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**THE RELATIONSHIP BETWEEN LIVING ARRANGEMENT, ACADEMIC  
PERFORMANCE, AND ENGAGEMENT AMONG FIRST-YEAR COLLEGE  
STUDENTS**

by

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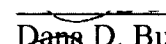
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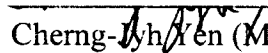
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## **ABSTRACT**

### **THE RELATIONSHIP BETWEEN LIVING ARRANGEMENT, ACADEMIC PERFORMANCE, AND ENGAGEMENT AMONG FIRST-YEAR COLLEGE STUDENTS**

Denise Shatá Balfour  
Old Dominion University, 2013  
Director: Dr. Dana Burnett

One way students become engaged in their undergraduate experience is through place of residence. Factors associated with high academic performance suggest high levels of engagement in campus life. This study investigated the relationship between living arrangement and the academic performance of first-year, full-time undergraduate students. The researcher also considered age, gender, race/ethnicity, and key characteristics of student engagement as moderating factors in the relationship between living arrangement and the academic performance.

Students enrolled at a four-year, public research university located in Southeastern Virginia were utilized for this study. The final participant group consisted of 870 first-year, full-time students who participated in the National Survey of Student Engagement (NSSE) in 2010 and indicated living arrangement as residential (dormitory or other campus housing) or commuter (residence within walking/driving distance of the institution). Grade Point Average (GPA) measured academic performance. Data related to the moderator variables were collected from the NSSE. Through a non-experimental, comparative design, a series of regression analyses were used to understand the relationship between living arrangement and academic performance and whether the aforementioned moderator variables moderated the relationship between living arrangement and academic performance.

The results revealed significant differences between residential and commuter students regarding academic performance; commuters demonstrated higher GPAs than residents. However, the effect size suggested this finding is inconclusive. With the exception of level of academic challenge, the results did not support moderator effects of age, gender, race/ethnicity, and the remaining characteristics of student engagement on the relationship. However, level of academic challenge demonstrated a moderator effect in the relationship between living arrangement and academic performance. The relationship between living arrangement and academic performance was stronger for both residential and commuter students as a result of level of academic challenge.

This research provided outcomes and implications that revealed how living arrangement and student engagement can influence academic performance. While the results of this study challenged the perception that commuter students have lower academic performance than residential students, this study also supported prior literature that suggests the amount of time and energy students and institutions invest in the college experience is related to students' academic success. However, regardless of living arrangement, it is important for faculty and administrators to work together to ensure the academic success of all students.

I dedicate this dissertation to my little sisters, Malinda and Nariah. I have always strived to be the best big sister I can be for both of you. Although I cannot always protect you (yes, I will continue to try!), I hope what I have achieved in my life exemplifies that you can be confident, healthy, and successful with whatever you decide to do on your own life's journey. I still have so much to show you, but I hope I have served as a positive role model for you thus far.

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## CHAPTER I

### INTRODUCTION

Some argue engaging in extracurricular activities and positive interactions with faculty and peers enhances a student's undergraduate experience. As stated by Kuh, Kinzie, Schuh, and Whitt (2005), "what students do in college counts more for what they learn and whether they will persist in college than who they are or even where they go to college" (p.16). Another way students become engaged in their undergraduate experience is through their place of residence. According to Astin (1984), living in the residence halls is the most important environmental factor that predicts retention and degree completion. Furthermore, factors associated with degree completion suggest higher levels of engagement in campus life, whereas factors associated with departure from college suggest a lack of engagement.

Sufficient research supports the link between living on campus and degree completion, as living on campus affords more opportunities for engaging in campus life (Astin, 1974; Blimling, 1989; Chickering, 1974; De Araujo & Murray, 2010a; Jacoby, 2000; Schroeder, Mable & Associates, 1994; Schudde, 2011; e.g.). Tinto (1993) suggests relationships with faculty and peers, coupled with positive academic and social experiences on campus, positively influence persistence to degree completion. For residential students, home and campus are one in the same, whereas commuter students are on campus for shorter periods of time. As a result, residential students are more likely to participate in opportunities to engage in the life of the campus because they are on campus most, if not all of the time. This increased engagement leads to higher overall

satisfaction with the institution and a sense of belonging within the campus community, leading to higher persistence and graduation rates.

### **Background and Historical Overview**

Chickering (1974) concluded students living in the residence halls had higher levels of learning and personal development even when background variables, such as prior education, ability, and family backgrounds were a consideration. Students who live on campus have more interactions with faculty, staff, and students, higher participation in extracurricular activities, and more self-esteem than students who do not reside on campus (Astin, 1984). Pascarella (1985a) reported on-campus living also positively influences relationships with faculty and peers, as students who live on campus are more integrated into college life, feel more supported by their college environment, and take advantage of building relationships with faculty and staff at higher levels than commuter students. Living on campus also impacts the academic performance, emotional health, identity development, critical thinking, and overall adjustment of students (Blimling, 1989; Pascarella & Terenzini, 2005; e.g.).

The relationship between living arrangement and learning and developmental outcomes is also supported by several student development theories (Evans, Forney, & Guido-DiBrito, 1998). The theory that most supports the framework for this study is Astin's theory of student involvement (1984). Astin suggests college students learn and develop more fully in a psychological sense when they are actively involved in their experience. Involvement is determined by the amount of both physical and mental energy devoted to the experience. Students can appear to be actively participating in an experience without devoting personal energy and vice versa, but both types are necessary

for active involvement to occur. Student involvement theory rests on five assumptions (1984):

1. "Involvement refers to the investment of physical and psychological energy in various objects" (p. 298). Involvement can occur from a wide range of activities, such as participating in a community service project or being active within a campus organization over a short- or long period of time.
2. "Regardless of its object, involvement occurs along a continuum" (p. 298). Different students present different levels of involvement. Certain students may spend more time, either physically or psychologically, involved in activities than others, regardless of the type of experience.
3. "Involvement has both qualitative and quantitative features" (p. 298). Involvement is both the amount of time spent participating in an experience, such as time spent preparing for an exam, as well as the amount of personal feelings devoted to the experience, such as personal satisfaction derived from participating in an activity or event.
4. "The amount of student learning and personal development associated with any educational program is directly proportional to the quality and quantity of student involvement in that program" (p. 298). The amount of learning and development students will obtain from being involved in campus life is determined by how much energy students put into the involvement. The more students are involved, the more learning and development students will receive.
5. "The effectiveness of any educational policy or practice is directly related to the capacity of that policy or practice to increase student involvement" (p. 298). Similarly to how much energy students put into the involvement will determine what they receive from the involvement, the effectiveness of a policy or practice will determine how much that policy or practice influences student involvement. In other words, campus administrators and faculty not only have to focus on presenting opportunities for involvement to occur, but make sure those opportunities are of high quality and are effective policies and practices based on students' needs.

Since the 1980s, Astin's student involvement theory (1984) has evolved into the concept of student engagement (Kuh, 2009; Pascarella & Terenzini, 2005; Pike, Kuh, & McCormick, 2010). Student engagement represents both the time and energy students commit to activities that positively influence learning and what institutions are doing to

facilitate and encourage students to participate in these activities (Kuh, 2009; Kuh, Cruce, Shoup, Kinzie, & Gonyea, 2008; Pascarella & Terenzini, 2005; Pike, Kuh, & McCormick, 2010; e.g.). Five key characteristics of student engagement, formally known as benchmarks of effective educational practices, promote student learning: level of academic challenge, active and collaborative learning, student-faculty interaction, enriching educational experiences, and a supportive campus environment (National Survey of Student Engagement, 2011b). Active and collaborative learning refers to the energy students put forth to apply classroom learning to non-academic settings. Activities include working on projects with other students outside of class and sharing classroom discussions with family, coworkers, and friends. Enriching educational experiences occur outside of the classroom, but complement classroom learning and include engaging with students of a different race/ethnicity, religion or values, and using technology to complete coursework. When students engage in high levels of academic challenge, they participate in activities that challenge their academic growth, such as spending a certain amount of time preparing for an exam or working hard to achieve a certain grade for a course. Faculty-student interactions involve the relationships established between faculty and students both in- and outside of the classroom. Finally, a supportive campus environment describes the overall perception of the campus environment and support students receive from the institution. Characteristics of a supportive campus environment include relationships students develop with other students, faculty, and staff, as well as campus resources offered to facilitate student success.



In understanding how living arrangement and student engagement contribute to academic performance, living arrangement is an important characteristic of student engagement because of unique opportunities that occur within the environment (Astin, 1984; Chickering, 1974; De Araujo & Murray, 2010a; Jacoby, 2000; Mara & Mara, 2011; Schroeder, Mable & Associates, 1994). Students who live on campus have more increased access to campus activities than do students who commute to campus. In addition to the learning outcomes associated with campus activities, programs and services offered specifically within the residential community incite both academic and non-academic learning. These opportunities are typically exclusive to on-campus residents and commuters are less likely to receive these opportunities from their off-campus living arrangements.

The historical development of the relationship between living arrangement and student engagement is present within three residence hall cultures (Cohen & Kisker, 2010; Schroeder, Mable & Associates, 1994; Shushok, Scales, Sriram, & Kidd, 2011). This historical development is important to our understanding of the current relationship between living arrangement and academic performance and how this relationship differs from campus to campus. Each culture also suggests a different level of engagement in undergraduate education and these levels were used to inform this study.

The first culture, the *Sleep and Eat Model*, is described as a place where living and learning are completely separate, similar to dormitories. This model is associated with early German education where faculty members were responsible for learning within the classroom and student discipline, and the living environment was solely reserved for eating and sleeping. English universities, such as Oxford and Cambridge,

developed the *Sleep and Eat Model* into an environment where faculty and students came together to discuss classroom learning and moral development. Faculty members were not responsible for student discipline, as other university officials managed these matters. Therefore, faculty became more interested in developing relationships with students outside of the classroom, taking more responsibility for the holistic education of students.

The next culture, the *Learning Model*, creates an environment where living and learning go hand-in-hand (Cohen & Kisker, 2010; Schroeder, Mable & Associates, 1994; Shushok, Scales, Sriram, & Kidd, 2011). There is typically an on-campus housing requirement where faculty, staff, and students are both collaborative and participatory in creating a learning environment. Institutional leaders who operate within this culture believe living on campus is an essential part of the college experience. During the early 20<sup>th</sup> century, student affairs became a culture separate from faculty affairs. The 1937 and updated 1949 versions of the *Student Personnel Point of View*, affirmed the need for student learning to occur both in- and outside of the classroom and this model emerged with the rise in activism and protests of the 1960s. Increased enrollments of African-Americans, women, and veterans led to the need for more services and resources that catered to a more diverse student body.

In addition, the need for residence halls on college campuses increased to serve the higher number of students entering higher education. Residence hall staff members developed their roles within the residence halls as educators, counselors, and managers, and were trained to respond to a variety of developmental issues. Educational programs were also created by both residence hall staff and faculty to discuss relevant topics, such as alcohol and drug abuse, developing relationships, managing emotions, and personal

safety. This type of student learning outside of the classroom allowed residence halls to become educationally purposeful environments and help institutions accomplish their educational missions.

The *Market Model* occurs in environments where residence halls cater to what students and their parents are looking for in an innovative living environment: aesthetically pleasing living spaces with the best amenities, such as single rooms, pool/recreation facilities; and ample parking (Cohen & Kisker, 2010; Shushok, Scales, Sriram, & Kidd, 2011). This culture aligns with the context of American higher education of the late 20<sup>th</sup> century and today wherein institutions are responding to “pressures for developing new or career-oriented curricula, churning out a fairly constant number of degrees and certificates, and seeking extramural funding to replace that which had been provided in earlier eras” (Cohen & Kisker, 2010, p. 461). Institutions are no longer financially able to provide the abundance programs and services of years past and student affairs programming, including the development of residence halls, is sacrificed as a way to reduce costs. Outsourcing campus housing lessens the burden of maintaining university-owned facilities, but still attracts students who require housing in order to attend the institution. In contrast, the Market Model can also hinder the student experience because of its clear separation from both academic affairs and student affairs.

### **Purpose of Study**

The purpose of this study was to understand the relationship between living arrangement and the academic performance of first-year, full-time undergraduate students. The researcher also addressed age, gender, and race/ethnicity as a moderating factor in the relationship between living arrangement and academic performance. Lastly,

the study addressed how characteristics of student engagement, as measured by the National Survey of Student Engagement (NSSE), moderated the relationship between living arrangement and academic performance.

### **Statement of the Problem**

This study explored the relationship between living arrangement and the academic performance of first-year, full-time undergraduate students and how characteristics of student engagement, age, gender, and race/ethnicity change, either by increasing or decreasing, the strength of the relationship. Findings from this study can assist institutional leaders responsible for the decision-making for campus housing departments, as the results can contribute to strategies for improving programs and services in the residence halls as it relates to academic performance. Moreover, findings can be used to address how programs and services can improve the academic performance of commuter students. This study may also be used to develop a model that describes a relationship between academic affairs and student affairs as it relates to academic performance and retention efforts. Finally, students may have an interest in the results if they are invested in how living arrangement influences their academic performance.

### **Implications for Practitioners**

Continued study regarding the relationship between living arrangement and academic performance allows for practitioners and scholars to maintain dialogue and create strategies that improve both academic performance and student engagement. When students are engaged in their experience, they are more likely to be successful in college and persist to degree completion (Astin, 1984). Schroeder, Mable, and Associates (1994) assert:

the challenge for residence halls is to place a renewed emphasis on promoting student learning through integrating residence hall learning opportunities with the goals and priorities of undergraduate education. To address this challenge, residence educators must overcome the traditional gap that has existed between academic affairs and student affairs (p. 15).

One way to build a relationship between academic affairs and student affairs is for student affairs administrators to identify characteristics of student engagement that alter academic performance. Student affairs administrators must also emphasize how personal development and skills gained from student engagement outside of the classroom, including within students' place of residence, is essential to academic performance. Using tools, such as the National Survey of Student Engagement (NSSE), will help student affairs administrators explore the relationship between living arrangement, student engagement, and academic performance, as well as foster positive associations between academic and co-curricular learning outcomes. Exploring student engagement and academic performance in relation to demographic characteristics offers an opportunity for both academic affairs and student affairs administrators to understand how students experience these factors based on their various identity groups.

### **Gaps in Existing Research**

Literature conducted within the past 10-15 years related to the relationship between living arrangement and academic performance, as measured by GPA, presents mixed results. Some studies demonstrate benefits in terms of higher GPA, retention, and academic skills for residential students compared to commuter students (De Araujo & Murray, 2010a; Flowers, 2004; Lopez Turley & Wodtke, 2010; e.g.). Other research implies there are either similar or no differences in academic performance between residential and commuter students (De Araujo & Murray, 2010a; Zheng, Saunders,

Shelly, & Whalen, 2002; e.g.). Research in this area can become even more complex when students live off campus or at home, but within walking distance to their classes and university resources (De Araujo & Murray, 2010b; Newman-Ford, Lloyd, & Thomas, 2009; Kuh, 2008; Lopez Turley & Wodtke, 2010; e.g.). There is also a recent shift in the literature focusing on the influence of specific programs within the residence halls, such as first-year experience programs, living-learning communities, and faculty-in-residence programs, as well as examining the differences between residential participants and residential nonparticipants in those programs (Edwards & McKelfresh, 2002; Inkelas, Daver, Vogt, Leonard, 2007; Inkelas & Weisman, 2003; Mara & Mara, 2010; Rhoades, 2009).

Little research focuses exclusively on how demographic characteristics, such as age, gender, and race/ethnicity, influence the residential experience (Blimling, 1989; Flowers, 2004; Newman-Ford, Lloyd, & Thomas, 2009; e.g.). Most of the participants in studies regarding the influence of living on campus are White, and most studies that compare students based on race/ethnicity solely examine differences between African-American and White students. Few studies exclusively address the experiences of non-White and international students. A vast amount of literature exists on the differences between male and female college students as it relates to academic performance; however, more research is needed to address gender differences specifically within the residence halls. Age has also been addressed in the research literature with respect to exploring differences in academic performance between traditional and non-traditional students, but little research has investigated differences in age groups for residential and commuter students.

