratings for each participant were compared to the academic integration scores for each participant and the results indicated a moderate, positive relationship between the two variables. These results indicate that participants who had the most positive opinions of Early College student Classroom Behavior generally had the highest academic integration scores. Conversely, those who had the least positive opinions of Classroom Behavior had the lowest academic integration scores in general. It is possible that the relationship was more a reflection of how academic integration scores affect behavior ratings. For example, the results of the analysis could indicate that those students who were more academically integrated at the

college rated Early College student behavior higher than those with lower academic integration scores. However, a discrepancy in the connection between comment tone (a part of the exposure variable) and the relationship between academic exposure and integration was found. The majority of comments provided on the ECSB were either mixed or negative in tone but there was a positive relationship between academic integration and academic exposure. It is important to note again that comments were provided by a small portion of the sample population and are not necessarily applicable to the sample as a whole.

Overall, it can be inferred that the relationship between the quality of exposure and academic integration was stronger than for the quantity of exposure. These results are reflective of the theories of Tinto (1975, 1993) and Astin (1999) as positive interactions and experiences tend to enhance a student's integration, while negative interactions and experiences diminish integration. Related directly to the importance of classroom experiences, Strauss and Volkwein (2004) found classroom experiences were the strongest predictors of student commitment and potential persistence. In addition, classroom experiences were a stronger predictor of commitment and potential persistence with participants at two-year versus four-year institutions. Thus classroom experiences including interactions with other students in the classroom are closely tied with academic integration and institutional commitment for community college students. As the majority of Early Colleges reside on community college campuses both in North Carolina (New Schools Project, 2007) and nationwide (Early College High School Initiative, n.d.) these results have implications for current and future Early College high schools.

In addition, as faculty are an important factor in student perceptions of the academic environment (Astin, 1999; Tinto, 1993), the perceptions of faculty regarding student preparation and participation in the classroom may have impacted the classroom behavior ratings. Previous research on faculty opinions of the differences between adults and children as learners indicated that faculty often viewed the two student populations differently and according reported teaching them with different approaches (Beder & Darkenwald, 1982; Darkenwald, 1982; Kember et al., 2001). It is possible that if these perceptions existed for the faculty teaching in the courses selected for the present study, this may have affected the way in which Early College students were perceived academically by college students. It is clear that the quality of academic exposure to Early College students did have an impact on community college student academic integration for the sample.

When considering the potential impact of these findings it is important to remember that academic integration has been tied to retention. Thus the more academically connected the student feels to a campus the more likely he or she is to persist. As this study did not specifically investigate the retention of the participants beyond the end of the term, it cannot be inferred that the participants in this research would or would not be retained to the next academic year. However, one comment was made on the ECSB which directly stated that Early College students were the impetus for a planned withdrawal from the institution. The student stated simply, "they are the reason I'm leaving." This participant also had a low academic integration score and reported that he would not enroll in future classes with Early College students. It is possible this participant rated Early College students lower on classroom behavior and felt negatively

about their presence at his college because he was not academically integrated. It is also possible that the presence of Early College students decreased his sense of belongingness in the academic environment which led to lower academic integration, behavior ratings, and the statement on the ECSB. It is also important to note that no additional data related to student retention was collected such as academic performance, socio-economic status, and psychosocial factors such as maturity. It is possible that these factors may also have affected academic integration and ratings for Early College student behavior for this student as well as the remainder of the sample. However, given the importance of academic integration for retention and satisfaction (Astin, 1999; Tinto, 1993) and the potential impact of one group on another as cited by Allport (1954), it is important to consider how academically-related interactions (either positive or negative) with Early College students affect academic integration and intent to persist. While it cannot be determined conclusively from the results of this study whether academic integration effected classroom behavior ratings or ratings effected academic integration, it is clear further research on the topic is important and warranted.

The Relationship between Social Exposure and Social Integration

To answer the question regarding the relationship between social exposure to Early College students and social integration levels of community college students, data derived from the ECSB and IIS social integration subscales were utilized. As outlined in Chapters Three and Four, social exposure was defined by the quantity and quality of campus interactions reported by the participants. The quantity of exposure was established based on the number of the types of campus interactions indicated by the participants. The cited interactions were tallied to create a total classroom interactions

variable which was compared to social integration scores to determine if a relationship existed between the two. The results were not statistically significant. When evaluating the social integration scores based on the interaction type, it was found the highest social integration scores were for those who listed "club or organizational membership" as an interaction and the lowest for those who listed "other." In fact, the highest social integration scores in general were reported for those involved in more institutionally-structured activities such as club or organizational membership, cultural activities, and campus social events sponsored by a club or organization. Higher rates of the types of interactions reported were more informal or incidental interactions such as in common areas, computer labs, the library, and the cafeteria. Lower social integration scores, however, were found for those who indicated such interactions with Early College students as compared to participants who cited more structured interactions.

Some researchers have speculated that community college students in general are not typically involved in structured social activities such as clubs or organizations as compared with four-year students (Hagedorn, Maxwell, Rodriguez, Hocevar, & Fillpot, 2000; Maxwell, 2000; Miller, Pope, & Steinmann, 2005). They are instead more likely to encounter peers in academically-related functions such as study groups or in informal contacts such as in campus common areas. This may be a reason for the findings of the current study regarding social interactions on campus. The findings suggested that the most predominant social interactions were reflective of less structured encounters, which were in general more academic in nature.

Halpin (1990) indicated that the community college population, which is primarily composed of commuters, differs from the typical four-year student body. The

four-year student population is typically more involved in structured social activities such as organizations and fraternities/sororities. Instead, Halpin stated that community college students are more likely to be socially integrated through academic and informal activities such as meeting in common areas. The findings of the current study support Halpin's research in the manner in which college students interacted with Early College students. A higher number of participants indicated interacting with Early College students in either academic arenas (e.g. computer labs, the library, etc.) and/or informal areas (e.g. hallways, common areas, etc.).

The results of the present study also indicate that those students involved in more structured activities were more socially integrated. These results are consistent with the findings of Schmid and Abell (2003) who determined that students involved in institutionally-structured activities such as clubs and organizations or cultural events, were more likely to persist than students who did not. It is clear that community college students who are not involved in such activities can still be socially integrated at an institution. However, it can be assumed based on the literature and theories on student integration and retention, that the more socially involved a student is on campus, the higher his or her social integration will be. Students who are involved in more structured activities might generally be considered to be more involved on campus. These findings are consistent with the literature that students who are more socially connected to a campus (Tinto, 1975) and involved (Astin, 1999) are more likely to be integrated and retained. It is possible that the number of interactions reported for each type of interaction is reflective of the participant's involvement on campus and therefore social integration. It is possible that Early College or community college students who were involved in

more structured activities such as club membership may in some way differ from those who did not participate in structured activities. Such Early College students may be more socially integrated into the community and therefore the social integration scores of college student participants would not be negatively but rather potentially positively impacted by interacting with Early College students in such settings.

Schmid and Abell (2003) determined that social involvement on campus was closely tied to social integration and persistence. As Astin (1993) indicated, social relationships with other like-minded and committed students are strongly linked to student satisfaction and persistence. It follows that college students more involved with like-minded peers (i.e., those involved in similar pursuits such as club membership and cultural activities) would be more socially integrated. As reflected in the correlational analysis results, it is apparent the number of listed interactions had little impact on social integration while the descriptive statistics indicated the type of interaction could have had an impact on social integration. These results are consistent with the theories of Tinto (1975, 1993), and Astin (1999), regarding social connectivity to a campus and the impact on social integration as well as available supporting research (Schmid & Abell, 2003). As cited by student retention theorists and researchers, student involvement is directly linked to student satisfaction and retention. Students who were involved in more structured activities such as clubs or cultural activities may have been generally more involved than those who did not participate in such activities. However, data were not collected on participants' overall involvement on campus and therefore inferences cannot be made regarding involvement and social integration or behavior ratings.

