The Psychosocial Effect of Residentially-Based Learning Communities on First Year Honors Students in a Highly Selective Private University

Author: Henry James Humphreys

Persistent link: http://hdl.handle.net/2345/1327

This work is posted on eScholarship@BC, Boston College University Libraries.

Boston College Electronic Thesis or Dissertation, 2010

Copyright is held by the author, with all rights reserved, unless otherwise noted.

### BOSTON COLLEGE The Lynch School of Education

# Department of Educational Administration and Higher Education

# Program in Higher Education Adminstration

# THE PSYCHOSOCIAL EFFECT OF RESIDENTIALLY-BASED LEARNING COMMUNITIES ON FIRST YEAR HONORS STUDENTS IN A HIGHLY SELECTIVE

# PRIVATE UNIVERSITY

Dissertation by

# HENRY J. HUMPHREYS III

# submitted in partial fulfillment of the requirements for the requirements for the degree of Doctor of Philosophy

©Copyright by Henry J. Humphreys III 2010

# The Psychosocial Effect of Residentially-Based Learning Communities on First Year Honors Students in a Highly Selective Private University

By

Henry J. Humphreys

Dr. Karen Arnold, Dissertation Chair

#### ABSTRACT

Colleges and universities in the United States are currently in the midst of a debate on how to integrate students' academic and social lives in a manner similar to the centuries old model of Oxford and Cambridge. One of the major initiatives by colleges and universities is the re-establishment of residentially-based learning communities whose use has ebbed and flowed throughout the history of American higher education. The fundamental purpose of these communities is to facilitate intentional interactions with faculty and peers within the residence halls.

The purpose of this study was to determine quantitatively if first year honors students at Boston College who participated in a residentially-based learning community exhibited greater psychosocial development versus first year honors students who reside in traditional residence halls. The Student Developmental Task and Lifestyle Assessment (SDTLA), based on Chickering's theory of development, was employed to measure the psychosocial growth of the students. The experimental group consisted of 32 first year honors students who resided in the Honors House and the control group was comprised of 64 first year honors students who resided in the traditional residence halls.

Results of the study revealed that residing in a residentially based learning community was not the sole contributing factor affecting the participants' psychosocial development. Male and female honors students who resided in the Honors House and the traditional halls experienced similar patterns of developmental growth over the course of their fall semester. It was also found that the mean scores of the participants in this study were consistently higher than the normative data on all tasks, subtasks and scales of the SDTLA. Despite the small sample size, the results appear to indicate that multiple factors, including the intentionality of Boston Colleges' Honors program and institutional value for student formation, contributed to the participant's psychosocial development. This dissertation is dedicated to Pam, Kathleen, Elizabeth and Aileen who provided me unconditional love and support throughout all these years. Thank you for all you sacrificed and endured to help make my dream a reality.

#### ACKNOWLEDGEMENTS

Twenty nine years ago I convinced my father and teachers I did possess, despite my academic record, the capabilities, drive and intellectual curiosity needed to attain a college degree. So began, in earnest, my goal to overcome the limitations of my learning disabilities, embrace my love for learning and use my gifts from God to their fullest potential. Completing this Ph.D. is the fulfillment of a goal established by an eighteen year old boy who knew his potential and only needed the chance to grow.

I would like to start by thanking my Father who, despite logic and the advice of others, believed in his son's abilities and personal determination. None of my academic achievements would be possible if not for dad's faith and ability to see past the present to a possible future.

To my dissertation chair, Dr. Karen Arnold, and the committee, Dr. Kelli Armstrong and Dr. Dennis Shirley, thank you for your time, thoughtful input and desire to help me become a scholar. Your engagement in my journey exemplifies the importance of educators paying it forward. You all will serve as role models to me as I move through my career as an educator.

Achieving this personal goal would have been even more difficult if not for the support, direction and encouragement of my doctoral advisor, friends, co-workers and my staff. Dr. Kevin Duffy, thank you for inspiring and encouraging my research topic. To the patience of Jessica Brown and Peter Shrader who guided me through research methodologies and consistently assured me that I did understand statistics. To Dr. Mark O'Connor, thank you for your support and encouragement on my road to becoming a scholar and thank you to the entire Honor's faculty who supported my research. To Dr. Suzie Conway, Dr. Carol Hughes, Dr. Judy Robinson, Katie O'Dair and Nishmin Kashyap, I will always remember your encouragement at my moments of doubt and your assurance that my goals were within my grasp. To the staff in the Office of Residential Life, I want to thank you for your support in this process. No person is an island unto themselves. I will never forget those who showed patience and understanding. I hope I may return the support in the pursuit of your personal goals.