Lastly, limited research addresses how the student engagement influences the relationship between living arrangement and academic performance (Pike, Kuh, & McCormick, 2011). The National Survey of Student Engagement (NSSE) is a measurement tool that reports information related to student involvement while in college and is used to support the aforementioned characteristics of student engagement (National Survey of Student Engagement, 2011a). The NSSE assists administrators and faculty in improving learning aspects of the college experience, thereby enhancing how students learn and encouraging a collaborative effort among the entire campus community to put forth more effort toward the learning process. Using the NSSE in the study allowed the researcher to make inferences about the most effective ways to engage current college students and explore differences in how students are engaged as it relates to academic performance and living arrangement.

In summary, studies that explore the relationship between living arrangement and the academic performance of college students are dated and present mixed results. Moreover, few studies on this topic include age, gender, and race/ethnicity as moderating variables. Lastly, utilizing the NSSE for this study allowed the researcher to explore whether differences in academic performance exist between residential and commuter students based on how they engage in practices related to learning and student development.

### **Research Questions**

This study was performed to investigate the following questions:

1. How does living arrangement predict the academic performance of first-year, full-time undergraduate students?

2. Will age, gender, or race/ethnicity moderate the relationship between living arrangement and academic performance?
3. Will the effective educational practices, as determined by the National Survey of Student Engagement, moderate the relationship between living arrangement and academic performance?

### **Methodology**

The study used a non-experimental comparative design, using archival data, to explore the differences between first-year, full-time residential undergraduate students and first-year, full-time commuter undergraduate students as it relates to academic performance. With non-experimental research, researchers do not implement experimental treatments during the study; rather they collect data and investigate relationships without control or inference of causation (Patten, 2012).

Students enrolled at Old Dominion University, a four-year, public research university located in Norfolk, Virginia, were used for this study. The final participant group consisted of the 870 first-year, full-time undergraduate students who participated in the NSSE in 2010 and indicated their living arrangement. According to Leedy and Ormrod (2010), given the amount of first-year, full-time undergraduate students at the university, the participant group size is sufficient for this study. Oversampling was utilized for the study to ensure the demographics of the participants were representative of the larger first-year, full-time undergraduate student body at the university.

Grade Point Average (GPA) measured academic performance. Participants' living arrangement was divided into two types: residential students (dormitory or other campus housing) and commuter students (residence within walking/driving distance of the institution). The results from the 2010 NSSE pertaining to first-year, full-time undergraduate students who indicated their living arrangement, along with their



cumulative GPAs from the 2009-2010 academic year, were collected. Student demographic information provided by the 2010 NSSE included: gender, age, race/ethnicity, international student status, college class classification, enrollment status, transfer status, sorority/fraternity membership, participation in university-sponsored athletics, level of parent(s) education, and intended major (National Survey of Student Engagement, 2011b).

The data analyses corresponded to the study's research questions. First, descriptive statistics were collected to describe the data. Next, the GPA results for each living arrangement group were compared using regression to determine differences between the two groups. Finally, the researcher explored potential moderator effects of age, gender, race/ethnicity, and each of the five key characteristics of student engagement within the relationship between living arrangement and academic performance. Regression was also used to investigate any moderator effects.

### **Limitations**

There were several limitations to the study. First, the findings from this study were limited to students who participated in the NSSE in 2010 and are not generalizable to the entire student body at Old Dominion University or other institutions of higher education. The study did not consider other institutional types, such as for-profit, community, or liberal arts colleges. One group of first-year, full-time undergraduate students at one university was selected for the study. The researcher did not seek to understand the relationship between academic performance and living arrangement as it related to other class standings (part-time, sophomore, junior, senior class standing, e.g.). Although the researcher strived to gather the most representative group of the first-year,

full-time undergraduate students at the institution selected for the study, the participants did not represent every first-year, full-time undergraduate student at the institution nor did it represent the entire first-year student population in higher education.

In addition, the instrument used to measure student engagement did not include all characteristics of engagement. If the researcher chose to explore other factors of engagement or use another measurement tool, the study could have led to different results.

Although the researcher included age, gender, race/ethnicity, and characteristics of student engagement as moderator variables in the study, other confounding variables that could have influenced the results of the study were not explored. As a result, this study cannot be used to describe a causal relationship between living arrangement and academic performance. Other factors, such as ACT/SAT scores, academic performance during high school, intrinsic motivation, and other characteristics, could also influence participants' academic performance; however, these variables were not included in the study.

## **CHAPTER II**

### **REVIEW OF THE LITERATURE**

#### **Introduction**

This chapter provides a review of existing literature that explores the relationship between living arrangement, academic performance, and student engagement. This literature review first provides an overview of residential and commuter student characteristics. Next, research related to living arrangement, academic performance, and student engagement is addressed followed by studies related to living arrangement, student engagement, academic performance, and the three demographic factors: age, gender, and race/ethnicity. The chapter concludes with a summary, restatement of the problem and research questions, and hypotheses.

#### **Overview of Commuter and Residential Students**

The following section provides an overview for understanding residential and commuter students. The essential difference between residential and commuter students is living arrangement. Commuter students are defined as students who live off campus in non-institutionally owned residential facilities. In contrast, residential students live in on-campus, institutionally-owned residential facilities (Chickering, 1974; Hintz, 2011; Jacoby, 2000; Kuh, Gonyea, & Palmer 2001; e.g.). Beyond living arrangement, existing literature suggests several differences between residential and commuter students.

#### **Commuter Student Characteristics**

When considering all types of higher education institutions, commuter students represent 85% of US college students (Horn & Nevill, 2006). Commuter students include both full-time and part-time students of both traditional and non-traditional age

(Banning & Hughes, 1986; Horn & Nevill, 2006; Jacoby, 2000; Jacoby & Garland, 2004; Kuh, Gonyea, & Palmer, 2001). Forty percent of undergraduate students attend courses part-time, more than 44% of undergraduate students are 24 or older, and virtually all of these students are commuters (Jacoby & Garland, 2004). Minority students are represented at a disproportionately higher rate within the commuter population than the residential population, with nearly 85% of students of color living off campus (Horn & Nevill, 2006; Jacoby, 2000; Kuh, Gonyea, & Palmer, 2001). These percentages will continue to increase as older, part-time, and minority students enter higher education. Commuter students are also more likely to report having a disability than their residential counterparts (Horn & Nevill, 2006).

Commuter students typically reside either at home with parents or relatives, or in private housing without parents or relatives (Chickering, 1974; Horn & Nevill, 2006; Hintz, 2011; Jacoby, 2000). Moreover, commuter students are also broken down into “walking commuters” (Kuh, Gonyea, & Palmer, 2001, p. 4), students who live within walking distance to campus, and “driving commuters” (p. 4), students who live off campus, but within driving distance to the institution.

Four main concerns exist for commuter students as they gain entry into campus life (Wilmes & Quade, 1986; Jacoby, 2000; Jacoby & Garland, 2004): transportation issues, multiple life roles, integrating support systems, and developing a sense of belonging. Students who commute to campus have to manage issues, such as transportation costs, traffic, inclement weather, parking, and arranging multiple modes of transportation to campus, should their primary method of commuting fail. Once on campus, students also have to deal with fixed course schedules, programs, and services

that may not be conducive to commuter student schedules. These issues impede on student time and energy, and can take away from student interest and time spent on campus.

Commuter students often balance multiple responsibilities, which can limit the amount of time they spend interacting with campus life (Wilmes & Quade, 1986; Jacoby, 2000; Jacoby & Garland, 2004; Wolfe, 1993). Keeling (1999) describes commuter students as the “reinvented student” because of their competing identities – “‘student’ is only one identity for people who are also employees, wage workers, opinion leaders or followers, artists, friends, children...parents, partners, or spouses” (p. 4). Commuter students are more likely to work more hours, work off campus, be married or partnered, spend time in a career, and care for dependents (Keeling, 1999; Kuh, Gonyea, and Palmer, 2001). Due to their various responsibilities, spending time on campus is viewed as one of many aspects of daily life experienced for limited periods of time. As a result, commuter students have to choose how and when they participate in campus activities wisely to effectively balance their multiple obligations.

Integrating support systems can also be difficult for commuter students (Wilmes & Quade, 1986; Jacoby, 2000; Jacoby & Garland, 2004). Since commuter students spend a portion of their time off campus, they may also have support systems off campus through family, friends, employers, coworkers, and other members within the community. However, commuter students also have on-campus support through institutional services and activities. Commuter students have to effectively allocate their time to spend with multiple networks in order to fulfill student responsibilities while also maintaining their off-campus support networks. Negotiating time between multiple

support systems can be challenging, especially when individuals within the off-campus support systems are not aware or have an understanding of the challenges and opportunities in pursuing a degree in higher education.

Commuter students also have to develop a sense of belonging within the campus community (Banning & Hughes, 1986; Wilmes & Quade, 1986; Jacoby, 2000; Jacoby & Garland, 2004). Since commuter students do not spend the majority of their time on campus, they may feel disconnected to the campus community. Moreover, many institutions lack services to accommodate commuter student needs, such as lockers, physical space, and flexible course schedules. When institutions provide opportunities to engage in the campus community primarily at night and/or on the weekends, this sends the message to commuter students that their engagement is not important to the institution, which decreases students' overall sense of belonging.

Several misconceptions exist regarding commuter students (Jacoby, 2000; Jacoby & Garland, 2004; Kuh, Gonyea, & Palmer, 2001). For traditional-aged commuter students who live at home with their parents, one stereotype is they are not expected to be full members of the campus community because they have to live under the strict rules of their parents. On the other hand, commuter students who live in private housing, whether traditional age or older, and have full-time careers, spouses or partners, and children, do not have time to be involved in campus activities. Lastly, it is assumed commuter students are not serious about their education and are apathetic towards campus life. However, these perceptions are not the case. Commuter students are no less committed to their education and are also interested in being involved in the campus community (Jacoby, 2001). As mentioned earlier, many commuter students also have to balance

commuting to campus, family, work, and other responsibilities and, as a result, higher education is not always their primary focus. Although commuter students cannot become involved in campus life in the same ways as residential students, Jacoby (2000) suggests it is important for colleges and universities to design opportunities that complement commuter student schedules and intentionally integrate them into campus life. This will be described in more detail in a later chapter.

### **Residential Student Characteristics**

Although a relatively small percentage of US undergraduate students reside in on-campus housing, residence halls remain essential to “what [is] known as the collegiate way of life” and are rooted within the inception of US higher education (Schroeder, Mable, & Associates, 1994, p. 5). Due to their history within higher education, a vast amount of research exists on residential students and what living on campus offers to the overall college experience (Jacoby & Garland, 2004; Hintz, 2011). Residential students are primarily traditional-aged students with 75% of residents aged 19 years old or younger (Kuh, Gonyea, & Palmer, 2001). Residential students are majority White, enrolled full-time, and spend five hours or fewer working an off-campus job or caring for dependents. Residential students also have a higher family income than their commuting peers, are less likely to report having a disability, and their parents’ level of education includes either one or both parents having at least a college degree (Chickering, 1974; Horn & Nevill, 2006; Kuh, Gonyea, & Palmer, 2001).

The residential living environment offers a variety of opportunities for academic, intellectual, and student development that are not afforded to commuter students (Astin, 1973; Chickering, 1974; Pascarella, 1985a; Pascarella & Terenzini, 2005; Schroeder,

Mable, & Associates, 1993; e.g.). Living on campus provides a stable environment for residents while exposing them to a variety of knowledge, lifestyles, perspective, and values. Moreover, students can test personal attitudes and identities, learn about cultural differences, exchange personal knowledge and experiences, and develop or redevelop career plans and aspirations. Residence halls foster greater diversity and unity among the residential students. Students who live on campus are also more likely to engage in activities that support their academic pursuits and overall satisfaction with college life as well as persist to graduation than commuter students.

Programs and activities occur within the residence halls that incite opportunities for both academic and non-academic learning. These opportunities are typically exclusive to on-campus residents and commuters are less likely to receive similar opportunities from their off-campus living arrangements. Programs, such as faculty-in-residence programs and living-learning communities, allow residents a more academically and socially rich living environment that results in an enhanced experience than those students who do not participate in these programs (Inkleas, Daver, Vogt, & Leonard, 2006; Pascarella & Terenzini, 2005; Rhoads, 2009; Wolfe, 1993). Due to the unique learning opportunities within the residential environment, residential students often view their living environment and learning environment as one in the same (Chickering, 1974; Hintz, 2011; Jacoby, 2000; Jacoby & Gardner, 2004). Unlike commuter students, residential students do not have to balance competing responsibilities of home, school, and personal life. They do not have to allocate their time among multiple identities and support systems because the majority, if not all, of their time is spent on campus. Living on campus provides convenient access to libraries, classrooms,



study lounges, and other facilities that encourage student success. Residential students are also more likely to participate in campus activities and interact with faculty, staff, and peers because they reside on campus and do not have the stressors of commuting back and forth from a different location (Astin, 1993b; Wolfe, 1993). Simply stated, the main priority and identity of residential students is being students.

On the other hand, living on campus can also increase opportunities to engage in behaviors that hinder student success (Astin, 1973; Thombs, Olds, Bondy, Winchell, Daliunas, & Rehm, 2009). Alcohol and drug use are more frequent for students who reside in the residence halls and can lead to lower academic performance. Astin (1973) described negative behaviors that increase as a result of living on campus as going to parties, smoking, drinking, listening to music, oversleeping, and missing classes. Despite these disadvantages, living on campus offers unique opportunities to enhance the college experience that commuter students are unable to receive.

### **Characteristics Related to Living Arrangement, Academic Performance, and Student Engagement**

#### **Living Arrangement and Academic Performance**

Academic performance is a widely used outcome to study the academic achievement of college students (Astin, 1993b). Research suggests academic performance is enhanced through living on campus, however, a number of studies that address the direct influence of living arrangement on academic performance present varied results (Astin, 1973; Blimling, 1989; Bowman & Partin, 1993; De Aruajo & Murray, 2010b; Pascarella, Bohr, Nora, Zusman, Inman, & Delser, 1993; Pascarella & Terenzini, 2005; Schroeder, Mable, & Associates, 1994). Some studies suggest students

who live on campus are more involved in academic life and have greater growth related to “aesthetic, cultural and intellectual values, sociopolitical liberalism, secularism, self-esteem autonomy, independence, internal locus of control, persistence in degree completion, and use of principled reasoning in judging moral issues...even when controlling for gender, race, socioeconomic status, secondary-school performance, academic ability, and precollege levels” (Nora, Zusman, Inman, & Delser, 1993, p. 216). However, other studies demonstrate little or no difference between residential and commuter students with regard to academic performance.

As it pertains to the influence of living arrangement on students’ college experiences, many researchers cite Astin’s (1973) and Chickering’s (1974) longitudinal studies as seminal research (Kuh, 2009; Pascarella, 1984). Using empirical data from the Cooperative Institutional Research Program (CIRP), Astin described both the benefits and drawbacks of living on campus for first-year students (1973). Astin classified the participants into three types of living groups: living in dormitories, living with parents, or living in private housing and identified five different outcome measures for the basis of his study – educational progress, plans and aspirations, behaviors, attitudes and values, and satisfaction ratings of the institution. He also separated the data by institutional type – two-year college, four-year college, and university.

Astin found living in dormitories had both positive and negative influences over the other two groups. Students who lived in the dormitories also had more positive self-perceptions of interpersonal competencies, popularity, and public speaking abilities, but had a negative effect on political conservatism. In contrast, residence hall living also

increased behaviors that impeded academic performance, such as going to parties, smoking, drinking, oversleeping, and missing classes.

On the other hand, Chickering (1974) concluded students living in the residence halls had higher levels of learning even when background variables, such as prior education, ability, and family backgrounds, were taken into account. Data for his longitudinal, descriptive study were collected through the American Council on Education, which collected information on first-year students across the US when they first entered college and periodically during their academic careers. Overall, commuter students were less likely to type homework, complete homework assignments on time, engage in academic activities with peers, and were more likely to oversleep, which are all factors that influence academic performance. They also scored lower in public speaking ability, leadership ability, intellectual self-confidence, and had lower GPAs than residential students. Four years after their first-year in college, residential students still exceeded the learning and personal development levels students were predicted to acquire during their first year of college.