The Campus Behavior Ratings were used in conjunction with social integration scores to determine if a relationship existed between the two variables. The results indicated there was a moderate, positive relationship between Campus Behavior Rating and social integration. These findings are consistent with the theories and research of Tinto (1975, 1993) and Astin (1993, 1999) as positive interactions and experiences tend to enhance a student's integration, while negative interactions and experiences diminish integration. In addition, Astin (1993) determined that social integration in particular had an impact on many factors associated with overall student satisfaction such as academic success and development. Sorey and Duggan (2008) also found that social integration, including experiences with peers, was one of the strongest predictors of community college student persistence. Napoli and Wortman (1998) also suggested that social interactions can have a significant impact on integration and persistence. The researchers found negative interactions including those within the "social, academic, and administrative systems of the college, inhibited social integration, and ultimately persistence" (p. 445). In addition, Napoli and Wortman found that negative experiences outside of the school environment were not associated with integration and persistence. Therefore the quality of social interactions on campus effect social integration, which has been demonstrated as a key element of persistence. This is pertinent to the present study because a relationship was found between the quality of social exposure and social integration. The present study was concerned with the impact of exposure (quantity and quality) on integration. The findings suggest that the quality of social exposure to Early College students did have an effect on social integration in the sample.

When contemplating these analyses it is important to consider them within the framework of social integration and retention. Thus social connectivity to a campus (with peers and/or faculty) affects student persistence. Conclusions regarding persistence and retention cannot be made based on the results of this study because retention was not a variable investigated in the research. In addition, there was a discrepancy in the connection between comment tone and the relationship between social exposure and social integration. While there was a positive relationship between social exposure and integration, the majority of comments provided on the ECSB were either mixed or negative in tone. It is important to note that comments were not made on the majority of participant responses to the ECSB and thus comments made were not necessarily representative of the entire sample.

As also mentioned in the section regarding academic integration and academic exposure, a comment was made on the ECSB which had direct implications for retention. The participant stated of Early College students, "they are the reason I am leaving." It was not clear from the statement whether the participant attributed leaving to academic or social reasons though both the academic and social integration scores were low for this participant. In addition, the participant responded "no" to the question "Do Early College students behave similarly to other college students on campus?" His ratings of Early College student behavior also produced a low Campus Behavior Rating score on the ECSB. Research has suggested that integration is closely tied to retention and satisfaction (Astin, 1999; Napoli & Wortman, 1998; Sorey & Duggan, 2008; Tinto, 1993). In addition, Allport (1954) cited the potential impact of one group on another. Chavous (2005) also found that social intergroup interactions have an impact on sense of

belonging and integration. Taking into account theories and research, therefore, it is important to consider how social integration is tied to interactions with Early College students and how this might impact a student's intent to persist.

The Relationship between the Degree of Exposure and Integration

In order to answer the final research question, the Campus (Low or High) and Class exposure categories (Low or High) designated in Chapters Three and Four, were used in comparison with academic and social integration scores for each participant. Descriptive statistics were calculated for academic and social integration based on exposure categories. A discussion of the results is presented in the following section.

For academic integration, a comparison of participant scores by Campus and Class exposure categories indicated that those who were enrolled in Low exposure classes had higher integration scores as compared with those in High exposure classes. A factorial ANOVA was also utilized to determine if there was a significant difference in academic integration based on Campus and Class exposure categories. These results indicated that there was a significant difference in academic integration based on Class exposure but not for Campus exposure. In addition, the results indicated that there was not a significant interaction between Campus and Class exposure categories for academic integration. These results are not consistent with some of the literature on student integration which indicates that academic and social elements of the college are inexorably linked (Mannan, 2007; Pascarella & Terenzini, 1980; Tinto, 1975). It is important to note that Tinto (1975) also suggested that while they are linked and inter-related, a student does not have to be equally integrated into both the academic and social elements of an institution to be retained. The results, which demonstrated that the Class

exposure category solely had an impact on academic integration in the sample, are consistent with some student retention research (Fox, 1986; Graham & Donaldon, 199; Halpin, 1990; Hu & Khu, 2002; Maxwell, 1992). These studies suggested that academic integration is a more powerful predictor of student persistence compared to social integration.

Based on the data, it can be determined that academic integration levels were lower for those in courses with a large proportion of enrolled Early College students. Conversely, academic integration scores were higher for those in courses with a small proportion of Early College students. These results have potentially significant implications for the success of the Early College program. Research in the field of student retention and satisfaction has indicated that classes that are "more homogeneous, and thus socially more integrated, … [lose] fewer students than less social integrated [classes]" (Ashar & Skenes, 1993, p. 96). If a course is predominantly composed of students who are much younger, less mature, and have different goals or motivations as compared to their adult counterparts, the academic integration of the situational minority student (i.e., adults who are typically the majority group become the minority group in a particular situation) will likely be impacted (Allport, 1954; Chavous, 2005). As a result, these students, chiefly because they cannot relate to their younger peers, could be less academically integrated. It is important to note that the characteristics of the sample indicated that for this group, adults as compared to traditional-aged students were underrepresented, but they did constitute close to half of the sample. However, some comments made on the ECSB supported the concept that college students find it difficult to relate to their younger peers, such as:

… the only thing that bugs me about high school kids being in college classes with me or on campus is their immaturity. Bunches of them need to grow up big time. This is NOT high school and no one should act like it is. So if the behaviors of the students matured, I would be more welcoming than I am. My class time is precious to me and I would rather spend that time learning than babysitting.

This participant also had academic integration scores in the average or typical range and he was enrolled in a Low Exposure class.

It is also possible that faculty perceptions of the differences between adult and child learners reflected in the above statement impact the manner in which they address their classroom and could potentially affect the academic integration of college students. For instance, Beder and Darkenwald (1982) indicated that if faculty reported a difference in learning styles between adults and children, they reported a difference in teaching styles. Other researchers (Ausburn, 2002; Darkenwald, 1982; Kember et al., 2001) have also found that instructors treat and teach adults and children differently in the learning environment because they sense differences between the two types of students.

The implications these studies have for the present findings are that if faculty are teaching classes in which Early College students are the predominant group, they may spend more time dealing with child learner-focused techniques and issues. This in turn would potentially limit the focus on instructional techniques and issues relevant to traditional-aged and adult college students. This could accordingly impact the academic integration of college students. Thus teaching practices based on classroom exposure could have more of an impact on the academic integration of college students than just

the mere presence of Early College students. In fact, a comment was made on the ECSB regarding this issue. The participant stated,

> the standards which Adult college students are held have become seemingly lower due to the presence of Adolescents. Though it has been encouraged to avoid this by the school, there is a prevalent social aspect that things must be "dumbed down" or "candy coated" for the students …

This participant was enrolled in a High Campus and High Class exposure group but his academic integration score was in the 3.00 range (on a 1.00 to 5.00 scale). Therefore while his academic integration was not necessarily effected, his opinion of the quality of academics at his institution was in question. Maxwell (1992) and Hu and Khu (2002) suggested that student perception of the academic quality of an institution is a primary factor in matriculation and persistence. It is possible that if student opinions regarding the scholarliness of an institution are degraded as a result of the younger students in the class, they might not be retained further. It is clear that this particular comment also addressed not only the issue of differences in teaching practices (Beder & Darkenwald, 1982; Darkenwald, 1982; Kember et al., 2001) but also the differences between adult and child learners noted by theorists such as Knowles (1968). The differences between adult and child learners also have implications for other aspects of the learning environment and integration such as social interactions.

The comparison of social integration scores indicated that those who were enrolled at Low exposure campuses had higher integration scores as compared with those at High exposure campuses. A factorial ANOVA was utilized to determine if there was a significant difference in social integration based on Campus and Class exposure

categories. These results indicated that there was a significant difference in social integration based on the Campus exposure category but not on the Class exposure category. In addition, there was not a significant interaction between Campus and Class categories on social integration. The Campus exposure category alone had an impact on social integration in this sample.

With the data available from this research, it can be determined that social integration was lower for participants at campuses where the student population was composed of a large proportion of Early College students. Conversely, social integration scores were higher for those at campuses where the student population was composed of a small proportion of Early College students. In addition, some comments were provided on the ECSB for participants on High exposure campuses which have implications for social integration, such as:

> … It is also difficult being social when you're 20 and the students in your class are as young as 14. If I had a 14 yr old I don't think I would feel comfortable with him/her sitting by a 20 year old because of peer pressure. I think the early college program is a great thing; however, I think if the younger ones had their own building or own classrooms it would be a better learning experience all around.

This participant also had a low reported social integration score and was enrolled at a High exposure campus. It is important to note again that few comments were provided on the ECSB; therefore the statements are not necessarily reflective of the entire sample. This finding, however, appears to potentially support both the positions of adult learning theory (Knowles, 1984; Merriam & Caffarella, 1999) and student integration theories (Astin, 1999; Tinto, 1975, 1993). The more connected a student feels to his or her peers

in the social environment and the more he or she feels the social environment is consistent with his or her values and goals, the more social integrated he or she will be.

<center>Strengths of the Study</center>

Since high school reform and accelerated learning have increasingly gained popularity in education, it has become more important to conduct studies designed to examine and improve such programs. In addition, as the Early College movement is increasing in size and popularity, it is vital that research be conducted to learn more about the program overall. However, very little research is available on the Early College and much of what is available is focused largely on high school performance measures. This study is unique in the Early College literature because it investigated the impact of the program on community college students, a group not previously investigated on the topic of the Early College despite being a primary stakeholder in the program.

With regard to the design of the study, one strength was the inclusion of four campuses as research sites. The campuses were paired in student body size and percentage of Early College students enrolled as compared to the remainder of the student body. Because the campuses were similar in terms of total student body size, degree programs offered, and their rural location, the results of this research could provide additional information about the impact of Early Colleges at similar institutions. In addition, because the sites were located in both western and central regions of the state, the results are potentially generalizable to other Early Colleges in both regions of the state due to similarities in campuses, curricula, and student body characteristics.

Another strength of the study was the high response rate of 96%. The study was intentionally designed to have an administrator present at the time of dispersal of the

survey packets so as to increase the response rate (de Leeuw, Hox, & Dillman, 2008). A high response rate allows for more generalizabilty of the research findings from the research sample to the target population (Creswell, 2005). The high response rate increases the potential accuracy of the data by decreasing the risk that the responses provided from the participants are not actually reflective of the population as a whole.

One final strength of the present study was the use of a well-tested and frequently utilized measure of student integration that was specifically designed to test student departure theory (Tinto, 1975), a central element of the conceptual framework for the present study. The IIS designed by Pascarella and Terenzini in 1980 has been extensively used in the available research on student integration at the collegiate level (cf. Beard, 1998; Fox, 1984; French & Oakes, 2004; Howell, 1999; Lavine, 1992; Schutt, 1996). In addition the scales have been used and reliability has been tested specifically on the community college student population (Allison, 1999; Bers & Smith, 1991; Ferrer, 1997; Halpin, 1990; Wilmer, 2007).

<p style="text-align:center">Limitations of the Study</p>

The limitations of the present study included the timing of the data collection. Because the surveys were administered after the 10th week of a 16 week semester, it is possible that the results were affected because students who chose to withdraw from the course were not included in the sample. This limits the sample to students who were integrated enough to maintain enrollment at the college and in the specific surveyed course. Those students who withdrew from the class could have had different integration levels that were impacted by multiple factors potentially including interactions with Early College students. Because they were not included in the research sample, conclusions

cannot be derived on the effect of the Early College student population on their

integration levels. Thus sampling bias (Creswell, 2005) might have created an issue for

the research findings, not because participants self-selected out of the research but

because the timing of the implementation was such that it excluded certain individuals

from participation.

Another limitation of the present study with regard to timing was with the actual

time in the class period in which the survey was administered. The surveys were

administered at the beginning or end of the class depending on the specific requests of the

faculty member for the course. While French and Oakes (2004) indicated the IIS was

particularly suited to use with college students because it is easily administered and in

general takes a short amount of time to complete, the students were also asked to

complete another short survey, the ECSB. The combination of the two took

approximately 15 to 20 minutes to complete with the addition of the informed consent

form. It is possible some participants rushed through the surveys in order to depart in a

timely manner for another course, or for a multitude of other reasons. This may have

resulted in some cases in a lack of accuracy in response to the surveys.

One final limitation of the study were the inconsistencies in the representativeness

of the sample. The characteristics of the sample were mixed in representativeness of the

national and North Carolina community college populations. Gender statistics were the

same for the sample and the national population but not for the North Carolina

population. Ethnicity and age were areas where the sample differed from both the

national and North Carolina community college population characteristics. Finally, the

time at which the sample enrolled in classes (day, evening, and both day and evening)

were both similar and dissimilar with North Carolina community college results. These inconsistent results in representativeness of the sample could present a possible limitation for the generalizabitilty of the findings. Efforts were taken however to improve generalizability despite the inconsistencies in representativeness. A sample was drawn from a variety of Early College models and learning environments. Courses were also chosen based on the enrollment of Early College students and not on the basis of the curriculum covered, therefore the sample was drawn from a wide range of curricula. The study was also designed so that the surveys would be administered in person thus increasing the potential response rate, and a 96% response rate was attained. In addition, 95% confidence intervals were determined for the sample to estimate population values. These factors increase the generalizability of the findings despite the incongruence of some aspects of the sample compared to the population.

<div align="center">Delimitations of the Study</div>

A delimitation for the present study was that it only included North Carolina Early College High Schools which enrolled Early College students in college classes with community college students. North Carolina Early College high schools that maintained segregated classes for Early College students were excluded from the research. However, this delimitation was important to ascertain an accurate reflection of the perceptions college students had of Early College students in the classroom as well as the campus environment. In addition, in North Carolina, Early Colleges have only been in existence since 2002; therefore, the relative maturity of the programs could be considered a delimitation of the research. North Carolina Early Colleges were chosen as a focus of the proposed study, however, because at the time of the study they accounted for almost half

of the nation's Early Colleges (Early College High School Initiative, n.d.; New Schools Project, 2007, 2009; North Carolina Learn and Earn, 2009) and thus would increase the possibility of the generalizability of the findings. An additional excluded variable for the study was the nature of the course design in the chosen classes. Classes were chosen on the basis of the proportion of enrolled Early College students alone. The surveyed classes were chosen from a variety of subject areas which potentially increases the generalizability of the findings across curricula. However, the nature of the course design could affect the manner in which Early College students are received or perceived in the class but was not an included variable for the current study.

A further delimitation was the exclusion of Early Colleges located on campuses other than community colleges. Though two Early College high schools were affiliated with universities at the time of the study, only those at community colleges were asked to participate in the research. The justification for only choosing community college participants was the typically higher proportion of adult students enrolled at community colleges. In addition, the majority of Early Colleges in North Carolina were located on community college campuses at the time of the study. Surveying community colleges allowed for access to more potential respondents. Finally, universities were not included in the research project because of the differences in mission, purpose, and student populations between the two types of higher education institutions.

Another delimitation of the study was present in the data collection and potential inferences regarding retention. Tinto (1975) indicated several factors influence student retention including academic and social integration. Some additional factors which were not included in the data collection were: pre-college characteristics (i.e. socio-economic

status, pre-college academic performance, family education background, etc.), academic

performance, and potential barriers to higher education (i.e. work-related conflicts,

personal issues, etc.). It is possible that these factors affected the academic and social

integration of participants but they were not examined or controlled.

Finally, additional delimitations of the study resided in the design of the research.