Blimling (1989) conducted a meta-analysis of empirical studies conducted between 1966 and 1987 regarding the influence of college residence halls on academic performance. Three criteria determined the studies to be included in the analysis – each study had to address the influence of residence halls on academic performance of undergraduate students in the United States, appear in a refereed journal, dissertation or as an ERIC document, and report a statistic for which an effect size could be determined. Effect sizes were computed using Pearson's  $r$ , standard equivalency formulas, or probability values, and studies were then organized into three comparison groups: 1)

residence hall students compared with students living at home; 2) residence hall students compared with students living in fraternity/sorority houses; and 3) residence hall students compared with students living in off-campus apartments.

The results demonstrated no difference in academic performance between residence hall students and students living at home when controlling for precollege characteristics. Regarding the other two groups, students living in the residence halls performed better academically than students living in fraternity/sorority houses and students living in the residence halls performed better academically than students who lived in off-campus apartments. However, because the differences in academic performance for the third comparison were small, results regarding this group were questionable. Implications from this meta-analysis included that although living in the residence halls may not directly influence academic performance, activities in the residence halls, such as programming, can have positive effects on academic performance.

Supporting Blimling's (1989) research, Bowman and Partin (1993) also found no direct influence of living arrangement on academic performance when dividing living arrangement into two categories – on-campus (students residing in the residence halls) and off-campus (students residing in apartments, fraternity and sorority houses, or at home with parents). Information collected to measure academic performance consisted of grade point average (GPA) and American College Testing (ACT) scores. The results demonstrated no significant differences regarding either score between on-campus and off-campus students.

Differences in critical thinking skills between residential and commuter students were explored by Pascarella, Bohr, Nora, Zusman, Inman, and Delser (1993) and Inman and Pascarella (1998). Pascarella, Bohr, Nora, Zusman, Inman, and Delser (1993) measured reading comprehension, mathematics, and critical thinking skills and found a positive significant difference between residential and commuter students in the development of critical thinking skills, with residential students having higher critical thinking skills. There was also a small, yet not significant difference in reading comprehension and mathematics, with residential students having slightly higher reading comprehension and mathematics skills. The data were collected via a survey, pretest, and posttest over the course of one academic year. On the other hand, Inman and Pascarella (1998) analyzed scores from a critical thinking pretest and posttest taken by participants at the beginning and end of their first year of college and found, when controlling for precollege background and abilities, there were no statistically significant differences between residential and commuter students as it relates to the development of critical thinking skills.

Terenzini, Pascarella, and Blimling (1996) explored the influence of out-of-class experiences on academic and cognitive development. Results from their study demonstrated students who lived in the residence halls had a slight advantage in academic performance over students who lived in fraternity/sorority houses and a statistically significant advantage over students who lived in off-campus, private housing. Living in coed or single-sex on-campus housing made no difference regarding academic performance. Establishing living arrangement based on matched characteristics, such as pairing students by major or assigning students by class standing, produced mixed results.

Residence hall programming also influenced academic performance when the programming was designed to increase academic and intellectual development.

The National Study of Student Learning considers how living on campus, as opposed to commuting, influences standardized tests and self-reported measures of academic skill development and learning (Pascarella & Terenzini, 2005). A number of analyses of this measure found, when controlling for precollege characteristics, such as test scores, academic motivation, age, socioeconomic status, race, gender, and enrollment, there were no significant direct effects of living arrangement on standardized test or self-reported scores.

Huhn (2006) reported the most academically prepared first-year students were more likely to live on campus and, as a result, residential students were more likely to achieve higher academic performance than their commuter counterparts. However, because academic preparation was not controlled for in examining the relationship between living on campus and academic performance, it was difficult to determine whether the differences in academic performance were due to living arrangement or prior academic preparation.

Taking into account the impact of self-selection, De Araujo and Murray (2010b) explored differences in the influence of living on campus on academic performance. The participants completed a survey that asked questions regarding background characteristics, living arrangement, social habits, study habits, campus involvement, and academic performance. Academic performance was measured by grade point average (GPA). Both semester and cumulative GPAs were then collected for each participant. Living on campus was not required at the institution used for the study. The results

demonstrated that, even when accounting for self-selection, students who lived on campus produced higher GPAs than commuter students. When accounting for self-selection, the GPA for on-campus housing students was 0.20 higher than students who lived off campus. When not accounting for self-selection, the GPA for on-campus housing students was 0.50 higher than students who lived off campus.

### **Living Arrangement, Academic Performance, and Student Engagement**

A growing body of research suggests high academic performance does not result from living on campus in and of itself, but through the opportunities to engage with campus life and levels of support on-campus residential communities provide (Astin, 1973; Blimling, 1989; Johnson & Cavins, 1996; Pascarella & Terenzini, 2005; Terenzini, Pascarella, & Blimling, 1996; e.g.). The nature of these activities supports the aforementioned theory of student involvement, which underscores the importance of active involvement in the college experience and student success (Astin, 1984). Astin names active involvement in academics, student-faculty interaction, and engaging in extracurricular activities as imperative forms of student engagement. Student engagement, especially during the early years of college, plays a role in whether students become academically and socially integrated into campus life and persist towards degree completion (Berger & Milem, 1999). As it relates to student engagement and living arrangement, Pascarella, Terenzini, and Blimling (1994) concluded “residential living during college is consistently one of the most important determinants of a student’s level of involvement” because residential students are more likely to interact with peers and faculty, become involved in extracurricular activities, and use campus facilities, all characteristics that lead to improved academic performance (p. 25). Schroeder, Mable,

and Associates (1994) and Johnson and Cavins (1996) argued student learning has remained a concern for residence life professionals for many years because residence halls are an ideal environment for developing community, increased student engagement, and purposeful interactions amongst faculty, students, and staff. The following studies document the relationship between living arrangement and academic performance as it relates to student engagement.

Pascarella examined whether living on campus impacts college life when the outcome measures are interpersonal self-concept, academic integration, and social integration with peers and faculty (1985a). Using data from the Cooperative Institutional Research Program (CIRP) survey, the following variables were measured: academic integration, social integration with peers, and social integration with faculty with living arrangement coded for each of the participants. The results demonstrated living on campus had a direct effect on social integration with both peers and faculty. There were no significant, direct effects between living on or off campus in relation to academic integration or intellectual or interpersonal self-concept. However, living on campus did have an indirect effect on academic integration and self-concept through interactions with peers and faculty.

As suggested by Barefoot (2000), student peer groups and relationships with faculty are an important influence on learning outcomes, such as academic performance. Residence hall activities are an opportunity to provide positive interactions and bonding with faculty and peers. Schudde (2011) found students living on campus had more social support through relationships with faculty and peers, spent less time working off campus, and more time on extracurricular activities than commuter students, which are all



predictive behaviors of academic integration. The 2002 Educational Longitudinal Study and the Integrated Postsecondary Education Data System were used to collect the data for this study. Part-time students, married students, students with children, and students from colleges that did not offer housing or required living on campus were excluded from the study. The following moderator variables were included in the study: race, gender, parents' household income, parents' level of education, spoken language, high school grade point average (GPA), participation in high school extracurricular activities, total high school academic credits, scholastic assessment test (SAT) scores, institutional characteristics, cost of room and board, and attitudes about desired college social experiences.

The results suggested a number of significant differences. Students who lived on campus had a higher household income, spent less time working off campus, and spent more time participating in both high school and college extracurricular activities than commuter students. When students were matched based on similar propensity scores, there was a significant difference between residential and commuter students, with residential students being more likely to persist to graduation. When controlling for social support, the analyses demonstrated a positive, but not significant, relationship between living on campus and retention. When looking at the probability of retention, the percentage was higher for students living on campus than students living off campus. This research supported Astin's (1996) assertion that student peer groups are a powerful influence on involvement in the educational experience, as how students interact with their peer group will influence other aspects of students' educational development. With

regard to living arrangement, Astin specifically named living at home and commuting as having negative influences on the educational experience.

Kuh, Gonyea, and Palmer (2001) explored whether commuter students are less involved in academic life than residential students by examining differences in characteristics of student engagement, as measured by the National Survey of Student Engagement (NSSE). These characteristics are formally termed as benchmarks of effective educational practices within the survey and include the aforementioned five key characteristics of student engagement. Participants in the study were first-year and senior students from 470 four-year colleges and universities and were divided into three living arrangement groups: residential, walking commuters, and driving commuters. The results demonstrated students who lived on campus had the highest scores in all of the benchmarks, indicating residential students were more engaged in campus life than commuter students. However, the effect size varied from benchmark to benchmark. The lowest effect size was observed when comparing driving commuter students to walking commuter and residential students regarding two of the benchmarks: student-faculty interaction and enriching educational experiences. This data suggested that driving commuters actually do have less interaction with faculty and are less likely to engage in enriching educational experiences than both walking commuter and residential students. With the other three benchmarks, the effect sizes were relatively small. Since the effect sizes were small, the researchers could not conclude that residential students actually had higher gains in these areas, but noted how the residential experience, namely the efforts put into residence hall programming by faculty and administrators, could be the cause for the positive effect sizes.

Living arrangement can have a particularly negative influence on the experiences of commuter students, as discovered by Kodama (2002) and Wilcox, Winn, and Fyvie-Gauld (2005). Results from the studies demonstrated commuter students experience less social interaction with peers and faculty and a more unsupportive campus environment than their residential counterparts, and these experiences led to feeling marginalized by the institution, lower academic performance, and decreased retention rates. Wilcox, Winn, and Fyvie-Gauld (2005) noted supportive faculty-student relationships helped students feel comfortable within their academic environment and manage stressful situations that affected their academic progress. Likewise, students formed study groups with and were influenced by the study habits of their peers, which also influenced their academic performance. However, students who did not reside on campus found establishing academic relationships with faculty and peers more difficult because these relationships were often built and maintained in the residence halls or during times when commuter students were not on campus. The lack of relationships with faculty and peers led to poor grades and, for some participants of the study, leaving the university after the first year.

De Araujo and Murray (2010a) explored differences in academic and social behaviors that influence the academic performance of students living on campus versus students living off campus. Influences of academic performance were divided into two channels: utilization of university resources and peer effects, with students of sophomore standing and above used for the study. The researchers found students who live on campus have easier access to campus resources and build more relationships with faculty and peers than commuter students, resulting in their increased academic performance.

With regard to utilizing academic facilities (libraries, campus labs, and other areas outside of the hall), there was a significant difference between residential and commuter students, suggesting residential students spend more time using these resources, but no difference between utilizing fitness centers and tutoring services. Residential students also had significant positive differences regarding group study with classmates and roommates, and engaging in extracurricular activities.

### **Demographic Factors Related to Living Arrangement**

Studies related to the impact of demographic variables, specifically age, gender, and race/ethnicity, on the relationship between living arrangement, engagement, and academic performance are limited. Astin (1993a) asserts, “amidst debates over multiculturalism, diversity, and political correctness by academics and the news media, claims and counterclaims about the dangers and benefits of multiculturalism have abounded, but so far little hard evidence has been produced to support any of these claims” (p. 44). As it relates to the effect of living on campus, academic performance and the overall college experience, Blimling (1993) stated, “except for a handful of studies concerning the attitudes of White American students about African-American and international students, the research does not reveal much about how underrepresented groups in higher education are influenced by living in a college residence hall” (p. 293).

Research regarding living arrangement and gender is inconclusive and more research is needed to address these areas (Arboleda, Wang, Shelley, & Whalen, 2003; Hu, 2002; Sax, Bryant, & Harper, 2005; Turley & Wodtke, 2010; e.g.). Studies that address age, gender, and race/ethnicity as it relates to living arrangement, student engagement, and academic performance examine cognitive impact, how students are

integrated academically and socially into the campus community, and perception of campus climate.

### **Cognitive Impact**

Newman-Ford, Lloyd, and Thomas (2009) investigated the effects of gender, prior academic performance, place of residence, age, and attendance on first-year academic performance. Data on student attendance were gathered using a key fob system where students checked in at the beginning of each class. Students showing sporadic attendance were flagged and offered additional academic support. Information regarding academic performance, age, gender, and living arrangement were obtained using university records.

The results demonstrated a variety of significant and non-significant relationships between the variables. Gender differences did not significantly predict academic performance. Regarding living arrangement, students who lived in student or private housing performed better academically than students who resided at home. There was also a significant relationship between prior educational attainment and first-year academic performance – students who had high academic performance in high school also had high academic performance during the first year of college. Finally, the relationship between age and academic performance was not significant.

Measuring participants by living arrangements: on campus, living off campus in private apartments, and living off campus with family, Turley and Wodtke (2010) explored how living on campus benefits first-year students characterized by race/ethnicity, gender, and institutional-type. The data was gathered from a national sample from the National Postsecondary Student Aid Study. Living arrangement was

obtained from the Integrated Postsecondary Education Data System and merged with information from the National Postsecondary Student Aid Study. The researchers also collected participant grade point averages (GPAs) from institutional records. Overall, the results demonstrated students who lived on campus were more advantaged with regard to GPA, spent more hours studying per week, and were more likely to have parents with a college degree than students who lived off campus. However, when controlling for factors expected to affect GPA, such as precollege attitudes and SAT score, living arrangement did not significantly affect GPA for most students. African-American students who lived on campus had higher GPAs than African-American students who lived off campus. Regarding liberal arts institutions, students who lived on campus had higher GPAs than students who lived off campus with family, but there were no significant differences regarding institutional enrollment. Women had higher GPAs at four-year institutions regardless of living arrangement.

With regard to women, the finding from this study is also consistent with Wolfe's (1993) study on institutional integration, academic success, and persistence of first-year commuter and residential students. Wolfe investigated two areas as part of his study: the relationship between participation of residential and commuter students in a first-year experience in terms of academic and social integration, commitment, academic success and persistence, and the relationship between participation and gender as it pertains to academic and social integration, commitment, academic success and persistence. Women had significantly higher GPAs than men, regardless of residential status or participation in the program.

Through a longitudinal study, Flowers and Pascarella (1999) examined differences between African-American students attending historically Black colleges (HBC) and predominantly White institutions (PWI). The participants were sampled from various institutions from the National Center on Education Statistics Integrated Postsecondary Education Data System and information was collected regarding demographic characteristics, student aspirations and expectations of college, student orientation towards learning, reading comprehension, mathematics, and critical thinking skills over the course of three years. Reduced-form regression equations were used to analyze the data.

When controlling for precollege cognitive development, gender, age, academic motivation, socioeconomic status, and average precollege cognitive ability of students at the institution, attending an HBC had an effect on reading and self-reported gains in understanding the arts, humanities, and science. When including the college experience variables and considering direct effects, attending an HBC had no significant effect on the variables. Living on campus also positively enhanced reading comprehension, critical thinking skills, and cumulative credit hours completed, regardless of HBC or PWI.

Furthermore, Flowers (2004) also sought to understand to what extent African-American students who lived on campus differed from African-American students who did not live on campus on self-reported educational gains in college, and which residential experiences led to higher self-reported educational gains. The College Student Experience Survey (CSEQ) measured education gains. Controlling for academic performance, the results demonstrated a positive relationship between living on campus

and personal and social development for African-American students. Among students living on campus, students who offered to help or were provided advice or assistance from other students experienced the most personal and social development.

### **Academic and Social Integration**

Pascarella (1985b) and Hausman, Schofield, and Woods (2007) both found social integration is more influential than academic integration for African-American men, whereas academic integration was more influential for White men and women. White men reported less academic integration than White women, but this finding was reversed for social integration. African-American women were equally affected by academic and social integration. Regarding all four groups, students who lived at home with their parents reported lower overall integration into the campus community than students who lived on campus. Peer and parental support were most influential for African-American students' sense of belonging.

### **Perception of Campus Climate**

All students rely on racial/ethnic identity, community involvement, peer interactions, and/or family support to assist with navigating the college experience (Locks, Hurtado, Bowman, & Oseguera, 2008). However, students of color also face the perception of a hostile racial climate. Perception of campus climate affects how students feel they belong to the campus community, which influences their academic performance and persistence. Their study explored how campus climate influenced students' transition to college, specifically examining the relationships between experience with diverse peers prior to college and students' sense of belonging. Data were derived from the Preparing College Students for a Diverse Democracy project. African-American,



American Indian, Asian-American, Hispanic/Latino and White students were included in the study.

From the results, students of color were more likely to have more precollege exposure to diversity, positive interactions with diverse peers, perceive more racial tension on campus, live at home with parents, and spend less time socializing. For both White students and students of color, students living with parents and students who spent less time socializing with peers had a reduced sense of belonging. Anxiety toward interacting with diverse peers also led to lower sense of belonging, mediated through perceptions of racial tension. Women were more likely to perceive racial tension as a result of their predisposition to participate in diversity activities.

Kodama (2002) found gender and race were an influence on the relationship between living arrangement and whether commuter students felt isolated or accepted into the campus community. Information was collected from the Commuter Student Experience Survey, which assesses the experiences of commuter students with regard to involvement in campus life, use of campus sources of support, and best means for informing them about campus activities. A marginality scale was created from the survey that measured whether students felt supported or marginalized by the university and the results demonstrated commuter students with more on-campus support were less likely to feel marginalized; however, female transfer students expressed more marginality than male transfer students. Moreover, students who were unemployed revealed the most marginality and students who worked on campus revealed the least marginality. Asian students also revealed the highest perceptions of isolation from the campus community when compared to African-American, White, and students classified as other, and White

students revealed the lowest perceptions of isolation. In addition to the findings, the study highlighted the importance of not treating commuter students as one homogenous group, as commuter students also have diverse experiences that lead to varying degrees of support or marginalization from the campus community.

### **Chapter Summary**

A review of the literature provided mixed evidence regarding the influence of living arrangement on academic performance. Some studies suggested living on campus improves academic performance while other studies suggested little or no differences in academic performance between residential and commuter students when controlling for other variables. This review also examined the influence of student engagement and demographic factors, i.e. age, gender, and race/ethnicity, in the relationship between living arrangement and academic performance. A growing body of literature suggests living on campus does not directly influence on academic performance, but indirectly benefits academic performance through the increased opportunities to engage in campus life that are afforded through living on campus. Moreover, age, gender, and race/ethnicity also influence academic performance and how students experience their living environment.

### **Justification for Study**

#### **Dated Research Regarding Living Arrangement and Academic Performance**

Although many studies have been conducted on the relationship between living arrangement and academic performance, research conducted on this topic presents varying results. Furthermore, an extensive amount of research on this topic was conducted 10-20 years ago and research utilizing college students from within the past 5-

10 years is limited (Blimling, 1989; De Aruajo & Murray, 2010b; Schudde, 2011; e.g.). More current studies focus on the influence of specific programs within the residence halls, such as first-year experience programs, living-learning communities, and faculty-in-residence programs, and examine differences between residential participants and residential nonparticipants in those programs (Edwards & McKelfresh, 2002; Inkelas, Daver, Vogt, & Leonard, 2007; Inkelas & Weisman, 2003; Mara & Mara, 2010; Rhoades, 2009; e.g.). More research is needed to fully understand how living arrangement influences academic outcomes, namely GPA, on more current students.

Evidence also suggests living arrangement has an indirect, positive influence on academic performance through characteristics of student engagement, yet a limited number of studies address this hypothesis (Blimling, 1989; De Aruajo & Murray, 2010a; Pascarella & Terenzini, 2005; Terenzini, Pascarella, & Blimling, 1996; e.g.). Jacoby (2000), Kuh, Gonyea, and Palmer (2001), and Pike, Kuh, and McCormick (2011) suggest more research is needed to address differences between residential and commuter engagement and how this engagement influences learning and academic performance.

Additional research is needed to address how age, gender, and race/ethnicity moderate the relationship between academic performance and living arrangement. Research focused on how factors, such as age, gender, and race/ethnicity, influence the relationship between living arrangement and academic performance is important because of the changing demographics of our student population. For example, the National Center for Education Statistics reports that 38% of college students are over the age of 35 and 25% are over the age of 30 (Hess, 2011). The traditional college student – one who lives on campus and is between the ages of 18-22, as a large percentage of the total

college population is declining rapidly; however, few studies address the relationship between living arrangement, academic performance, and age.

In addition, research regarding whether men or women benefit more from living on campus is mixed and more research is needed to address this area (Arboleda, Wang, Shelley, & Whalen, 2003; Hu, 2002; Sax, Bryant, & Harper, 2005). As it pertains to race/ethnicity, Blimling (1993) called for more research to address how living arrangement influences underrepresented, specifically racial/ethnic minority groups. Flowers (2004), Kuh (2009), and Pascarella and Terenzini (2005) suggested more studies specifically to address the experiences of living on campus from students of color.

### **Problem Statement**

This study sought to understand the relationship between living arrangement and the academic performance of first-year, full-time undergraduate students and if age, gender, race/ethnicity, and characteristics of student engagement change, by increasing or decreasing, the strength of the relationship. As noted previously, researching findings regarding this relationship are mixed and additional, more current studies are warranted. In a more practical sense, findings from this study can assist institutional leaders responsible for the financial and human resource decision-making for campus housing departments, as the results can contribute to strategies for improving engagement in the residence halls as it relates to academic performance. Moreover, findings can be used to address how programs and services are being developed to improve the academic performance of commuter students. This study can also be used to facilitate a relationship between academic affairs and student affairs as it relates to academic performance and retention efforts. Finally, students may have an interest in the results if

they are invested in how living arrangement impacts their academic performance and engagement in campus life.

### **Research Questions**

The following research questions were addressed:

1. How does living arrangement predict the academic performance of first-year, full-time undergraduate students?
2. Will age moderate the relationship between living arrangement and academic performance?
3. Will gender moderate the relationship between living arrangement and academic performance?
4. Will race/ethnicity moderate the relationship between living arrangement and academic performance?
5. Will level of academic challenge, as determined by the National Survey of Student Engagement, moderate the relationship between living arrangement and academic performance?
6. Will active and collaborative learning, as determined by the National Survey of Student Engagement, moderate the relationship between living arrangement and academic performance?
7. Will student-faculty interaction, as determined by the National Survey of Student Engagement, moderate the relationship between living arrangement and academic performance?
8. Will enriching educational experiences, as determined by the National Survey of Student Engagement, moderate the relationship between living arrangement and academic performance?
9. Will supportive campus environment, as determined by the National Survey of Student Engagement, moderate the relationship between living arrangement and academic performance?

### **Research Hypotheses**

Given the lack of recent research and mixed results regarding this topic (Blimling, 1989; Pascarella & Terenzini, 2005; Schudde, 2011; e.g.), the researcher hypothesized a

directional relationship between living arrangement and academic performance, however, the strength and direction of the relationship or whether the relationship was moderated by characteristics of student engagement, was unclear. Furthermore, although age, gender, and race/ethnicity can influence how students experience college and their academic performance, more research is needed to understand how these factors moderate the relationship between living arrangement and academic performance (Arboleda, Wang, Shelley, & Whalen, 2003; Astin, 1993; Blimling, 1993; Flowers, 2004; Locks, Hurtado, Bowman, & Oseguera, 2008; e.g.). Therefore, the researcher also predicted age, gender, and race/ethnicity would have moderator effects on the relationship between living arrangement and academic performance, but how these variables would moderate the relationship was also unclear.

## **CHAPTER III**

### **METHODOLOGY**

#### **Overview and Design**

The study was a non-experimental comparative design that explored the influence of living arrangement on the academic performance of first-year, full-time undergraduate students. The researcher also addressed age, gender, and race/ethnicity as moderating variables in the relationship between living arrangement and academic performance. Finally, the study addressed characteristics of student engagement, as measured by the National Survey of Student Engagement (NSSE), as moderators in the relationship between academic performance and living arrangement. The following chapter describes the participants, measures, research questions and hypotheses, procedures, and data analyses for this study.

Academic performance, as measured by grade point average (GPA), served as the dependent variable and the independent variable was students' living arrangement. Living arrangement was divided into two types: residential students (dormitory or other campus housing) and commuter students (residence within walking/driving distance to campus). The moderator variables used in the study were the five key characteristics of student engagement, termed as effective educational practices and determined by the NSSE, and age, gender, and race/ethnicity. The effective educational practices specified in the research questions were: level of academic challenge, active and collaborative learning, student-faculty interaction, enriching educational experiences, and supportive campus environment. Age was the year of birth of each participant and was recorded in years. Gender was indicated as either male or female. Race/ethnicity referred to whether

participants noted themselves as American Indian/Native American, Asian/Asian-American/Pacific Islander, Black/African-American, White (non-Hispanic), Mexican/Mexican-American, Puerto Rican, Other Hispanic/Latino, Multiracial, Other, or preferred not to specify. However, for the purposes of this study, race/ethnicity was consolidated into three groups: Black/African-American, White (non-Hispanic), and Other (American Indian/Native American, Asian/Asian-American/Pacific Islander, Mexican/Mexican-American, Puerto Rican, Other Hispanic/Latino, Multiracial, Other, or preferred not to specify). Characteristics of all variables, with the exception of academic performance, were derived from the NSSE.

### **Research Hypotheses**

As noted in the previous chapters, the lack of recent research and mixed research findings do not firmly support a relationship between living arrangement and academic performance (Blimling, 1989; Pascarella & Terenzini, 2005; Schudde, 2011; e.g.). Therefore, the researcher hypothesized a directional relationship between living arrangement and academic performance, however, the strength and direction of the relationship or whether the relationship was moderated by characteristics of student engagement, was uncertain. Furthermore, although age, gender, and race/ethnicity can influence how students experience college and their academic performance, more research is needed to understand how these factors moderate the relationship between living arrangement and academic performance (Arboleda, Wang, Shelley, & Whalen, 2003; Astin, 1993; Blimling, 1993; Flowers, 2004; Locks, Hurtado, Bowman, & Oseguera, 2008; e.g.). Therefore, the researcher also predicted age, gender, and race/ethnicity would have moderator effects on the relationship between living



arrangement and academic performance, but how these variables would moderate the relationship was also uncertain.

### **Participants**

First-year, full-time undergraduate students enrolled at Old Dominion University, a four-year, public, urban institution in Southeastern Virginia, during the 2009-2010 academic year were used for this study and the final participants were selected from the first-year, full-time undergraduate students who participated in the National Survey of Student Engagement (NSSE) at the institution. In 2010, 1,004 first-year students participated in the NSSE, which was 32% of the institution's total enrollment of first-year students during the 2009-2010 academic year (Old Dominion University, 2010a). The participants in this study consisted of the 870 first-year, full-time undergraduate students who participated in the NSSE in 2010 and indicated their living arrangement. Information regarding non first-year, full-time undergraduate students who completed the NSSE was not used in the study. According to Leedy and Ormrod (2010), given the amount of first-year, full-time undergraduate students at the institution, the participant group size was sufficient for this study. Oversampling was utilized for the study to ensure the demographics of the participants were representative of first-year, full-time undergraduate students at the selected institution.

Student demographic variables collected from the 2010 NSSE included: gender, age, race/ethnicity, international student status, college class classification, enrollment status, transfer status, sorority/fraternity membership, participation in university-sponsored athletics, level of parent(s) education, and intended major (National Survey of Student Engagement, 2010). Along with living arrangement, portions of the provided

demographic information, namely age, gender, and race/ethnicity, were used to answer the research questions. Students provided their year of birth, which was used to determine age, gender as male or female, and race/ethnicity as American Indian/Native American, Asian/Asian-American/Pacific Islander, Black/African-American, White (non-Hispanic), Mexican/Mexican-American, Puerto Rican, Other Hispanic/Latino, Multiracial, or Other. Regarding race/ethnicity, participants were also provided the option to select I prefer not to respond, which was also included in the analysis.

### **Measures**

Academic performance was measured by grade point average (GPA). GPA was an appropriate measurement tool because the researcher intended to assess the participants' academic performance. Moreover, GPA is calculated based on a student's performance in his/her individual courses and is assumed to appropriately reflect performance across courses (Leedy & Ormrod, 2010). Cumulative GPA was used for the study, as it encompassed the GPAs of both Fall 2009 and Spring 2010 semesters.

The second measure drew on information from the National Survey of Student Engagement (NSSE). The NSSE "documents dimensions of quality in undergraduate education and provides information and assistance to colleges, universities, and other organizations to improve student learning. Its primary activity is annually surveying college students to assess the extent to which they engage in educational practices associated with high levels of learning and development" (National Survey of Student Engagement, 2011a, p. 2). In 2010, 595 higher education institutions from the United States and Canada participated in NSSE and 363,630 first-year and senior students from these institutions responded to the survey. Administrators, faculty, policymakers, and

additional campus partners commonly utilize NSSE data for institutional improvement and accountability (National Survey of Student Engagement, 2011b).

To survey students who attend colleges and universities, the NSSE uses the College Student Report questionnaire. A copy of the 2010 College Student Report can be found in Appendix A. Participants answer 28 questions regarding their college experience. Within the questions, participants rate 85 statements that present topics, such as academic and social services provided by the institution, their level of involvement in curricular and co-curricular activities, and overall level of satisfaction with the institution, based on a Likert scale. Of the 85 statements, 42 items measure the five effective educational practices and are specified as follows:

Table 1

*Questionnaire Items that Represent the Effective Educational Practices*

Effective Educational Practices	Number of Items
Level of Academic Challenge	11
Active and Collaborative Learning	7
Student-Faculty Interaction	6
Enriching Educational Experiences	12
Supportive Campus Environment	6

Experts in the field used thorough precautions to ensure validity and reliability of the NSSE (National Survey of Student Engagement, 2012a; National Survey of Student Engagement, 2012b). A conceptual framework was developed to determine face and content validity. Focus groups and cognitive interviews were conducted with participants to discuss the survey items and maximize response process validity. Concurrent validity was estimated by comparing the data from administration of the NSSE during the spring of 2009 to data from the Beginning College Survey of Student Engagement, which was

administered during the summer of 2008 (National Survey of Student Engagement, 2012b). The Beginning College Survey of Student Engagement indicates students' academic engagement in high school, expectations of college, and attitudes towards their academic work during the first year of college. The results demonstrated students' high school engagement had a significant effect on level of academic challenge during the first year of college, with an effect size of .19. Expectations of college and attitudes towards academic work during the first year of college, when included together, were positively related to level of academic challenge during the first year of college, with an effect size of .29.

The 2010 NSSE was also tested for internal consistency, temporal stability, and equivalence to establish reliability (National Survey of Student Engagement, 2012a). To measure internal consistency, questions were grouped into the deep learning scale and three subscales and Cronbach's alpha was used to analyze the results. Randomly selected students who participated in the 2011 NSSE were included in the study and the results demonstrated reliability coefficients of .70 for the integrative learning subscale, .80 for the reflective learning subscale, .82 for the higher order learning subscale, and .85 for the overall deep learning scale. Internal consistency was also tested using three gains – gains in practical competence, gains in personal and social development, and gains in general education. Randomly selected students who participated in the 2011 NSSE were also included in this study and Cronbach's alpha was also used to analyze the results. The results demonstrated reliability coefficients of .83 for gains in practical competence, .87 for gains in personal and social development, and .84 for gains in general education.

The five benchmarks were compared to estimate temporal stability using Pearson's  $r$  for 231 institutions that participated in the NSSE in both 2010 and 2011. The results demonstrated the benchmark scores as relatively stable overall, with Pearson's  $r$  ranging from .75 for first-year student-faculty interaction to .82 for first-year enriching educational experiences. Asking a sample of students from the 2006 NSSE to quantify their responses to select survey items tested equivalence, and median frequencies demonstrated small differences among the sample.

### **Procedure**

After, obtaining Institutional Review Board (IRB) approval to conduct this study (application number: 201302020), the researcher used university records to collect the results from the 2010 College Student Report for the study. This questionnaire was administered at the institution of which participants were enrolled during the Spring semester of 2010. The researcher then used university records to obtain the cumulative GPAs of the NSSE College Student Report participants who indicated their class standing as freshman/first-year and attendance status as full-time. Participants who indicated their class standing as sophomore or above and unclassified or indicated their attendance status as part-time were excluded from the study. All personal identifiers, such as students' names, social security numbers, and university identification numbers were removed from the data.