One delimitation was the lack of conclusion on how integration of the participants related

to retention or persistence at the institution. Because the data were not collected, a

relationship between integration and retention could not be established and thus the

impact of the Early College student population on future consequences for the sample

were not determined. The present study did not include retention as a variable of interest.

In addition, one final limitation was the lack of ability to draw cause and effect

relationships between the variables. Because the design of the research was not

experimental, it could not be determined if the proportions of Early College students in

class or on campus, or interactions (positive or negative) had a direct impact on academic

and/or social integration.

<div align="center">Implications for Future Research</div>

Research on the Early College, as cited previously, is limited and generally

focused on high school implementation and performance. The present study lends support

for further research on the Early College in several areas. These areas include but are not

limited to: (a) replication of the study, (b) expansion of surveyed populations, (c)

inclusion of community college faculty perspective on Early College students, and (d)

perspectives from the Early College student in regard to academic and social integration

at the college.

First, because this research resulted in significant findings in the relationship between academic and social integration and exposure to Early College students on several levels, future research might replicate the study to further confirm the findings. Replication could be conducted both at community colleges and at institutional types not included in the present study, such as universities and perhaps virtual Early College high schools where students are enrolled in mixed distance education courses. As distance education and interest in online learning are increasing in popularity in higher education, this particular aspect of integration could be potentially important for the success of the Early College Virtual High Schools. In addition, future replications might include further evaluation of the nature of the interaction between exposure and integration. For example, exposure variables such as the frequency of interactions with Early College students in addition to the type of interactions experienced would provide more information on how the quantity of interactions affects integration. This information is essential in creating a better understanding of how the community college student population is effected by the Early College program. In addition to replication, future researchers might include surveying different populations on the effects of the Early College program.

The present study limited the participants to community college students who were enrolled in mixed classes with Early College students. Future researchers might consider the impact of the Early College program on all students enrolled at the institution, and not just those who are directly exposed in a classroom setting. As Tinto (1993) indicated that academic and social integration are not mutually exclusive and that one can affect the other. Despite the findings of the current study which do not support

this postulation, it could be possible that social exposure to Early College students could have an impact on academic integration.

Faculty members have direct influence on student populations academically and socially, and therefore the faculty perspective on how Early College students impact the classroom and/or campus could be a topic of interest for future research. As previous research has indicated (Hall, 2008), one concern of the Early College administration is the "buy in" of faculty and the resulting impact on the success of Early College students in college classes. The perspective of faculty on the Early College program could influence how they approach a classroom (design and instruction) with Early College students enrolled, and therefore this information could be helpful in the future success of the program. Also, it is possible that how college faculty feel about Early College students and the program could affect community college student opinions of Early College students. This information would also be helpful for improvement of the program from the college perspective.

In addition, the community college should consider training faculty on teaching younger populations and future researchers may investigate whether that training appears to have an impact on academic and social integration of community college students. While many institutions are likely to provide professional development to all faculty on teaching diverse student populations, focusing on age-related teaching practices for those faculty specifically designated to teach mixed classes could be helpful in reducing tensions within the classroom with regard to the lowering of academic standards, discipline, and other issues. Including Early College high school faculty in discussions on teaching different student populations could also facilitate communication between the

Early College and the college as well as facilitate practitioner development. This would be helpful on multiple levels including faculty "buy in" and improvement of teaching practices for diverse student populations.

Finally, Allport (1954) supposed that the controlled exposure to minority students could reduce prejudice in the majority group. Research has been conducted that has supported his supposition (Knapp & Stubblefield, 2000; Schoem & Hurtado, 2001). Knapp and Stubblefield (2000) found that controlled exposure of elderly student to traditional-aged college students reduced their prejudices of the elderly population. The results of the present study indicate that exposure to Early College students does have an impact on college student academic and social integration. If college student academic and social integration is affected, it stands to reason that Early College student academic and social integration may be affected by exposure to community college students. For example, Chavous (2005) found intergroup interaction positively impacted social integration and sense of belonging for both minority and majority students. Future researchers could investigate this aspect of student integration to better understand how both populations are integrating. Information about how to integrate both student populations better could only increase the effectiveness and ultimate success of the program for both current and emerging Early College High Schools.

<div align="center">Implications for Practice</div>

The exploratory nature of this study and the significant findings for several research questions provide implications for practice in improving the Early College program. The areas for suggestion of improvement that are supported by study data include: (a) decreasing the ratio of Early College students to college students in the

classroom, (b) balancing the student populations on campus, (c) implementation of the use of maturity and motivational measures to prepare Early College students for college-readiness, (d) expanding the timeline for enrollment of Early College students in college classes, (e) creating a separate space or facility for Early College students to reside primarily during the academic day, and (f) incorporating practices to facilitate community college student "buy in."

First, the results of the present research indicated that the proportion of Early College students in the classroom had a significant impact on community college student academic integration. The results specifically demonstrated that community college students enrolled in Low exposure classes had higher scores on average as compared to those in High exposure classes. Intellectual connectivity to peers is central to college student satisfaction and academic integration. Therefore, it can be inferred from the study results that the community college students enrolled in classes with predominantly college students felt more academically integrated and connected to the college because of the more homogenous nature of the class. Conversely, those who were in classes where the proportion of Early College students was much higher showed integration scores that reflected lower levels of academic integration and thus connectivity to the college.

These results have implications for the future success of the program because adult and traditional-aged students currently constitute a majority of the community college student population. They are the primary stakeholders and designated focus of policies and practices for improvement at community colleges. Thus their integration and ultimately their satisfaction with their academic experience at the college is of primary

concern to college administrators, faculty, and staff. One solution to this problem can be found in the study results indicating that lower proportions of Early College students in mixed classes results in little to no negative impact on academic integration of college students. Therefore if the proportion of Early College students in mixed classes can be limited, this could have an effect on how they are received by college students and lead to the improvement of both the program and the academic satisfaction of all students (Allport, 1954).

Reducing the proportion of Early College students in mixed classes can be a challenge given a variety of institutional issues. Despite the desire to create custom academic experiences for Early College students (Early College High School Initiative, n.d.; New Schools Project, 2007), the numbers of high school faculty are limited in smaller schools and the times when they can teach are also limited. Similarly, the numbers of community college faculty are limited and some classes can only be offered at specific times. In addition, in the case of smaller satellite campuses, availability of facilities can also present difficulty for the scheduling of classes. With limited classrooms and narrow time frames in which classes can be offered, creating multiple sections of needed courses that correspond with the requirements of the Early College can be difficult. However, a discussion regarding how to reduce the percentage of Early College to college students in a class is clearly an important effort to undertake for both the college and the high school, though it may not always be possible to accomplish given the constraints. The relationship between exposure to Early College students and community college student integration also has implications for campus-associated issues.

The findings of the present research suggested that the ratio of Early College students to college students on campus had a significant impact on social integration. Participants enrolled in Low exposure campuses generally reported higher levels of social integration as compared to those on High exposure campuses. As connectivity to peers is central to college student satisfaction and integration, it can be assumed from the results that the students enrolled at campuses where Early College students make up a significant portion of the population felt less connected socially to the college. Conversely, those who were on campuses where the proportion of Early College to college students was much lower had integration scores that were reflective of higher levels of social integration and social connectivity to the college.

These results have implications for the future success of the program. Community college students' integration and satisfaction with their social experience at the college are of concern for college administrators, faculty, and staff. In addition, the integration and satisfaction of community college students also has implications for the integration and satisfaction of Early College students. If Early College students are not "accepted" by the college students, the likelihood that they in turn will feel a sense of belonging will be reduced. The study results indicated that lower proportions of Early College students on campus resulted in little to no negative impact on social integration of college students. Thus if the proportion of Early College students can be considered based on the number admitted to the program yearly, this could have an impact on the success of the program (Allport, 1954) and the integration and satisfaction of both types of students.

Ultimately this becomes issue in three primary areas. First it is a question of financial sustainability, as enrolling fewer students in the Early College program could

also put the program at risk of losing funding and support. Currently, most public schools are funded based on the number of students enrolled and therefore, smaller schools very often receive less funding and financial support (Jones, 2003). Second, restricting enrollment limits access to higher education for a population which is already largely underserved in higher education. Achieving a balance to the student enrollment issue, however, is still important as reflected in the results of the current research study. Third, if Early Colleges are only located on larger campuses where they would make up a smaller portion of the student body, this may limit the opportunities to only those high school students who are in larger areas or who are in the service area of a larger campus. Therefore, students in rural or less populated areas might not experience equal opportunities in Early College programming. It is accordingly important for the community college and the high school to support each other in communicating the mission of the college and the Early College to the sources of funding for the program. Only by articulating the needs of both institutions and the potential impact on their success can the importance of the small school model and balancing student populations for the program's success be made clear. Further implications for practice can also be derived from the comments provided by participants.

One of the sources of information about exposure to Early College students was the qualitative comments section of the ECSB. While the majority of participants did not provide comments and therefore vast generalizations cannot be made, it was found that of the provided comments the majority were negative or mixed in tone. These comments also predominantly mentioned immaturity as an issue with Early College students on campus. These findings coupled with the cited developmental differences between adults

in development and learning theories suggest that measures of student maturity and motivation be incorporated as a possible step in improving relations between community college and Early College students.

While it is contrary to the purpose of the Early College to institute limiting measures in the admissions process, this information could be useful after enrollment to help determine student readiness for mixed college classes. These measures could also provide high school administrators with insight into elements of a student's personality not visible in academic performance, which could aid faculty and staff in improving student weaknesses in these areas. Measures including, but not limited to, the *Personality Development Test* (Cassel & Chow, 2000) and the *Children's Academic Intrinsic Motivations Inventory* (Gottfried, 1986), could help administrators make decisions about how to address maturity and motivation shortfalls for students in order to prepare them for success at the Early College. The information derived from such instruments could be used to create student-specific interventions to assist in their intellectual and emotional development. Instituting these measures may help ease some of the tensions expressed by participants on the comment section of the ECSB and potentially similar feelings of those who did not respond to the comments section but who showed low levels of integration and low ratings on behavior.

In concert with the institution of maturity and motivation measures to assist students in preparing for success in college level work, it might also be appropriate to expand the timeline in which Early College students could enroll in mixed classes. The participants surveyed in this study did attend colleges which enrolled first (freshmen) and second-year (sophomores) students in mixed college classes at the time of the study. In

the comments section of the ECSB, several participants specifically cited the maturity of

Early College students and their readiness for college classes. Hall (2008) also noted in

her research that this was a factor of concern for at least two of the administrators

interviewed for her study. It follows that if students are less mature and not ready for

college work, they should first acquire the basis they need in high school classes and gain

the time they need to mature and prepare for the nature of collegiate work and college

students.

In addition, the creation of a transitional course for first-year students may also

provide Early College students an opportunity to adjust to the collegiate environment and

gain knowledge they need to be successful at the Early College. This could be considered

the Early College Orientation Course and would ideally cover material relevant to

preparedness for college work such as the use of a syllabus, study skills, time

management, and classroom etiquette. Incorporating both a college and high school

faculty member as facilitators for the course would also be valuable for student success,

as Early College students typically take both high school and college classes

simultaneously and may need academic assistance with both accordingly. With the

incorporation of a college faculty member, it may also be possible to provide Early

College students with college credit for the orientation class. Further, limiting the first-

year students to such a college class would allow them to build skills and acquire time to

mature for future success in college classes.

Delaying the mixing of Early College students into college classes may help ease

the tensions such as those cited in the comments section of the ECSB and improve the

relationships between college and high school students. While this suggestion could

present great opportunities for student development and performance, challenges would also be associated with its implementation. Some of the difficulties might ensue for certain classes which are offered only once a year, which could potentially set an Early College student back in completing his or her education. Prerequisites for certain courses may also present challenges for the implementation of this suggestion, as limiting enrollment in prerequisite classes may also delay entry in needed courses. Finally, caps on enrollment due to facility space and instructional needs may also present impediments for this suggestion. However, adopting this modified Middle College model could improve academic performance and satisfaction for Early College students as well as the academic integration and satisfaction of college students.

The evaluation of social integration and social exposure in this study suggested that higher proportions of Early College students on campus were negatively associated with social integration. Some comments were made on the ECSB that Early College students needed "a place to be kids." One of the colleges that participated in the study recently opened a new facility in which Early College students could reside during a portion of the academic day while still attending college classes in the shared academic building. Comments made on several of the surveys for that site indicated the improvement of behavior on campus as a result of the new facility. Participants reported comments such as "the new building has improved the noise level," and "since they have gotten the new building it has calmed down a lot here and is easier to go to class and do class work in the lobby area." While total separation of community college students and Early College students would defeat many of the purposes of the program and is not advisable, providing an area in which Early College students can decompress and "be

kids," may create a more conducive learning environment for both student types. High school and college administrators could also work together in the absence of a separate location, to create a space to facilitate a similar environment. Total separation is not advisable as it would eliminate the benefits of interaction between and for both high school and college students and would be contrary to the adult modeling objective of the Early College High School Initiative. In addition, total separation would create the potential for a decrease in Early College student sense of belonging to the community which is an important factor in their social integration at the college. Again, exposing Early College students to college students can be a positive experience for both types of students, but providing Early College students with the freedom to express age-appropriate behaviors in a non-judgmental environment could also be beneficial for the program and its students.

Finally, as the findings suggest that there was a sense of incongruence between the Early College and community college students for the sample, it might benefit the program for the community college to encourage community college student investment in the program. One of the ways in which community college and Early College administrators could improve student involvement and reduce prejudice is to facilitate dialogue between the student populations. Schoem and Hurtado (2001) found facilitated dialogue between a majority and minority group produced positive effects on the perceptions of each group on the other. Facilitated dialogue might provide Early College and college students with a format to discuss both incongruent issues as well those which might bring them to common ground. Such dialogue might present community college students with the knowledge that, while they are different in some ways, Early College

students may have similar goals and aspirations for future careers and prosperity. Chavous (2005) found that dialogues which often lead to the reduction of prejudice can be facilitated in orientation-type programming. Orientation or freshmen seminar type programs create a captive audience of blended student types in an atmosphere where all students are on an equal footing (i.e. they are all new college students). These institutionally created situations could produce an atmosphere of acceptance rather than one of forced adaptation.

One further suggestion would be to create peer mentoring programs where Early College students are paired with community college students to facilitate a learning opportunity for both student types. The community college student with more experience than the Early College student could therefore afford both an avenue of support and guidance for the Early College student. This relationship in turn could provide the community college student with a connection to the Early College which might alleviate any potential tensions or prejudice as a result of the differences in student age. It is clear, however, that creating administrator-controlled opportunities for involvement with Early College students could increase acceptance and facilitate positive interactions between the two student populations. As integration is key for both student types, efforts to increase positive experiences and interactions could be beneficial to the continued success of the Early College and community college collaboration.

Conclusion

The development of innovative programs such as the Early College is clearly important to both increase higher educational opportunities for underserved students and engagement in at-risk populations. These programs introduce high school students to

higher education by immersing their high school in a college environment. They present valuable opportunities for accelerated learning for high school students and the advancement of underrepresented student populations in higher education. Such students are often disengaged by the typical high school experience for many reasons including social disconnection and negative prior academic experiences.