As part of the questionnaire, participants indicated their current living arrangement as one of five options: 1) dormitory or other campus housing (not fraternity/sorority house); 2) residence (house, apartment, etc.) within walking distance of the institution; 3) residence (house, apartment, etc.) within driving distance of the institution;

4) fraternity or sorority house; or 5) none of the above (see Appendix A). For the purposes of the study, the five options were consolidated into two categories: residential students (dormitory or other campus housing) and commuter students (residence within walking/driving distance of the institution and fraternity/sorority house). Old Dominion University does not own fraternity or sorority housing; however, any participant who indicated this type of living arrangement were considered commuter students because of privately owned homes along the perimeter of campus where members of fraternities and sororities reside. Participants who indicated living arrangement as none of the above were excluded from the study. The Statistical Package for the Social Sciences (SPSS) software was used to analyze the data.

### **Data Analysis**

First, although statistical software was used to analyze the data, data cleaning also occurred to decrease the possibility of Type I and Type II errors. Pairwise deletion was used to appropriately manage missing data.

The data analyses were conducted in stages corresponding to the proposed study's research questions. Living arrangement served as the independent variable and academic performance, as measured by GPA, served as the dependent variable. Descriptive statistics were collected to describe the data. Regression was then used to analyze the data because regression not only measures relationships between variables, but can fit a statistical model to a set of data and use the model to predict values of the dependent variable from an independent variable(s) (Field, 2009).

To address the first question, researcher examined differences in GPA between the living arrangement groups. Dummy coding was used to code living arrangement.

Regarding questions two through four, age, gender, and race/ethnicity were entered as moderator variables to determine which variables moderated the relationship between living arrangement and GPA. Dummy coding was used to code living arrangement, gender and race/ethnicity. As it relates to questions five through nine, the five NSSE benchmarks of effective educational practices were entered as moderator variables to determine which benchmarks moderated the relationship between living arrangement and GPA. Dummy coding was used to code living arrangement.

## **CHAPTER IV**

### **RESULTS**

#### **Introduction**

This study sought to understand the relationship between living arrangement and the academic performance of first-year, full-time undergraduate students at Old Dominion University, a public, four-year, urban institution in Southeastern Virginia. The participants for this study consisted of the 870 first-year, full-time undergraduate students who participated in the National Survey of Student Engagement (NSSE) at the selected institution in 2010 and indicated their living arrangement. In 2010, 1,004 first-year students participated in the NSSE, which was 32% of the university's total enrollment of first-year students during the 2009-2010 academic year (Old Dominion University, 2010a). Living arrangement served as the predictor variable and academic performance served as the outcome variable in performing the data analysis. Further, eight moderator variables, age, gender, race/ethnicity, and the five educationally effective practices, as determined by the NSSE, were used to understand potential moderator effects on the relationship between living arrangement and academic performance. The first research question identified the existence of a predictive relationship between the living arrangement and academic performance. Questions two through nine asked if there was a moderator effect of each of the moderator variables on the relationship between living arrangement and academic performance. The alpha level was set at the .05 level for all significance tests.

Because of the many factors that affect academic performance, this study was not a comprehensive study of academic performance. Rather, this study sought to understand



the relationship between living arrangement and the academic performance of first-year, full-time undergraduate students and how certain demographic and factors of student engagement moderated the relationship. The independent and moderator variables were determined for this study based on prior research and, as suggested by Cohen, Cohen, West, and Aiken (2003), “theory and prior empirical research will often provide strong guidelines for the variables that should be included in the study” (p. 119).

Table 2 reflects the frequencies and percentage of participants regarding the living arrangement, gender, and race/ethnicity variables. Most of the participants in the study identified as residential (68%) and as female (56.9%). As it relates to race/ethnicity, participants who identified as White (non-Hispanic) represented 57.8% of the total study participant group size. Three participants did not indicate gender. The largest minority group identified in the study, Black/African-American, and the combined percentage for the remaining minority groups, categorized as Other (American Indian/Native American, Asian/Asian American/Pacific Islander, Mexican/Mexican American, Puerto Rican, Other Hispanic/Latino, Multiracial, Other, and I prefer not to respond), were approximately equal in size, representing 21.0% and 21.1%, respectively. One participant did not indicate race/ethnicity.

Table 2

*Frequencies and Percentages of the Participants for Living Arrangement, Gender, and Race/Ethnicity*

Variable	Frequency	Percent
Living Arrangement		
Residential	592	68.0
Commuter	278	32.0
Missing	0	0.0
Gender		
Male	372	42.8
Female	495	56.9
Missing	3	0.3
Race/Ethnicity		
Black/African-American	183	21.0
White (non-Hispanic)	502	57.8
Other	184	21.1
Missing	1	0.1

Descriptive statistics for the remaining variables are indicated in Table 3. At the time in which academic performance was measured, the average age of participants in the study was 18.73 and average GPA was 2.79. Regarding the five educationally effective practices, participants rated highest in the Supportive Campus Environment practice (61.05) and lowest in the Enriching Educational Experiences practice (27.11).

Table 3

*Descriptive Characteristics for Grade Point Average (GPA), Age, and the Five Educationally Effective Practices*

Variable	n	M	SD
GPA	870	2.79	.83
Age	869	18.73	2.920
Level of Academic Challenge	870	51.78	13.03
Active and Collaborative Learning	869	41.07	16.47
Student-Faculty Interaction	867	33.93	17.42
Enriching Educational Experiences	869	27.11	12.90
Supportive Campus Environment	868	61.05	18.01

### **Statistical Models**

This study utilized a simple regression statistical model to examine the predictive relationship between living arrangement and academic performance. Other characteristics, specifically age, gender, race/ethnicity, and the five educationally effective practices, were analyzed one by one using a simple regression with one moderator variable statistical model to examine whether each of the variables strengthened or weakened the predictive relationship between living arrangement and academic performance.

### **Regression Assumption Checking**

According to Field (2009), checking assumptions is essential to making accurate conclusions regarding the data. Four basic assumptions must be met in order for a test to be accurate: normally distributed data, homogeneity of variance, using interval data, and independence (p. 133). For the purposes of this study, normality, homogeneity of variance, and independence were tested.

Prior to testing assumptions and data analysis, Cook's distance indices were generated in the model assessing the predictive relationship between living arrangement and academic performance to measure the overall influence of outliers on the model. Cases with values greater than one may be cause for concern (Field, 2009). Of the 870 cases, none of the cases exceeded a value of one, meaning no cases had an influence on the regression model. As indicated by Cook's distance, the highest value among the cases used for this study was .022.

**Normality**

Normality was tested to ensure normal distribution of deviations in the regression model (Field, 2009). Using a histogram and probability-probability (P-P) plot to look for normality in the participant group, analysis revealed a close to normal distribution of residuals for the regression model assessing the predictive relationship between living arrangement and academic performance (see Appendix B).

**Homogeneity of Variance**

When homogeneity of variance is assumed, the variance of the outcome variable(s) should be the same when levels of the predictor variable(s) change (Field, 2009). Levine's test was used to test for homogeneity of variance for this study and the results indicated equal variances for residential and commuter students,  $F(1, 868) = .294$ ,  $p = .588$ .

**Independence**

Independence is assumed when residual terms are uncorrelated (Fields, 2009). The Durbin-Watson test examines correlations between errors in the regression model and, as a conservative rule of thumb, "a number less than one and greater than three are definitely cause for concern" (p. 785). The results using the Durbin-Watson test for this study demonstrated independence between adjacent residuals,  $DW = 1.01$ .

**Missing Data**

The researcher used pairwise deletion to account for missing data. Using pairwise deletion, SPSS excluded participants from analysis only when there was a missing score from the particular analysis in which the variable was being explored (Fields, 2009). No more than three participants were excluded from each analysis (see Table 3).

## **Research Question Results**

Regression was used to analyze each of the nine research questions. Questions two through nine incorporated one moderator variable into the regression analysis. Dummy coding was used to code living arrangement, gender, and race/ethnicity. Residential students were coded as 1 and commuter students were coded as 0. Men were coded as 1 and women were coded as 0. Race/ethnicity (i.e., American Indian/Native American, Asian/Asian American/Pacific Islander, Black/African American, White (non-Hispanic), Mexican/Mexican American, Puerto Rican, Other Hispanic/Latino, Multiracial, Other, and I prefer not to respond) were consolidated into three groups – White (non-Hispanic), African-American/Black, and Other, and were coded as 1 or 0 relative to each code, respectively. The White (non-Hispanic) ethnic/racial group was used as the dummy coding reference group.

Specifically related to questions four through nine, if a moderator effect existed in the predictive relationship between living arrangement and academic performance, a follow up question explored the levels of change in academic performance across the moderator variable. When applicable, the mean score and scores one standard deviation above and one standard deviation below the mean score were chosen to represent the “change in outcome associated with a unit change in the predictor” (Field, 2009, p. 208).

### **Research Question 1**

How does living arrangement predict the academic performance of first-year, full-time undergraduate students? If living arrangement predicts the academic performance of first-year, full-time undergraduate students, what is the predicted academic performance, as measured by GPA, for residential and commuter students?

The results did support the predictive relationship between living arrangement and academic performance,  $F(1, 868) = 5.846, p < .05, \Delta R^2 = .007$ . The predicted GPA for residential students was 2.74 and the predicted GPA for commuter students was 2.89 based on the regression model.

### **Research Question 2**

Will age moderate the relationship between living arrangement and academic performance? If there is a moderator effect of age on the relationship between living arrangement and academic performance, how does the between group difference in GPA change across levels of age (i.e., one standard deviation below the mean age score, the mean age score, and one standard deviation above the mean age score)?

The results did not indicate a moderator effect of age on the relationship between living arrangement and academic performance,  $F(1,865) = .298, p > .05, \Delta R^2 = .001$ .

### **Research Question 3**

Will gender moderate the relationship between living arrangement and academic performance? If there is a moderator effect of gender on the relationship between living arrangement and academic performance, how does the between group difference in GPA change across levels of gender (i.e., male, female)?

The results did not reveal a moderator effect of gender on the relationship between living arrangement and academic performance,  $F(1,863) = .898, p > .05, \Delta R^2 = .001$ .

### **Research Question 4**

Will race/ethnicity moderate the relationship between living arrangement and academic performance? If there is a moderator effect of race/ethnicity on the relationship

between living arrangement and academic performance, how does the between group difference in GPA change across levels of race/ethnicity (i.e., White (non-Hispanic), African-American/Black, and Other)?

The results did not demonstrate a moderator effect of race/ethnicity on the relationship between living arrangement and academic performance,  $F(2,863) = .383, p > .05, \Delta R^2 = .001$ .

### **Research Question 5**

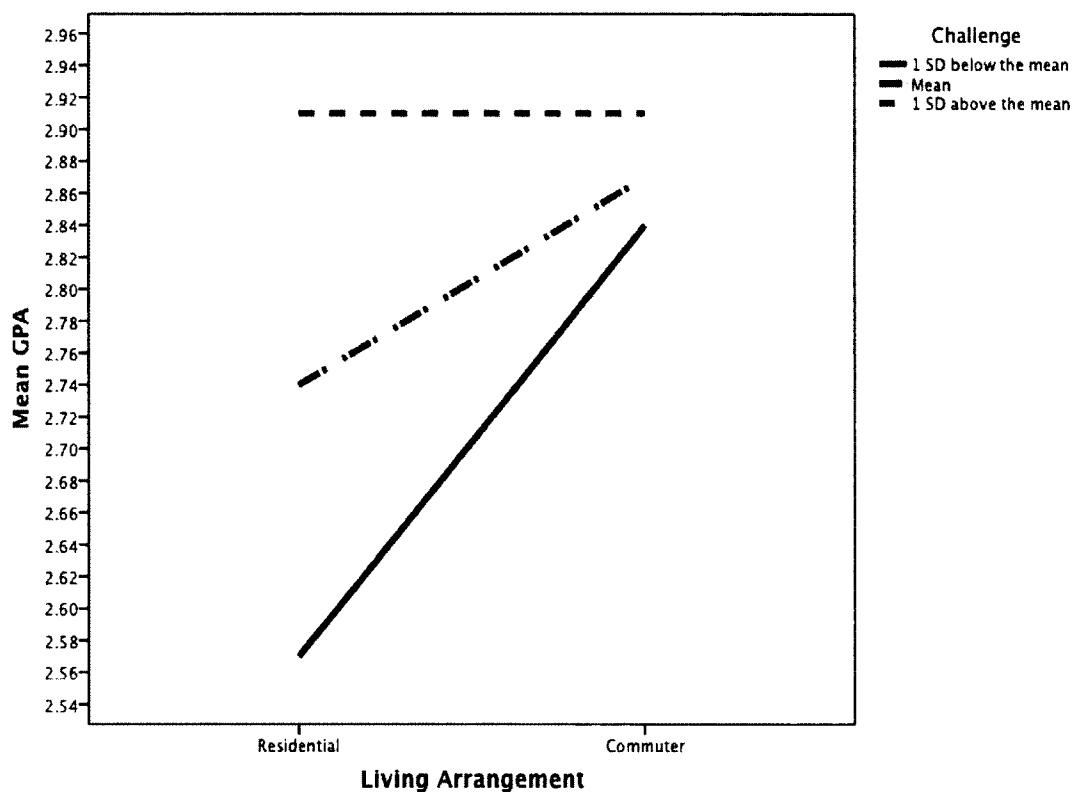
Will level of academic challenge, as determined by the National Survey of Student Engagement, moderate the relationship between living arrangement and academic performance? If there is a moderator effect of level of academic challenge on the relationship between living arrangement and academic performance, how does the between group difference in GPA change across levels of academic challenge (i.e., one standard deviation below the mean level of academic challenge score, the mean level of academic challenge score, and one standard deviation above the mean level of academic challenge score)?

The results revealed a moderator effect of level of academic challenge on the relationship between living arrangement and academic performance,  $F(1,866) = 4.439, p < .05, \Delta R^2 = .005$ . At one standard deviation below the mean level of academic challenge score, 38.75, the predicted GPA for residential students was 2.57 and for commuter students was 2.84. The between group difference at one standard deviation below the mean level of academic challenge was .37. At the mean level of academic challenge score, 51.78, the predicted GPA for residential students was 2.74 and for commuter students was 2.87. The between group difference at the mean level of

academic challenge was .13. At one standard deviation above the mean score, 64.81, the predicted GPA for both residential and commuter students was 2.91. There was no between group difference at one standard deviation above the mean score. Differences in GPA between residential and commuter students are indicated in Graph 1.

Graph 1

*Differences in GPA between Residential and Commuter Students*



**Research Question 6**

Will active and collaborative learning, as determined by the National Survey of Student Engagement, moderate the relationship between living arrangement and academic performance? If there is a moderator effect of active and collaborative learning on the relationship between living arrangement and academic performance, how does the between group difference in GPA change across levels of active and collaborative



learning (i.e., standard deviation below the mean active and collaborative learning score, the mean active and collaborative learning score, and one standard deviation above the mean active and collaborative learning score)?

The results did not show a moderator effect of active and collaborative learning on the relationship between living arrangement and academic performance,  $F(1,865) = .365, p > .05, \Delta R^2 = .001$ .

### **Research Question 7**

Will student-faculty interaction, as determined by the National Survey of Student Engagement, moderate the relationship between living arrangement and academic performance? If there is a moderator effect of student-faculty interaction on the relationship between living arrangement and academic performance, how does the between group difference in GPA change across levels of student-faculty interaction (i.e., one standard deviation below the mean student-faculty interaction score, the mean student-faculty interaction, and one standard deviation above the mean student-faculty interaction score)?

The results did not support a moderator effect of student-faculty interaction on the relationship between living arrangement and academic performance,  $F(1,863) = .746, p > .05, \Delta R^2 = .001$ .

### **Research Question 8**

Will enriching educational experiences, as determined by the National Survey of Student Engagement, moderate the relationship between living arrangement and academic performance? If there is a moderator effect of enriching educational experiences on the relationship between living arrangement and academic performance,

how does the between group difference in GPA change across levels of enriching educational experiences (e.g. one standard deviation below the mean enriching educational experiences score, the mean enriching educational experiences score, and one standard deviation above the mean enriching educational experiences score)?

The results did not indicate a moderator effect of enriching educational experiences on the relationship between living arrangement and academic performance,  $F(1,865) = 2.562, p > .05, \Delta R^2 = .003$ .

### **Research Question 9**

Will supportive campus environment, as determined by the National Survey of Student Engagement, moderate the relationship between living arrangement and academic performance? If there is a moderator effect of supportive campus environment on the relationship between living arrangement and academic performance, how does the between group difference in GPA change across levels of supportive campus environment (e.g. one standard deviation below the mean supportive campus environment score, the mean supportive campus environment score, and one standard deviation above the mean supportive campus environment score)?

The results did not reveal a moderator effect of supportive campus environment on the relationship between living arrangement and academic performance,  $F(1,864) = .002, p > .05, \Delta R^2 = .001$ .

### **Summary**

Regression with one categorical predictor was used to understand the relationship between living arrangement and the academic performance of first-year, full-time undergraduate students. Prior to analysis, normality, homogeneity of variance, and

independence were checked and these assumptions were met. Further, missing data was accounted for using pairwise deletion.

Living arrangement was categorized into residential and commuter students and academic performance was measured using GPA. Regarding the predictive utility of living arrangement on academic performance, the results demonstrated a predictive relationship between living arrangement and academic performance. Commuter students demonstrated higher academic performance than residential students, with the predicted GPA for residential students as 2.74 and the predicted GPA for commuter students as 2.89 based on the regression model.

Further, age, gender, race/ethnicity, and five characteristics of student engagement, as determined by the National Survey of Student Engagement, were used as moderator variables to explore how each variable either strengthens or weakens the relationship between living arrangement and academic performance. Table 4 is a summary of  $\Delta R^2$  and significance for the moderator effects on the relationship between living arrangement and academic performance.

Table 4

*Multiple Regression Analysis of the Moderator Effects on the Relationship between Living Arrangement and Academic Performance of First-Year, Full-Time Undergraduate Students*

Moderator Variable	$\Delta R^2$	$p$
Age	.001	.585
Gender	.001	.344
Race/Ethnicity	.001	.682
Level of Academic Challenge	.005	.035
Active and Collaborative Learning	.001	.546
Student-Faculty Interaction	.001	.388
Enriching Educational Experiences	.003	.110
Supportive Campus Environment	.001	.964

Regarding level of academic challenge, a follow-up question explored the moderator effect of the variable on the relationship between living arrangement and academic performance: how does the between group difference in GPA change across levels of academic challenge (i.e., one standard deviation below the mean level of academic challenge score, the mean level of academic challenge score, and one standard deviation above the mean level of academic challenge score)? Level of academic challenge strengthened the relationship between living arrangement and academic performance for both residential and commuter students. Regarding the remaining moderator variables, the results suggested the between-group differences regarding living arrangement and academic performances would remain the same across levels of each moderator variable.

## **CHAPTER V**

### **DISCUSSION**

#### **Introduction**

This study sought to understand the relationship between living arrangement and the academic performance of first-year, full-time undergraduate students. The researcher also addressed how age, gender, race/ethnicity, and characteristics of student engagement, as measured by the National Survey of Student Engagement (NSSE), moderated the relationship between living arrangement and academic performance. This chapter will summarize the study, discuss the findings presented in Chapter IV, present limitations of the study based on the findings and implications for practitioners, and provide recommendations for future research.

#### **Summary of the Study**

As stated by Kuh, Kinzie, Schuh, Whitt, and Associates (2005), “what students do in college counts more for what they learn and whether they will persist in college than who they are or even where they go to college” (p.16). The notion of how much time and effort students invest in college activities was popularized by Astin’s student involvement theory (1984), which served as the theoretical framework for this study.

Astin’s theory (1984) has since evolved into what is now referred to as student engagement (Kuh, 2009). Student engagement represents both the “time and effort students devote to activities that are empirically linked to desired outcomes of college *and* what institutions do to induce students to participate in these activities” (p. 683). The National Survey of Student Engagement (NSSE) established five benchmarks that capture effective contributors to student learning and development: level of academic

challenge, active and collaborative learning, student-faculty interaction, enriching educational experiences, and supportive campus environment (2009). Engaged students are more likely to obtain higher college GPAs, academic and social development, retention rates, overall satisfaction with the college experience, and persistence to graduation than students who are not engaged in campus life (Astin, 1993b; Kim & Sax, 2009; Kuh, 2009; Kuh, Gonyea, & Palmer, 2001; Pascarella & Terenzini, 2005; Seidman, 2005; Tinto, 1993; e.g.).

One way students are engaged in their college experience is through their living environment. Astin suggested one of the most important factors of retention and degree completion is a student's place of residence because of the varying opportunities for learning and development that occur within the environment (Astin, 1984). Many studies focused on the relationship between living arrangement and academic performance, however, many of the studies were conducted 10-20 years ago and the results of these investigations have been mixed (Blimling, 1989; De Aruajo & Murray, 2010b; Schudde, 2011; e.g.). As a result, more research is needed to fully understand how living arrangement influences academic outcomes, namely grade point average (GPA), on more contemporary college students. Evidence also suggests living arrangement has an indirect, positive influence on academic performance through student engagement, yet only a limited number of studies address this hypothesis (Blimling, 1989; De Aruajo & Murray, 2010a; Pascarella & Terenzini, 2005; Pike, Kuh, & McCormick, 2011; Terenzini, Pascarella, & Blimling, 1996; e.g.).

Additional research is also needed to address how age, gender, and race/ethnicity moderate the relationship between academic performance and living arrangement (Astin,

1993a; Astin, 1993b; Blimling, 1989; Flowers, 2004; Flowers & Pascarella, 1999; Pascarella & Terenzini, 2005; e.g.). Astin (1993a) admonished, “amidst debates over multiculturalism, diversity, and political correctness by academics and the news media, claims and counterclaims about the dangers and benefits of multiculturalism have abounded, but so far little hard evidence has been produced to support any of these claims” (p. 44). Studies regarding living arrangement, age, and gender are inconclusive and more research is needed to address these areas (Arboleda, Wang, Shelley, & Whalen, 2003; Hu, 2002; Newman-Ford, Lloyd, & Thomas, 2009; Sax, Bryant, & Harper, 2005; Turley & Wodtke, 2010; e.g.). Research investigating the relationship between race/ethnicity, living arrangement, and academic performance usually compares White to African-American students and demonstrate that although both White and African-American students benefit academically and socially from living on campus, African-American students have the highest gains (Astin, 1993a; Blimling, 1993; Flowers, 2004; Pascarella & Terenzini, 2005; Turley & Wodtke, 2010; e.g.).

This study sought to understand the relationship between living arrangement and the academic performance, as measured by GPA, of first-year, full-time undergraduate students at Old Dominion University, a four-year, public, urban institution in Southeastern Virginia during the 2009-2010 academic year. The researcher also investigated potential moderator effects of age, gender, race/ethnicity, and five key characteristics of student engagement, as defined by the National Survey of Student Engagement (NSSE), on the relationship between living arrangement and academic performance. Information related to the moderator variables was derived from the results of the NSSE College Student Report that was administered during the Spring semester of

2010. The participants were divided into two groups – residential students (students who resided in university-owned, on-campus housing) and commuter students (students who resided in non-university-owned, off-campus housing within walking/driving distance to campus). The data were analyzed using a series of regression analyses.

### **Restatement of the Research Questions**

The following research questions were addressed:

1. How does living arrangement predict the academic performance of first-year, full-time undergraduate students?
2. Will age moderate the relationship between living arrangement and academic performance?
3. Will gender moderate the relationship between living arrangement and academic performance?
4. Will race/ethnicity moderate the relationship between living arrangement and academic performance?
5. Will level of academic challenge, as determined by the National Survey of Student Engagement, moderate the relationship between living arrangement and academic performance?
6. Will active and collaborative learning, as determined by the National Survey of Student Engagement, moderate the relationship between living arrangement and academic performance?
7. Will student-faculty interaction, as determined by the National Survey of Student Engagement, moderate the relationship between living arrangement and academic performance?
8. Will enriching educational experiences, as determined by the National Survey of Student Engagement, moderate the relationship between living arrangement and academic performance?
9. Will supportive campus environment, as determined by the National Survey of Student Engagement, moderate the relationship between living arrangement and academic performance?



## **Discussion of the Results**

### **Living Arrangement and Academic Performance**

The results of this study suggest first-year, full-time undergraduate residential students are not at an advantage over first-year, full-time undergraduate commuter students as it relates to their academic performance. The results did support a predictive relationship between living arrangement and academic performance, yet residing off campus posed a greater influence on academic performance than residing on campus, as commuter students demonstrated higher predicted GPAs than residential students. However, the percent of variation in academic performance related to the variation in living arrangement, as measured by the square of the correlation coefficient ( $\Delta R^2$ ), was .007, which means 0.70% of the variance was related to the interaction between living arrangement and academic performance. The statistical significance could be the result of the large number of participants in the study (Field, 2009),  $N= 870$ , and, although the difference was significant, it is not practical. Therefore, based on these results, one cannot reasonably conclude either an advantage or a disadvantage to living on campus versus commuting to campus as it relates to the academic performance of first-year, full-time undergraduate students. These results supported previous studies that suggest little or no direct benefit to living on campus as that aspect of campus life relates to academic performance. However, continued research is necessary to establish conclusive evidence regarding the impact of living arrangement on academic performance (Blimling, 1989; Bowman & Partin, 1993; Huhn, 2006; Pascarella, Bohr, Nora, Zusman, Inman, & Delser, 1993; Pascarella & Terenzini, 2005; Schroeder, Mable, & Associates, 1994; e.g.). Recommendations for future research are described in a later section of this chapter.

Despite the small effect size of this finding, there are several explanations for the determination that commuter students academically outperformed residential students in this study. First, this study challenges several misconceptions related to commuter students (Jacoby, 2000; Jacoby & Garland, 2004; Kuh, Gonyea, & Palmer, 2001). Chapter I described three existing misconceptions about commuter students: 1) traditionally-aged commuter students are not expected to be fully contributing members to the campus community because they remain under the strict rules of their parents; 2) commuter students, whether traditionally-aged or older, do not have time to be academically engaged because of their competing responsibilities; and 3) commuter students are not serious about their academics. However, as mentioned by Jacoby (2000), commuter students are no less committed to their education; their educational goals are just as significant as those of residential students. This commitment, as demonstrated by the results of this study, is reflected in their academic performance. The results of this investigation belie the assumption that commuter students are unable to achieve the same academic success as residential students. No longer can we assume resident students are more likely, categorically, to achieve superior academic performance (Horn & Nevill, 2006; Hess, 2011; Jacoby, 2000; Jacoby & Garland, 2004).

Commuter students are more likely to have additional responsibilities in addition to the primary task of attaining excellence in the classroom. These include career-related responsibilities, family, or other obligations, and the time commitment of commuting. More than residential students, commuter students are forced to carefully manage their time in order to balance their many commitments (Astin, 1993; Chickering, 1974; Jacoby, 2000; Jacoby & Garland, 2004; Kuh, Gonyea, & Palmer, 2001; e.g.). We can

conclude this essential need to develop time management skills influences commuter students to become more intentionally involved in the learning process. For instance, both commuter and residential students may allot two hours per day to academic activities, such as reading, writing, and preparing for class. Commuter students may more intensely engage in the academic activities because of their time limitations, while residential students may allow themselves to get distracted or spend less energy focused on the academic activities during the allotted time because they have less time constraints and more flexibility regarding how much time they spend on academic and extracurricular activities. As a result, commuter students achieve higher academic performance than their residential counterparts. This assertion supports research conducted by Laskey and Hetzel (2011), who suggested having effective time management skills are an important aspect of college student academic success. Furthermore, Kirschner and Karpinski (2010) demonstrated that participating in non-academic activities simultaneously with academic activities, such as studying while surfing the Internet, leads to less time spent on academic activities and lower GPAs.

Commuter students may also strategically utilize on-campus academic support services when compared to residential students because their time spent on campus is limited. Astin (1984) suggested high involvement in the college experience entails both quantitative and qualitative measures and commuter and residents may not only differ in the amount of time spent on academic activities, but also in the quality of the engagement. These differences can impact academic performance in both a positive or negative way and the previously mentioned examples demonstrate how qualitative and

quantitative measures related to involvement and academic performance can potentially favor the lifestyle of commuter students.

One misconception of traditionally-aged commuter students who live at home with their parents, as described by Jacoby (2000), Jacoby and Garland (2004), and Kuh, Gonyea, and Palmer (2001), is the concept that they are subject to the continuation of strict parental rules. If this is even partially true, the structure, even at a lower level than what existed in high school, may actually have a positive influence on academic performance. Parental rules may hinder how students become involved on campus, such as attendance at late-night events or over-involvement in certain campus activities, however, continued parental influence may also prescribe behaviors that positively influence academic performance. Parents may continue to impart high expectations for academic performance for their children, including the traditionally-aged college students who live at home. Parents of commuter students may also be more likely to monitor their children's academic performance as they progress through college. As a result, parents may force traditionally-aged college students to engage in an academically-driven schedule, such as being required to study after school or before/after dinner. Consequently, this regimented, structured schedule could increase commuter students' academic performance.

Moreover, when traditionally-aged college students who live at home do not meet their parents' academic expectations, parents may restrict students' abilities to spend time on activities unrelated to academics and/or outside of the home in order to spend more time focused on academic work. Rather than independently developing habits to enhance their learning and ensure high academic performance, traditionally-aged college students

who live at home are potentially held more immediately accountable for their academic performance by parents, which could also influence their academic performance more favorably than residential students who do not reside under the same expectations and responsibilities and for whom accountability may come too late.

Prior research suggests living on campus encourages high academic performance through the unique opportunities to engage with campus life and levels of support provided by residential communities (Astin, 1973; Blimling, 1989; Pascarella & Terenzini, 2005; Terenzini, Pascarella, & Blimling, 1996; e.g.). In accordance with this research, students who live on campus are more likely to interact with peers and faculty, utilize campus resources, and become involved with extracurricular activities, all characteristics that encourage high academic performance. However, as suggested by Astin (1984; 1993) it is the responsibility of faculty and administrators to create opportunities within the residential environments for these experiences to occur. If these opportunities do not occur, one can reasonably conclude residential students may not academically outperform their commuter counterparts. Specifically related to the findings of this study, the residential program at the institution selected for this study may not offer the aforementioned opportunities for learning and development that provide opportunities for residential students to engage in activities related to high academic performance, which could explain how commuter students academically outperformed residential students. Furthermore, if faculty and staff members are not incentivized to engage with residential students in their living environment, residence halls may not provide an academic advantage for those who live there.

Although the residential living environment offers a variety of opportunities for academic, intellectual, and student development that are not afforded to commuter students, living on campus may also increase opportunities to engage in behaviors that hinder academic success (Astin, 1973; Thombs, Olds, Bondy, Winchell, Daliunas, & Rehm, 2009; e.g.). Alcohol and drug use are more frequent for students who reside in the residence halls and can lead to lower academic performance. For example, Astin (1973) described negative behaviors that increase as a result of living on campus, such as going to parties, smoking, drinking, listening to music, oversleeping, and missing classes. These behaviors can lead to academic difficulties, violation of university policies, and/or legal implications, which may all lower academic performance and may affect whether students persist in college beyond the first year. Further, participation in activities unrelated to academic performance, such as involvement in clubs, organizations, and late night/weekend activities, and spending time with friends and hall mates, may lead to academic difficulties, as residential students may fail to appropriately balance their leisure time with time spent working on academic activities. Because the researcher did not rule out additional confounding variables within living arrangement that could influence academic performance, the aforementioned factors could have potentially influenced the academic performance of residential students.

### **Living Arrangement, Academic Performance, and Level of Academic Challenge**

The results of this study related to level of academic challenge as a moderating factor suggests the relationship between living arrangement and academic performance is strengthened when institutions promote high student achievement, academic effort, and academic expectations. Although commuter students demonstrated higher GPAs than

residential students when level of academic challenge was added as a moderator variable, students in both living environments benefited from participating in high levels of academic challenge.