It is clear, however, that while these programs present great opportunity, they can also potentially present challenges for both the high school and the associated college. Human development and learning theories and the supporting research indicate that there are fundamental differences between child and adult learners. These differences primarily apply to the approach to the learning environment and preparedness for college-level experiences and requirements. Over time, differences dissipate as students grow and mature; however, Early Colleges integrate young high school students (13 to 14 years of age) on to campuses where the population is often predominantly composed of adult students (25 years of age and older). In addition, student retention theories express the importance of academic and social integration for student retention. Supporting research has noted that connectivity and sense of belongingness are key elements for college student persistence. Thus connectivity and integration are related to persistence and college student satisfaction. It has also been theorized that introductions of minority student populations can potentially affect the principal student group. The issues or challenges presented with the formation of Early College programs reside in its potential impact on the academic and social integration of the college students due to differences between child and adult learners.

The purpose of the current study was to ascertain preliminary information on the relationship between academic and social exposure to Early College students and academic and social integration of community college students. The findings of this research indicated that community college students were exposed to Early College students both academically and socially and that participant academic and social integration scores reflected average or typical levels of integration. The results also revealed that there was a moderate, positive relationship between the quality of academic exposure to Early College students and community college student academic integration. In addition, a moderate, positive relationship was also found for the quality of social exposure and social integration. Finally, the degree of exposure measured by the level of campus and class exposure had an impact on academic and social integration. Specifically, academic integration scores were significantly higher for participants in Low exposure classes as compared with those in High exposure classes. Social integration was also significantly higher for participants at Low exposure campuses compared to participants' integration scores at High exposure campuses.

Despite the limitations of the study, the results provide important information for future research and practice. Future research on the Early College in general and the perceptions of community college student and faculty on the Early College are imperative for the program's continued and future success. As this is the first study of its kind on the impact of accelerated learning programs for underserved students collaborating with institutions of higher education, further research should be conducted including replication of the present study. Future implications for practice include providing Early College students with time and resources to prepare for college-level experiences and

work prior to entry into mixed college classes and instituting training for faculty on teaching age-diverse student populations. In addition, enhancing collaboration between administrations in order to ascertain needed resources for the program, and instituting facilitated dialogue in the form of joint orientation programming and peer mentoring for Early College and community college students, could also be helpful for the successful integration of the collective student body.

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APPENDICES

Appendix A: Institutional Integration Scales (IIS)

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Appendix A: Institutional Integration Scales (IIS)

Instructions: *Rate each of the following questions using the scale below. Circle only one answer. Don't spend much time thinking about any one question. Use your first response. If you decide to change your answer, put an X through the first answer and circle your final choice.*

Peer-Group Interactions

		Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1	Since coming to this college I have developed close personal relationships with other students.	5	4	3	2	1
2	The student friendships I have developed at this college have been personally satisfying.	5	4	3	2	1
3	My interpersonal relationships with other students have had a positive influence on my personal growth, attitudes, and values.	5	4	3	2	1
4	My interpersonal relationships with other students have had a positive influence on my intellectual growth.	5	4	3	2	1
5	It has been difficult for me to meet and make friends with other students.	5	4	3	2	1
6	Few of the students I know would be willing to listen to me and help me if I had a personal problem.	5	4	3	2	1
7	Most students at this college have values and attitudes different from my own.	5	4	3	2	1

	Interactions with Faculty	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
8	My nonclassroom interactions with faculty have had a positive influence on my personal growth, values and attitudes.	5	4	3	2	1
9	My nonclassroom interactions with faculty have had a positive influence on my intellectual growth and interest in ideas.	5	4	3	2	1
10	My nonclassroom interactions with faculty have had a positive influence on my career goals and aspirations.	5	4	3	2	1
11	Since coming to this college I have developed a close, personal relationship with at least one faculty member.	5	4	3	2	1
12	I am satisfied with the opportunities to meet and interact informally with faculty members.	5	4	3	2	1

Faculty Concern for Student Development and Teaching

		Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
13	Few of the faculty members I have had contact with are generally interested in students.	5	4	3	2	1
14	Few of the faculty members I have had contact with are generally outstanding or superior teachers.	5	4	3	2	1
15	Few of the faculty members I have had contact with are willing to spend time outside of class to discuss issues of interest and importance to students.	5	4	3	2	1
16	Most of the faculty I have had contact with are interested in helping students grow in more than just academic areas.	5	4	3	2	1
17	Most faculty members I have had contact with are genuinely interested in teaching.	5	4	3	2	1

Academic and Intellectual Development

		Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
18	I am satisfied with the extent of my intellectual development since enrolling in this college.	5	4	3	2	1
19	My academic experience has had a positive influence on my intellectual growth and interest in ideas.	5	4	3	2	1
20	I am satisfied with my academic experience at this college.	5	4	3	2	1
21	Few of my courses this year have been intellectually stimulating.	5	4	3	2	1
22	My interest in ideas and intellectual matters has increased since coming to this college.	5	4	3	2	1
23	I am more likely to attend a cultural event (for example, a concert, lecture, or art show) than I was before coming to this college.	5	4	3	2	1
24	I have performed academically as well as I anticipated I would.	5	4	3	2	1

Institutional and Goal Commitments

		Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
25	It is important for me to graduate from college.	5	4	3	2	1
26	I am confident that I made the right decision in choosing to attend this college.	5	4	3	2	1
27	It is likely that I will register at this college next fall.	5	4	3	2	1
28	It is not important to me to graduate from this college.	5	4	3	2	1
29	I have no idea at all what I want to major in.	5	4	3	2	1
30	Getting good grades is not important to me.	5	4	3	2	1

Appendix B: Early College Student Behavior Survey

ECSB Survey

Introduction and Instructions:

*This survey was created to determine your experiences with Early College students on campus and in class. Early College students are high school students taking both college and high school courses at the same time, and the high school is located on this community college campus. There are two primary sections of the survey and they focus on your experience in class and on campus with Early College students. There are several sections of questions including checklists, fill-in-the-blank, as well as questions using a rating scale. Please answer each question based on your experiences **this semester**. Thank you for your willingness to participate.*

In Class

Instructions for Question 1: *Please __check all that apply__. If you decide to change your answer, draw a line through the first answer and check your final choice(s) in the box(es) to the left. **Please limit your responses to your experiences __in this class, this semester.__***

1. Please indicate which of the following interactions you have had with Early College students **in this class, this semester**. Please check all that apply.

    ☐   Group work assignments for a grade
    ☐   Class discussions
    ☐   Small group discussions
    ☐   Studying together/study group
    ☐   No interactions
    ☐   Other (if you select "other", please explain the type of interaction in the space provided)

    _____

Instructions for Question 2: *Please check __one__ response. If you decide to change your answer, draw a line through the first answer and check your final choice in the box to the left. **Please limit your responses to your experiences __in this class, this semester.__***

2. Have you taken other classes with Early College students? (Please check the box beside your answer)

    ☐   Yes
    ☐   No
    ☐   I don't know

Instructions for Question 3: *Please indicate your response on the provided line. If you decide to change your answer, draw a line through the first answer and write your final choice to the right of your first answer. **Please limit your responses to your experiences __in this class, this semester.__***

3. How many Early College students are in this class? _____
    (*If your answer is "0" please skip to question #5*)

Instructions for Question 4: *Rate each of the following questions using the scale below. Circle only **one** answer. Don't spend much time thinking about any one question. Use your first response. If you decide to change your answer, put an X through the first answer and circle your final choice.* ***Please limit your responses to your experiences in this class, this semester.***

4. Based on your experiences **in this class, this semester**, please rate overall Early College student behavior on each of the following items. Please circle your choice:

	Early College Student Behavior	Very Positive									Very Negative	
a	Class participation	10	9	8	7	6	5	4	3	2	1	
b	Class preparation	10	9	8	7	6	5	4	3	2	1	
c	Engagement in learning activities	10	9	8	7	6	5	4	3	2	1	
d	Participation in assigned group work	10	9	8	7	6	5	4	3	2	1	NA
e	Respect for other students	10	9	8	7	6	5	4	3	2	1	
f	Respect for the instructor	10	9	8	7	6	5	4	3	2	1	
g	Respect for class topics and lectures	10	9	8	7	6	5	4	3	2	1	
h	Respect for the class environment	10	9	8	7	6	5	4	3	2	1	
i	Overall classroom behavior	10	9	8	7	6	5	4	3	2	1	

On Campus

Instructions for Question 5: *Please __check all that apply__. If you decide to change your answer, draw a line through the first answer and check your final choice(s) in the box(es) to the left.* ***Please limit your responses to your experiences __on this campus, this semester.__***

5. In which of the following situations have you had interactions with Early College students **on this campus, this semester (excluding classes and class related activities)**. Please check all that apply.

    ☐   Club or organization membership
    ☐   Campus social event sponsored by a club or organization
    ☐   General campus social event (dance, Welcome Back event, etc.)
    ☐   Cultural activities (Art shows, guest speakers, etc.)
    ☐   In the library
    ☐   In the cafeteria
    ☐   In computer labs
    ☐   In other common areas (hallways, lounge areas, etc.)
    ☐   No interactions
    ☐   Other (if you select "other", please explain the type of interaction in the space provided)

    _____

Instructions for Question 6: *Please indicate your response on the provided line. If you decide to change your answer, draw a line through the first answer and write your final choice to the right of your first answer.* ***Please limit your responses to your experiences __on this campus, this semester.__***

6.   Approximately how many Early College students have you encountered on campus this semester, not counting your classes?   _____

    (If your answer is "0" please skip to question # 11)

Instructions for Questions 7-8: *Rate each of the following questions using the scale below. Circle only **one** answer. Don't spend much time thinking about any one question. Use your first response. If you decide to change your answer, put an X through the first answer and circle your final choice. **Please limit your responses to your experiences on this campus, this semester.***

7. Please rate the following behaviors when considering your experience with Early College students **on this campus, this semester**. Please circle your choice:

	Early College Student Behavior	Very Positive									Very Negative	
a	Interpersonal Communication	10	9	8	7	6	5	4	3	2	1	
b	Respect for campus property	10	9	8	7	6	5	4	3	2	1	
c	Respect for other students	10	9	8	7	6	5	4	3	2	1	
d	Appropriate use of the library	10	9	8	7	6	5	4	3	2	1	NA
e	Appropriate use of computer labs	10	9	8	7	6	5	4	3	2	1	NA
f	Overall campus behavior	10	9	8	7	6	5	4	3	2	1	

8. Please rate the following based on your experiences **on this campus, this semester**.

	Early College Student Behavior	Very Positive									Very Negative
a.	What others say about Early College student behavior on campus at my college is:	10	9	8	7	6	5	4	3	2	1
b.	Overall, my experience with Early College student behavior on campus is:	10	9	8	7	6	5	4	3	2	1

Instructions for Questions 9-10: *Please check __one__ response. If you decide to change your answer, draw a line through the first answer and check your final choice in the box to the left.* ***Please limit your responses to your experiences __on this campus, this semester.__***

9. In general, do you believe Early College students behave similarly to other college students on campus? (Please check the box beside your answer)

      ☐   Yes
      ☐   No
      ☐   I don't know

10. If given the choice, would you enroll in a class if you knew Early College students would be taking the same class? (Please check the box beside your answer)

      ☐   Yes
      ☐   No
      ☐   I don't know

Demographic Information

11. How many semesters have you been enrolled at this college?   _____

12. Please check the box for your age range:

    ☐   Under 18   ☐   18-24

    ☐   25-31   ☐   32-38

    ☐   39-45   ☐   46-52

    ☐   53+

13. Please check the box for your ethnicity:

    ☐   African American   ☐   Asian

    ☐   Caucasian/White   ☐   Hispanic

    ☐   Native American   ☐   Multi-Ethnic

    ☐   Other   ☐   I choose not to response

14. Please check the box for your gender:

    ☐   Female   ☐   Male

15. What time of day do you typically take classes?

☐   Day   ☐   Evening

☐   Both day and evening

16. If you have any additional comments, please provide them in the space below:

Appendix C: Study Consent Form

Informed Consent Form

The course you are currently enrolled in has been selected for a study on the Early College. This research is being conducted as part of a doctoral dissertation in educational leadership. Your participation will only require responding to the two surveys which will be handed out today.

Your participation in this study is completely voluntary. If you complete the surveys but later change your mind about participating, you will receive no penalty from the instructor or the institution. Your grades will not be affected in any way if you do not wish to be included in the study. While there may be no benefits to you directly, the information gained from this research may be utilized to improve your community colleges' programming. Furthermore, there are no foreseeable risks associated with your participation in this study.

If you choose to be excluded from this study, please indicate that response on the bottom of this form and leave the surveys blank. Every effort will be made to maintain your confidentiality in this research by using a number instead of your name on the surveys. The information will be reported as part of a group result with no associated names or identifying information.

If you have any questions regarding the study, please contact Ms. Fairley Pollock at 828-508-7914 or Dr. Meagan Karvonen at 828-227-3323. Further, if you wish to receive a copy of the final study results, please contact me at fpollock@southwesterncc.edu. You may also contact the chairperson of the WCU Institutional Review Board at 828-227-7212 at any time during this study if you have questions or concerns about your treatment as a participant in this study.

Please indicate if you wish to be included in the study or not at the bottom of this page. Thank you for your kind assistance in this matter.

Sincerely,
C. Fairley Pollock
Doctoral Candidate

I will participate in this study _____

I will not to participate in this study _____

Signature _____ Date _____

Appendix D: Expert Panel Review Questions

Expert Panel Survey Review Questions

1. Do you feel any of the questions are unclear? If so, please identify which questions and if possible, indicate how they could be improved.

2. Do you feel any of the questions are irrelevant or out of place? If so, which questions and why?

3. Should the survey include new questions on Early College student behavior in addition to the ones that are currently on the survey?

4. Should the survey include new questions on possible student interactions in addition to the ones that are currently on the survey?

5. Are there any questions that are not currently on the survey that you feel would be helpful to include? If so, please indicate what could be included.

Please add any other comments

Appendix E: Pilot Test Evaluation Form

Survey Pilot Evaluation Form

1. Are the survey instructions adequate and easily understood?   Yes   No

   If no, what is confusing?

2. Are the survey questions written in a manner that is easily understood?   Yes   No

3. Are there any survey questions which need further clarification?   Yes   No

   If yes, which ones? List the item numbers here:

4. Are there any questions for which you wanted to give an answer that wasn't one of the

options listed?   Yes   No

   If yes, please write in the question or questions below:

5. How long did it take you to complete the survey? _____ minutes

6. Is the length and time it took to take the survey appropriate?   Yes   No

7. Do you have any other suggestions for improving the survey?

Appendix F: Reliability Analysis for the IIS

Table F1

Reliability Analysis for IIS Subscales

Subscale	Alpha
Peer-group interactions	.89
Interactions with faculty	.87
Faculty concern for student development and teaching	.81
Academic and intellectual development	.81

Appendix G: Reliability Analysis for the ECSB

Table G1

Reliability Analysis for ECSB Survey Academic Construct

Behavioral Item	Alpha If Item Deleted
Class participation	.973
Class preparation	.970
Engagement in learning activities	.969
Participation in assigned group work	.969
Respect for other students	.968
Respect for the instructor	.968
Respect for class topics and lectures	.967
Respect for the class environment	.969
Overall classroom behavior	.967

Table G2

Reliability Analysis for ECSB Survey Social Construct

Behavioral Item	Alpha If Item Deleted
Interpersonal communication	.967
Respect for campus property	.964
Respect for other students	.962
Appropriate use of the library	.965
Appropriate use of computer labs	.966
Overall campus behavior	.961
What others say about Early College student behavior	.970
Overall experience with Early College students on campus	.964