Although not part of the research questions investigated in this study, this finding also supported Astin's theory of student involvement, the concept of student engagement, and the notion that students' success in college is determined by how much time and energy students and institutions put into students' learning experience (Astin, 1984; Kuh, 2009; Pascarella & Terenzini, 2005; e.g.). Within the NSSE College Student Report, 11 questions measure level of academic challenge (see Appendix C). Regarding these questions, participants reported higher levels of academic performance because they put time and effort into various academic activities. Participants spent on average "Quite a bit" of time on activities related to academic performance, such as analyzing ideas, organizing information, and applying theories. Participants also reported, in addition to spending mental effort on academic activities, they spent, on average, 6-10 hours a week preparing for class through reading, writing, completing homework, and other physical activities related to academic performance. Lastly, participants perceived the institution's emphasis on spending "Quite a bit" of time on activities related to academic performance, such as studying and engaging in academic work. An important characteristic of both Astin's theory and student engagement is that both students *and* institutions are somewhat equal players in facilitating the student learning and engagement in the college experience (Astin, 1984; Kuh, 2009). In this study, both participants and the host institution played a role in challenging participants' academic effort, thereby strengthening how living arrangement influenced participants' academic performance.

### **Living Arrangement, Academic Performance, and Additional Moderator Variables**

Is the relationship between living arrangement and academic performance moderated by certain variables, namely age, gender, and race/ethnicity, and the additional characteristics of student engagement (i.e., active and collaborative learning, student-faculty interaction, enriching educational experiences, supportive campus environment)? The results of this study found no significant changes to academic performance as a result of these moderator variables.

Although no significance regarding these moderator variables was found, prior research suggests more studies are needed to fully understand how the relationship between living arrangement and academic performance is moderated by certain demographic variables (Arboleda, Wang, Shelley, & Whalen, 2003; Blimling, 1993; Flowers, 2004; Hu, 2002; Kuh, 2009; Pascarella & Terenzini, 2005; Sax, Bryant, & Harper, 2005; e.g.). Future research is also needed to provide a context for engagement within students' living environments and how this engagement influences academic performance (De Aruajo & Murray, 2010a; Jacoby, 2000; Kuh, Gonyea, & Palmer, 2001; Pascarella & Terenzini, 2005; Terenzini, Pascarella, & Blimling, 1996; Pike, Kuh, & McCormick, 2011; e.g.). This study does not conclude these factors do not have an influence on academic performance, but that they do not strengthen or weaken the relationship between living arrangement and academic performance. This distinction is important when considering this study and its utilization of moderator variables as a framework for a future study. Recommendations for future research are offered in a later section of this chapter.



### **Limitations**

Although the findings of this study will be useful to administrators and faculty at other colleges and universities who are interested in how living arrangement influences academic performance, this study has several limitations. The participants used for this study cannot be generalized to other populations. One group of first-year, full-time undergraduate students at one university was selected for the study and although the researcher strived to gather the most representative group of the first-year, full-time undergraduate students at that particular institution, the participants did not perfectly represent every first-year, full-time undergraduate student. Further, first-year, full-time undergraduate students as a whole at the university used for the study are most likely different from other first-year, full-time undergraduate students at other universities.

Additional environmental characteristics, beyond living arrangement, could have influenced the academic performance of the students used for the study during the time in which the data was collected. Because the impact of these factors was not explored in this study, a future study could rule out other plausible hypotheses related to other environmental factors or control for additional confounding variables.

Other characteristics of the participants threatened the external validity of the study. The participants were not randomly selected, as students self-selected to participate in the questionnaire, and the study did not consider how the participants themselves would influence the results of the study. For instance, varying levels of individual characteristics, such as study habits, transition to college, precollege attitudes, and personal experiences, can influence both students' academic performance and their overall engagement in the college experience, which could also impact how they

responded to the questionnaire. Further, participants were not matched based on similar individual characteristics, such as SAT/ACT scores or high school GPA.

There was no housing requirement at the institution at the time at which the data for this study was collected. Students who self-selected to live on campus may be predisposed to higher levels of GPA and student engagement than students who chose to live off campus. Within on-campus housing at the selected institution, there were a variety of living options – living-learning communities, themed communities, traditional communities, and apartment style-housing, and each option maintained different expectations for academic performance and engagement. Particularly related to the commuter student group, students who lived within walking distance to campus may achieve different levels of academic performance and engagement than students who drove to campus and lived either in private rental housing, their own residence, or with their parents/guardians. These factors could have also created differences in both GPA and levels of engagement.

There were also limitations specifically related to the measurement tools. Grading practices respective to students' individual courses and overall course difficulty could affect students' GPAs. Although GPA is a commonly used measurement of academic performance, it is assumed, but it is not certain, GPA accurately reflects this performance. Responses to the NSSE College Student Report are self-reported and participants can skip questions and/or statements. Self-reported surveys pose a threat to internal validity because participants could respond in a socially desirable way, which may not accurately reflect their actual experiences. Although the NSSE is considered to be a reliable and valid instrument, students may not answer all of the questions or answer

the questions incorrectly. In addition to how students respond to the NSSE, timing of when the NSSE is administered may affect the results. The students are administered the NSSE at the institution selected for the study during the Spring semester. Particularly for first-year students, the effects of student involvement on academic performance have not fully manifested because students have not attended the university for an extended period of time. Administering the NSSE during the Summer semester following the first year or during another year may produce different results.

### **Recommendations for Future Research**

The approach used in this study to understand the relationship between living arrangement and academic performance was quantitative. To further understand this relationship, the researcher suggests a mixed methods or qualitative study on the same topic to provide information from students related to how they experience their living environment and how the environment influences their engagement in the college experience and academic performance. Phenomenology could serve as the design strategy for a future study, as this tradition best allows the researcher to understand the direct experiences of students within their own worlds (Hays & Singh, 2012).

Although student engagement served as a moderator variable in this study, any characteristic of student engagement, as well as any demographic factor, could serve as a focal point for a future study. As characteristics of student engagement continue to evolve, it is important to continue to understand how student engagement, whether in and of itself, or as a moderator of living arrangement, influences academic performance. Likewise, a future study could use characteristics of student engagement as independent variables and living arrangement as a moderator variable to understand whether a

relationship between student engagement and academic performance is strengthened or weakened by living arrangement. Future research could also explore whether living arrangement influences academic performance if certain characteristics of student engagement, such as level of academic challenge and student-faculty interaction, are grouped together as one moderating variable.

A future study could also examine specific differences within living environments in their relation to academic performance. Unique differences exist within both residential and commuter living groups. Given the significant findings of this study, a future could investigate the relationship between living arrangement, student engagement, and academic performance by exploring differences in engagement using commuter students who walk to campus and commuter students who drive to campus as the participant group. Similarly, one could delve deeper into the residential environment to further understand the types of engagement residential students encounter in the residence halls and how this engagement influences their academic performance. One could also investigate how academic performance differs among differences in residential living arrangement, such as comparing living-learning community residents to apartment-style residents. Developing a research design using solely commuter or residential students as the participant group may allow for more conclusive evidence regarding the impact of living arrangement on academic performance.

This study addressed first-year, full-time undergraduate students. Repeating this study with another classification or attendance status could be beneficial. The NSSE also collects data about senior students and it would be insightful to understand how living arrangement and student engagement moderated through living arrangement, influences

academic performance using students during a different year of college. A future study could also address other demographic factors as moderating variables or match participants based on similar characteristics.

Lastly, Tinto (1993) described characteristics of student engagement as a positive influence on degree completion. Student engagement also plays a role in whether students persist towards degree completion. Not enough attention is focused on how student engagement influences how students become academically and socially successful, develop a sense of belonging within the campus community, and persist towards degree completion (Berger & Milem, 1999). A future study could examine how living arrangement and student engagement not only influence academic performance, but also influence how students develop within and connect to their campus environment and persist to degree completion.

### **Implications for Practitioners**

As previously mentioned in Chapter I, the findings from this study can assist institutional leaders responsible for the financial and human resource decision-making for campus housing departments, as the results can contribute to strategies for improving academic performance as it relates to living arrangement and student engagement. Learning more about how living arrangement influences academic performance, particularly among first-year, full-time undergraduate students, and how students differ in their engagement in the college experience through their place of residence can inform institutional strategic planning, budgeting, and the overall development of services and programs catered to students' campus living arrangements. Given the results of this study, it is important for institutional leaders to consider not only how living on campus

influences academic performance, but also how commuter students are supported in their academic success. Students may also be concerned with these findings if they are invested in selecting the most appropriate place of residence while in college based on how this living arrangement can influence their academic performance.

More importantly, this finding encourages the importance of a relationship between academic affairs and student affairs related to increasing level of academic challenge and improving the academic performance of first-year, full-time undergraduate students. Simply stated, if faculty and administrators set high academic expectations and encourage students to put time and effort towards academic work, students will achieve higher levels of academic performance, regardless of living arrangement. Although establishing expectations related to course materials and completing coursework, such as the number of assigned textbooks, number of written pages for papers, and level of exam difficulty rests primarily with the instructors of students' respective courses, student affairs administrators can assist faculty in encouraging students to engage in the mental and physical activities related to meeting faculty expectations when outside of the classroom.

An example of the role student affairs administrators can play in level of academic challenge is through the development of learning communities and living-learning communities (Inkelas, Daver, Vogt, & Leonard, 2007; Jacoby & Garland, 2004; Pascarella & Terenzini, 2005; Pike, 1997; Pike, Kuh, & McCormick, 2011; Tinto, 1993; e.g.). Essential components of learning communities are enrolling students into one or a linked set of courses based on a particular major or interest. Students and faculty are organized into small groups to encourage academic and social connections, and to

provide opportunities for co-curricular interaction that advance the learning process.

Living-learning communities include all of the components of learning communities, but also have a mandatory on-campus living requirement.

Both residential and commuter students can benefit from these programs, and student affairs administrators can take primary responsibility for organizing small group participation and facilitating the opportunities for co-curricular learning. For example, within living-learning communities, administrators can encourage residents to form study groups, create environments conducive to academic learning, such as study lounges, providing academic tutors, activities and additional academic support, and enforce quiet hours to allow residents quiet time to complete academic work. Student affairs administrators can also develop opportunities for faculty to teach courses within the residence halls and engage with residents outside of the classroom.

Learning communities can become more accessible to commuter students by offering flexibility within linked course offerings, including offering courses at night and on the weekends. Student affairs administrators can collaborate with faculty on opportunities to engage students in academic work outside of the classroom, such as providing extended hours of operation for libraries and offering additional academic support services at times when commuter student can access them. Student affairs staff can develop opportunities outside of the classroom specifically for first-year commuter students to engage academically with their peers. One way to encourage level of academic challenge through interaction with peers is to connect upperclassmen commuter student mentors with majors and academic interests similar to first-year commuter students. First-year commuter students can learn from their upperclassmen peers about

commuter student issues, such as time management, effective study habits, and transitioning from high school to college while commuting to campus and/or living at home with parents. At the same time, serving as mentors for their first-year colleagues provides upperclassmen commuter students with an opportunity to engage in and connect to the college environment (Jacoby, 2000).

### **Conclusion**

This study sought to understand the relationship between living arrangement and the academic performance of first-year, full-time undergraduate students, as well as how certain variables (i.e., age, gender, race/ethnicity, and characteristics of student engagement) moderate the relationship. While the results of this study challenged the perception that commuter students are less invested in their academic success and have lower academic performance than residential students, this study also supported prior literature, including Astin's theory of student development (1984) and the concept of student engagement (Kuh, 2009; e.g.), that suggests the amount of time and energy students and institutions invest in the college experience is related to students' success. Because the results related to the influence of living arrangement on academic performance, as well as the influence of certain moderator variables on the relationship between living arrangement and academic performance were limited, future research is needed to further explore this topic. Limitations of this study and recommendations for future research also allow opportunities to delve deeper into understanding of the relationship between living arrangement, demographic characteristics, student engagement, and academic performance.



This research provided faculty, students, and administrators with outcomes and implications that reveal how living arrangement, certain demographic variables, and student engagement can influence academic performance. However, regardless of living arrangement, it is important for faculty and administrators to work together to promote learning and ensure the academic success of all students. This research provided opportunities for continued study regarding how faculty and administrators can work together to encourage high expectations for academic effort regardless of whether students reside on or off campus.

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## Appendix A: 2010 NATIONAL SURVEY OF STUDENT ENGAGEMENT

## COLLEGE STUDENT REPORT



## National Survey of Student Engagement 2010

## The College Student Report

**1** In your experience at your institution during the current school year, about how often have you done each of the following? Mark your answers in the boxes. Examples: ☑ or ☐

	Very often ▼	Often ▼	Some- times ▼	Never ▼
a. Asked questions in class or contributed to class discussions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Made a class presentation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Prepared two or more drafts of a paper or assignment before turning it in	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Worked on a paper or project that required integrating ideas or information from various sources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Included diverse perspectives (different races, religions, genders, political beliefs, etc.) in class discussions or writing assignments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Came to class without completing readings or assignments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Worked with other students on projects <b>during class</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. Worked with classmates <b>outside of class</b> to prepare class assignments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. Put together ideas or concepts from different courses when completing assignments or during class discussions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. Tutored or taught other students (paid or voluntary)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k. Participated in a community-based project (e.g., service learning) as part of a regular course	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l. Used an electronic medium (listserv, chat group, Internet, instant messaging, etc.) to discuss or complete an assignment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
m. Used e-mail to communicate with an instructor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
n. Discussed grades or assignments with an instructor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
o. Talked about career plans with a faculty member or advisor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
p. Discussed ideas from your readings or classes with faculty members outside of class	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
q. Received prompt written or oral feedback from faculty on your academic performance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Very often ▼	Often ▼	Some- times ▼	Never ▼
r. Worked harder than you thought you could to meet an instructor's standards or expectations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
s. Worked with faculty members on activities other than coursework (committees, orientation, student life activities, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
t. Discussed ideas from your readings or classes with others outside of class (students, family members, co-workers, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
u. Had serious conversations with students of a different race or ethnicity than your own	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
v. Had serious conversations with students who are very different from you in terms of their religious beliefs, political opinions, or personal values	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**2** During the current school year, how much has your coursework emphasized the following mental activities?

	Very much ▼	Quite a bit ▼	Some ▼	Very little ▼
a. <b>Memorizing</b> facts, ideas, or methods from your courses and readings so you can repeat them in pretty much the same form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. <b>Analyzing</b> the basic elements of an idea, experience, or theory, such as examining a particular case or situation in depth and considering its components	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. <b>Synthesizing</b> and organizing ideas, information, or experiences into new, more complex interpretations and relationships	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. <b>Making judgments</b> about the value of information, arguments, or methods, such as examining how others gathered and interpreted data and assessing the soundness of their conclusions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. <b>Applying</b> theories or concepts to practical problems or in new situations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**3 During the current school year, about how much reading and writing have you done?**

a. Number of assigned textbooks, books, or book-length packs of course readings

☐ None ☐ 1-4 ☐ 5-10 ☐ 11-20 ☐ More than 20

b. Number of books read on your own (not assigned) for personal enjoyment or academic enrichment

☐ None ☐ 1-4 ☐ 5-10 ☐ 11-20 ☐ More than 20

c. Number of written papers or reports of 20 pages or more

☐ None ☐ 1-4 ☐ 5-10 ☐ 11-20 ☐ More than 20

d. Number of written papers or reports between 5 and 19 pages

☐ None ☐ 1-4 ☐ 5-10 ☐ 11-20 ☐ More than 20

e. Number of written papers or reports of fewer than 5 pages

☐ None ☐ 1-4 ☐ 5-10 ☐ 11-20 ☐ More than 20

**4 In a typical week, how many homework problem sets do you complete?**

None 1-2 3-4 5-6 More than 6  
▼ ▼ ▼ ▼ ▼

a. Number of problem sets that take you more than an hour to complete

☐ ☐ ☐ ☐ ☐

b. Number of problem sets that take you less than an hour to complete

☐ ☐ ☐ ☐ ☐

**5 Mark the box that best represents the extent to which your examinations during the current school year have challenged you to do your best work.**

Very little Very much

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7

**6 During the current school year, about how often have you done each of the following?**

Very often Often times Some- times Never  
▼ ▼ ▼ ▼

a. Attended an art exhibit, play, dance, music, theater, or other performance

☐ ☐ ☐ ☐

b. Exercised or participated in physical fitness activities

☐ ☐ ☐ ☐

c. Participated in activities to enhance your spirituality (worship, meditation, prayer, etc.)