Appendix H: Themes and Phrases in the Comments Section of the ECSB

Table H1

Prominent Themes and Phrases in Comments on the ECSB

Comment/Theme	*n*	%
Immaturity	26	17.9
Behavioral issues/Disruptive	20	13.8
Wonderful program/Great opportunity	15	10.3
Adults are different from Early College (EC) students	12	8.3
Have had pleasant interactions with EC students; like them	11	7.6
Not respectful	11	7.6
Some are serious and motivated	8	5.5
Well-behaved	8	5.5
They need their own space	8	5.5
Not serious and/or motivated	4	2.8
Difficulty relating to EC students	4	2.8
Some are giving the program a bad name	4	2.8
Wish I could have participated in a program like Early College	4	2.8
Intelligent	3	2.1
Lowered academic collegiate standards	3	2.1
Generally negative	2	1.4
Not intelligent	2	1.4

Appendix I: Descriptive Statistics, Confidence Intervals, and Frequency Distributions of the IIS Academic Integration Subscales

Table I1

Academic Integration Subscale and Item Means, Standard Deviations, & Confidence Intervals (N=258)

Subscale and Question Summary	*M*	*SD*	95% CI Lower	Upper
Faculty Concern for Development and Teaching	3.38	0.79	3.28	3.47
13. Few faculty are interested in students.	3.09	1.17	2.95	3.23
14. Few faculty are generally outstanding or superior teachers.	2.90	1.18	2.75	3.04
15. Few faculty are willing to spend time outside of class with students.	3.02	1.19	2.88	3.17
16. Most faculty are interested in helping students grow in more than just academic areas.	3.84	0.83	3.73	3.94
17. Most faculty members I have had contact with are genuinely interested in teaching.	4.03	0.78	3.93	4.13
Academic and Intellectual Development	3.57	0.65	3.49	3.65
18. I am satisfied with the extent of my intellectual development at this college.	3.83	0.85	3.72	3.93
19. My academic experience has had a positive influence on my intellectual growth.	3.85	0.88	3.74	3.96

Table I1, continued

Subscale and Question Summary	M	SD	95% CI Lower	95% CI Upper
Academic and Intellectual Development (continued)				
20. I am satisfied with my academic experience at this college.	3.83	0.87	3.73	3.94
21. Few of my courses this year have been intellectually stimulating.	3.05	1.1	2.92	3.19
22. My interest in ideas and intellectual matters has increased at this college.	3.75	0.88	3.64	3.86
23. I am more likely to attend a cultural event than I was before coming to this college.	2.95	1.12	2.82	3.09
24. I have performed academically as well as I anticipated I would.	3.73	0.89	3.62	3.84

Table I2

Frequency Distributions for Academic Integration Subscale Items (N=258)

Subscale and Question Summary	Strongly Agree		Agree		Neither Agree nor Disagree		Disagree		Strongly Disagree	
	n	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*
Faculty Concern for Development and Teaching										
13. Few faculty are interested in students	25	9.7	91	35.3	47	18.2	72	27.9	23	8.9
14. Few faculty are generally outstanding teachers	18	7.0	82	31.8	44	17.1	83	32.2	31	12.0
15. Few faculty spend time outside of class with students	25	9.7	86	33.3	40	15.5	84	32.6	23	8.9
16. Most faculty are interested in helping students grow	51	19.8	134	51.9	54	20.9	18	7.0	1	0.4
17. Most faculty members are interested in teaching	70	27.1	138	53.5	39	15.1	10	3.9	1	0.4
Academic and Intellectual Development										
18. Satisfied with intellectual development since enrolling	50	19.4	135	52.3	54	20.9	16	6.2	3	1.2
19. College had a positive influence on intellectual growth	55	21.3	136	52.7	42	16.3	23	8.9	2	0.8

Table I2, continued

Subscale and Question Summary	Strongly Agree		Agree		Neither Agree nor Disagree		Disagree		Strongly Disagree	
	n	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*
Academic and Intellectual Development, continued										
20. Satisfied with the academic experience at the college	52	20.2	134	51.8	53	20.5	15	5.8	4	1.6
21. Few courses were intellectually stimulating	23	8.9	83	32.2	49	19.0	91	35.3	12	4.7
22. Interest in ideas has increased since enrolling	47	18.2	127	49.2	58	22.5	25	9.7	1	0.4
23. More likely to attend a cultural event since enrolling	23	8.9	58	22.5	90	34.9	58	22.5	29	11.2
24. Performed as well academically as expected	43	16.7	134	51.9	51	19.8	28	10.9	2	0.8

Appendix J: Descriptive Statistics, Confidence Intervals, and Frequency Distributions of the IIS Social Integration Subscales

Table J1

Social Integration Subscale and Item Means, Standard Deviations, and Confidence Intervals (N=258)

			95% CI	
Subscale and Question Summary	*M*	*SD*	Lower	Upper
Peer-Group Interactions	3.35	0.78	3.25	3.44
1. I have developed close personal relationships with other students.	3.51	1.05	3.38	3.64
2. Friendships I have developed have been personally satisfying.	3.58	0.95	3.46	3.70
3. Peers have had a positive influence on my growth, attitudes, and values.	3.43	0.95	3.31	3.55
4. Peers have had a positive influence on my intellectual growth.	3.44	0.95	3.32	3.55
5. It has been difficult for me to meet and make friends with other students.	3.58	1.11	3.44	3.71
6. Few students would be willing to listen to me and help me with personal problems.	3.13	1.12	2.99	3.27
7. Most students at this college have values and attitudes different from my own.	2.76	0.96	2.65	2.88
Interactions with Faculty	3.64	0.70	3.56	3.73

Table J1, continued

Subscale and Question Summary	*M*	*SD*	95% CI Lower	95% CI Upper
Interactions with Faculty (continued)				
8. Nonclassroom interactions have had a positive influence on values, attitudes, etc.	3.61	0.82	3.51	3.71
9. Nonclassroom interactions have had a positive influence on my intellectual growth.	3.67	0.77	3.58	3.77
10. Nonclassroom interactions have had a positive influence on my goals.	3.72	0.84	3.62	3.83
11. I have developed a close, personal relationship with at least one faculty member.	3.45	1.07	3.31	3.58
12. I am satisfied with the opportunities interact informally with faculty members.	3.75	0.76	3.66	3.85

Table J2

Frequency Distributions for Social Integration Subscale Items (N=258)

Subscale and Question Summary	Strongly Agree		Agree		Neither Agree nor Disagree		Disagree		Strongly Disagree	
	n	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*
Peer-Group Interactions										
1. Developed close relationships with other students	41	15.9	107	41.5	64	24.8	35	13.6	11	4.3
2. Friendships I have developed were satisfying	35	13.6	122	47.3	67	26.0	26	10.1	8	3.1
3. Positive influence on growth, attitudes, values	28	10.9	103	39.9	87	33.7	32	12.4	8	3.1
4. Positive influence on my intellectual growth	30	11.6	99	38.4	91	35.3	30	11.6	8	3.1
5. Difficult to make friends with other students	52	20.2	107	41.5	50	19.4	36	14.0	13	5.0
6. Few students would help me with my problems	30	11.6	74	28.7	70	27.1	67	26.0	17	6.6
7. Most students have different values from mine	4	1.6	55	21.3	102	39.5	70	27.1	27	10.5
Interactions with Faculty (nonclassroom)										
8. Positive influence on my values, etc.	29	11.2	125	48.4	79	30.6	24	9.3	1	0.4

Table J2, continued

Subscale and Question Summary	Strongly Agree		Agree		Neither Agree nor Disagree		Disagree		Strongly Disagree	
	n	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*
Interactions with Faculty (nonclassroom) continued										
9. Positive influence on my intellectual growth.	30	11.6	131	50.8	81	31.4	15	5.8	1	0.4
10. Positive influence on my goals	41	15.9	128	49.6	68	26.4	19	7.4	2	0.8
11. Developed a close relationship with faculty	47	18.2	82	31.8	75	29.1	47	18.2	7	2.7
12. Satisfied with opportunities interact w/ faculty	36	14.0	135	52.3	76	29.5	9	3.5	2	0.8