☐ ☐ ☐ ☐

d. Examined the strengths and weaknesses of your own views on a topic or issue

☐ ☐ ☐ ☐

e. Tried to better understand someone else's views by imagining how an issue looks from his or her perspective

☐ ☐ ☐ ☐

f. Learned something that changed the way you understand an issue or concept

☐ ☐ ☐ ☐

**7 Which of the following have you done or do you plan to do before you graduate from your institution?**

Done Plan to do Do not plan to do Have not decided  
▼ ▼ ▼ ▼

a. Practicum, internship, field experience, co-op experience, or clinical assignment

☐ ☐ ☐ ☐

b. Community service or volunteer work

☐ ☐ ☐ ☐

c. Participate in a learning community or some other formal program where groups of students take two or more classes together

☐ ☐ ☐ ☐

d. Work on a research project with a faculty member outside of course or program requirements

☐ ☐ ☐ ☐

e. Foreign language coursework

☐ ☐ ☐ ☐

f. Study abroad

☐ ☐ ☐ ☐

g. Independent study or self-designed major

☐ ☐ ☐ ☐

h. Culminating senior experience (capstone course, senior project or thesis, comprehensive exam, etc.)

☐ ☐ ☐ ☐

**8 Mark the box that best represents the quality of your relationships with people at your institution.**

a. Relationships with other students

Unfriendly, Unsupportive, Sense of alienation

Friendly, Supportive, Sense of belonging

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7

b. Relationships with faculty members

Unavailable, Unhelpful, Unsympathetic

Available, Helpful, Sympathetic

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7

c. Relationships with administrative personnel and offices

Unhelpful, Inconsiderate, Rigid

Helpful, Considerate, Flexible

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7

**9 About how many hours do you spend in a typical 7-day week doing each of the following?**

- a. Preparing for class (studying, reading, writing, doing homework or lab work, analyzing data, rehearsing, and other academic activities)
- ☐ 0   ☐ 1-5   ☐ 6-10   ☐ 11-15   ☐ 16-20   ☐ 21-25   ☐ 26-30   ☐ More than 30
- Hours per week
- b. Working for pay **on campus**
- ☐ 0   ☐ 1-5   ☐ 6-10   ☐ 11-15   ☐ 16-20   ☐ 21-25   ☐ 26-30   ☐ More than 30
- Hours per week
- c. Working for pay **off campus**
- ☐ 0   ☐ 1-5   ☐ 6-10   ☐ 11-15   ☐ 16-20   ☐ 21-25   ☐ 26-30   ☐ More than 30
- Hours per week
- d. Participating in co-curricular activities (organizations, campus publications, student government, fraternity or sorority, intercollegiate or intramural sports, etc.)
- ☐ 0   ☐ 1-5   ☐ 6-10   ☐ 11-15   ☐ 16-20   ☐ 21-25   ☐ 26-30   ☐ More than 30
- Hours per week
- e. Relaxing and socializing (watching TV, partying, etc.)
- ☐ 0   ☐ 1-5   ☐ 6-10   ☐ 11-15   ☐ 16-20   ☐ 21-25   ☐ 26-30   ☐ More than 30
- Hours per week
- f. Providing care for dependents living with you (parents, children, spouse, etc.)
- ☐ 0   ☐ 1-5   ☐ 6-10   ☐ 11-15   ☐ 16-20   ☐ 21-25   ☐ 26-30   ☐ More than 30
- Hours per week
- g. Commuting to class (driving, walking, etc.)
- ☐ 0   ☐ 1-5   ☐ 6-10   ☐ 11-15   ☐ 16-20   ☐ 21-25   ☐ 26-30   ☐ More than 30
- Hours per week

**10 To what extent does your institution emphasize each of the following?**

- |  | Very<br>much             | Quite<br>a bit           | Some                     | Very<br>little           |
|--|--------------------------|--------------------------|--------------------------|--------------------------|
| a. Spending significant amounts of time studying and on academic work                                      | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Providing the support you need to help you succeed academically   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. Encouraging contact among students from different economic, social, and racial or ethnic backgrounds    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d. Helping you cope with your non-academic responsibilities (work, family, etc.)                           | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| e. Providing the support you need to thrive socially   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| f. Attending campus events and activities (special speakers, cultural performances, athletic events, etc.) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| g. Using computers in academic work  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

**11 To what extent has your experience at this institution contributed to your knowledge, skills, and personal development in the following areas?**

- |  | Very<br>much             | Quite<br>a bit           | Some                     | Very<br>little           |
|--|--------------------------|--------------------------|--------------------------|--------------------------|
| a. Acquiring a broad general education                         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Acquiring job or work-related knowledge and skills          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. Writing clearly and effectively                             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d. Speaking clearly and effectively                            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| e. Thinking critically and analytically                        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| f. Analyzing quantitative problems                             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| g. Using computing and information technology                  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| h. Working effectively with others                             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| i. Voting in local, state, or national elections               | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| j. Learning effectively on your own                            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| k. Understanding yourself                                      | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| l. Understanding people of other racial and ethnic backgrounds | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| m. Solving complex real-world problems                         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| n. Developing a personal code of values and ethics             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| o. Contributing to the welfare of your community               | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| p. Developing a deepened sense of spirituality                 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

**12 Overall, how would you evaluate the quality of academic advising you have received at your institution?**

- ☐ Excellent
- ☐ Good
- ☐ Fair
- ☐ Poor

**13 How would you evaluate your entire educational experience at this institution?**

- ☐ Excellent
- ☐ Good
- ☐ Fair
- ☐ Poor

**14 If you could start over again, would you go to the same institution you are now attending?**

- ☐ Definitely yes
- ☐ Probably yes
- ☐ Probably no
- ☐ Definitely no

15 Write in your year of birth:

1	9		
---	---	--	--

16 Your sex:

☐ Male      ☐ Female

17 Are you an international student or foreign national?

☐ Yes      ☐ No

18 What is your racial or ethnic identification? (Mark only one.)

- ☐ American Indian or other Native American  
☐ Asian, Asian American, or Pacific Islander  
☐ Black or African American  
☐ White (non-Hispanic)  
☐ Mexican or Mexican American  
☐ Puerto Rican  
☐ Other Hispanic or Latino  
☐ Multiracial  
☐ Other  
☐ I prefer not to respond

19 What is your current classification in college?

- ☐ Freshman/first-year      ☐ Senior  
☐ Sophomore      ☐ Unclassified  
☐ Junior

20 Did you begin college at your current institution or elsewhere?

☐ Started here      ☐ Started elsewhere

21 Since graduating from high school, which of the following types of schools have you attended other than the one you are attending now? (Mark all that apply.)

- ☐ Vocational or technical school  
☐ Community or junior college  
☐ 4-year college other than this one  
☐ None  
☐ Other

22 Thinking about this current academic term, how would you characterize your enrollment?

☐ Full-time      ☐ Less than full-time

23 Are you a member of a social fraternity or sorority?

☐ Yes      ☐ No

24 Are you a student-athlete on a team sponsored by your institution's athletics department?

☐ Yes      ☐ No (Go to question 25.)

On what team(s) are you an athlete (e.g., football, swimming)? Please answer below:

--

25 What have most of your grades been up to now at this institution?

- |                             |                             |                                   |
|-----------------------------|-----------------------------|-----------------------------------|
| <input type="checkbox"/> A  | <input type="checkbox"/> B+ | <input type="checkbox"/> C+       |
| <input type="checkbox"/> A- | <input type="checkbox"/> B  | <input type="checkbox"/> C        |
| <input type="checkbox"/> B- | <input type="checkbox"/> C- | <input type="checkbox"/> or lower |

26 Which of the following best describes where you are living now while attending college?

- ☐ Dormitory or other campus housing (not fraternity/sorority house)  
☐ Residence (house, apartment, etc.) within walking distance of the institution  
☐ Residence (house, apartment, etc.) within driving distance of the institution  
☐ Fraternity or sorority house  
☐ None of the above

27 What is the highest level of education that your parent(s) completed? (Mark one box per column.)

- | Father                   | Mother   |
|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> Did not finish high school                            |
| <input type="checkbox"/> | <input type="checkbox"/> Graduated from high school                            |
| <input type="checkbox"/> | <input type="checkbox"/> Attended college but did not complete degree          |
| <input type="checkbox"/> | <input type="checkbox"/> Completed an associate's degree (A.A., A.S., etc.)    |
| <input type="checkbox"/> | <input type="checkbox"/> Completed a bachelor's degree (B.A., B.S., etc.)      |
| <input type="checkbox"/> | <input type="checkbox"/> Completed a master's degree (M.A., M.S., etc.)        |
| <input type="checkbox"/> | <input type="checkbox"/> Completed a doctoral degree (Ph.D., J.D., M.D., etc.) |

28 Please print your major(s) or your expected major(s).

a. Primary major (Print only one.):

--

b. If applicable, second major (not minor, concentration, etc.):

--

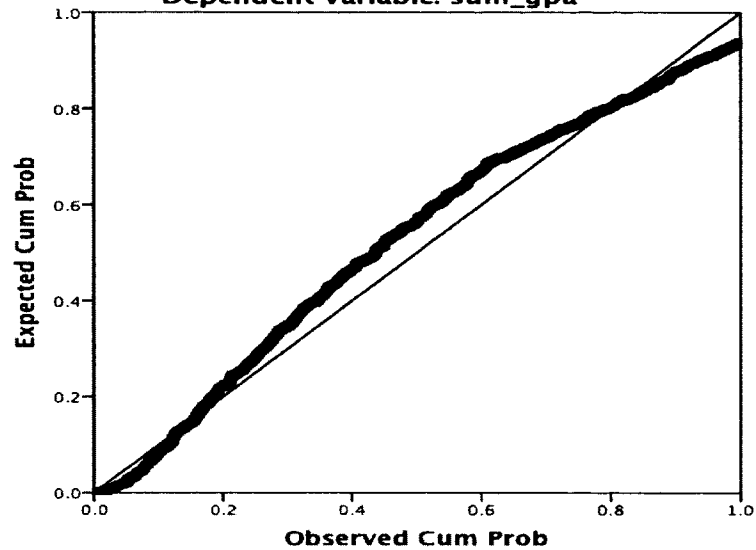
**THANKS FOR SHARING YOUR RESPONSES!**

After completing the survey, please put it in the enclosed postage-paid envelope and deposit it in any U.S. Postal Service mailbox. Questions or comments? Contact the National Survey of Student Engagement, Indiana University, 1900 East Tenth Street, Suite 419, Bloomington IN 47406-7512 or nsse@indiana.edu or www.nsse.iub.edu. Copyright © 2009 Indiana University.

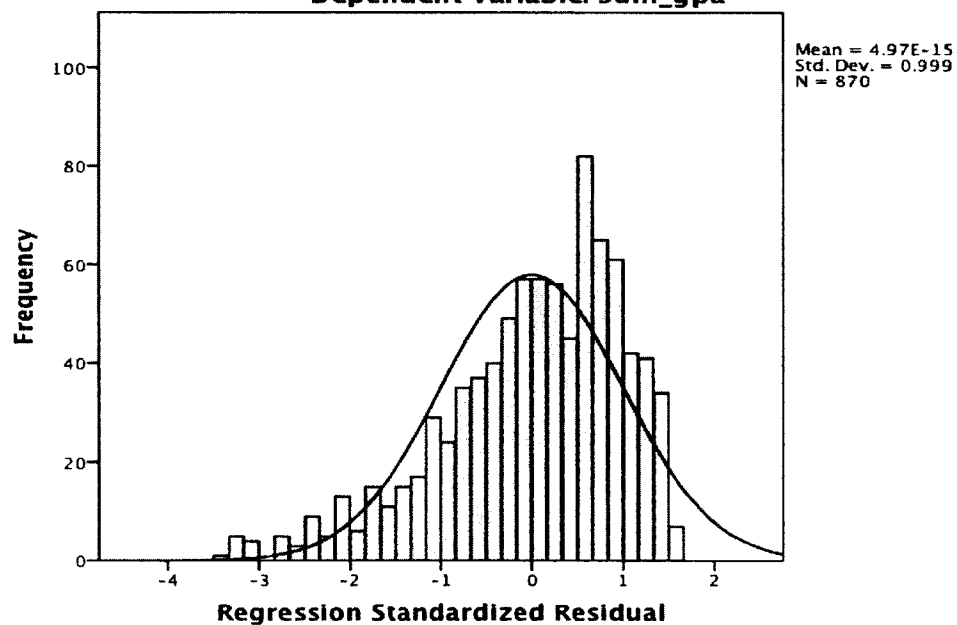
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## Appendix B: The Assumption of Normality

**Normal P-P Plot of Regression Standardized Residual**  
**Dependent Variable: sum\_gpa**



**Histogram**  
**Dependent Variable: sum\_gpa**





### Appendix C: Questionnaire Items that Represent Level of Academic Challenge

Level of Academic Challenge	<i>M</i>
During the current school year, how much has your coursework emphasized the following mental activities?	
1=Very little, 2=Some, 3=Quite a bit, 4=Very much	
Analyzing the basic elements of an idea, experience, or theory, such as examining a particular case or situation in depth and considering its components	3.09
Synthesizing and organizing ideas, information, or experiences into new, more complex interpretations and relationships	2.89
Making judgments about the value of info., arguments, or methods, such as examining how others gathered and interpreted data and assessing the soundness of their conclusions	2.95
Applying theories or concepts to practical problems or in new situations	3.06
During the current school year, about how much reading and writing have you done?	
1=None, 2=1-4, 3=5-10, 4=11-20, 5=More than 20	
Number of assigned textbooks, books, or book-length packs of course readings	3.08
Number of written papers or reports of 20 pages or more	1.25
Number of written papers or reports between 5 and 19 pages	2.07
Number of written papers or reports of fewer than 5 pages	2.95
About how many hours do you spend in a typical 7-day week doing each of the following?	
1=0 hrs/wk, 2=1-5 hrs/wk, 3=6-10 hrs/wk, 4=11-15 hrs/wk, 5=16-20 hrs/wk, 6=21-25 hrs/wk, 7=26-30 hrs/wk, 8=More than 30 hrs/wk	
Preparing for class (studying, reading, writing, doing homework or lab work, analyzing data, rehearsing, and other academic activities)	3.95
To what extent does your institution emphasize each of the following?	
1=Very little, 2=Some, 3=Quite a bit, 4=Very much	
Spending significant amounts of time studying and on academic work	3.10

## VITA

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### Education

Old Dominion University – Norfolk, VA  
Doctor of Philosophy, Higher Education, August 2013

University of Nevada Las Vegas – Las Vegas, NV  
Master of Education, Educational Leadership, May 2008

DePaul University – Chicago, IL  
Bachelor of Arts, Psychology and Communications, *Cum Laude*, June 2005

### Teaching Experience

*Old Dominion University (ODU) – Norfolk, VA*  
HIED 758 – Higher Education Leadership, Teaching Assistant      Spring 2013  
UNIV 110 – Academic Success, Instructor      Spring 2012, Spring 2013  
UNIV 120 – Career and Major Exploration, Instructor      Fall 2012

*University of California, Santa Barbara (UCSB) – Santa Barbara, CA*  
INT 20 – Introduction to Colleges/Universities, Discussion Leader      Spring 2009

### Student Affairs Experience

*Old Dominion University (ODU) – Norfolk, VA*  
Graduate Assistant for Research & Administration      08/2012 – Current  
Office of Housing & Residence Life  
Graduate Assistant for Student Development      06/2011 – 08/2012  
Recreation & Wellness Department  
Assistant Director      08/2009 – 06/2011  
Office of Student Conduct & Academic Integrity

*University of California, Santa Barbara (UCSB) – Santa Barbara, CA*  
Resident Director, San Miguel Hall      08/2008 – 07/2009  
Office of Residential Life

*University of Nevada Las Vegas (UNLV) – Las Vegas, NV*  
Student Conduct Graduate Assistant      08/2007 – 05/2008  
Office of Student Conduct

*Luther College – Decorah, IA*  
Hall Director, Brandt Hall      08/2005 – 06/2006  
Office of Residence Life