Lastly, and most importantly, I need to say thank you to my family. Words cannot clearly express my love for all of you or the importance you played in achieving this goal. Kathleen, Elizabeth, and Aileen, you made more sacrifices that kids should be asked to make for their parents. I know I missed some of your special events, had weekends when you and your friends needed to be quiet in the house and nights when you just wanted Daddy at dinner, not going to class, reading or typing at the kitchen table. I know I cannot make up for past events, but hopefully I have served as a role model for achieving your goals. Most importantly, I will always support you in your goals and be present in your future.

Pam, over the past four and half years you have made many scarifies to assure I achieve my goals. Thank you for covering for me at school functions, events with family and friends, endless editing of papers and being my personal cheerleader. I love you Dr. Pam!

INTRODUCTION	
RATIONALE	
Purpose of the Study	
Research Questions	
SIGNIFICANCE OF THE STUDY	
DEFINITION OF TERMS	
OVERVIEW OF RESEARCH DESIGN	
Limitations	
Overview	
LITERATURE REVIEW	
HISTORY	19
Theoretical Foundations	
Astin, Bronfenbrenner and Chickering	
Women's Development	
CURRENT RESEARCH ON LEARNING COMMUNITIES	
Environment	
Faculty and Peers	31
Homogeneity	36
Summary	
METHODOLOGY	40
Research Ouestion	40
RESEARCH DESIGN	40
Ρομιατιον	۲۵- ۸1
INSTRUMENT	۲۰ ۸6
Sooving	
Reliability and Validity	
Πατά Collection and Analysis	53
Data Collection	53
Analysis	
RESULTS	
DDE TEST DESCRIPTIVE STATISTICS	59
DEE TEST ANALVSIS	
r RE-TEST ANALTSIS	
Sublask Analysis	
Comparison to Norms	
FOST-TEST DESCRIPTIVE STATISTICS	
POSI-TEST ANALYSIS	
ANOVA for Subtrate	0/ 
ANOVA jor Sublask	
Comparison to Norms	09 70
KIMANOVA for Subtasks	
SUMMARY	12
INTERPRETATION, LIMITATIONS AND RECOMMENDATION	IS74
SUMMARY	74
INTERPRETATION	
PRETEST	
Post-test	
LIMITATIONS	

# Table of Contents

RECOMMENDATIONS	84
APPENDIX A	86
E-MAIL CORRESPONDENCE	86
APPENDIX B	91
Consent Form	91
APPENDIX C	93
STATISTICAL ANALYSIS FOR PRE-TEST DATA	93
APPENDIX D	101
STATISTICAL ANALYSIS FOR POST-TEST DATA	101
REFERENCES	109

#### Chapter 1

#### INTRODUCTION

Colleges and universities in the United States are currently in the midst of a debate on how to re-integrate students' academic and social lives in a manner similar to the ideals that were in place at the establishment of colonial colleges. The re-ignition of this debate arises from societal pressure on institutions for increased accountability and measureable outcomes of student growth. The Boyer Commission described American society as less accepting of institutions' "traditional" practices and saw an increased willingness by students and their families to challenge the status quo (1998). Leading educators contend that the collegiate experience has degraded into a series of classes and lacks a coherent connection to a greater body of knowledge (Kenny et al., 1998).

In response to societal pressure, educators have recommended that large research institutions create smaller, more manageable campus environments within the institution that encourage students to become more actively engaged in their education (Kenny et al., 1998). Furthermore, research in the field of student development contends that these smaller communities need to include collaboration and active engagement between faculty and students if universities are to adequately serve students and society (American College Personnel Association, 1996; Blimling & Whitt, 1998; Keeling, 2006).

Reacting to the societal demands for accountability, institutions of higher education have developed initiatives intended to foster collaboration between academics and student affairs to create a seamless educational environment (Kuh, Schuh, & Whitt, 1991). One of the major initiatives used to create these environments is the reestablishment of residentially-based learning communities which were used in early American higher education. The intent of these communities is to provide environments that facilitate student-faculty contact, encourage collaborative learning among peers, extend learning beyond the classroom and keep students actively engaged in order to foster their personal growth (Chickering & Zelda, 1991; Luna & Gahagan, 2008).

As Kuh noted in *Student Learning Outside the Classroom: Transcending Artificial Boundaries* (1994), the majority of a student's collegiate life is spent outside of the classroom. *Reinventing Undergraduate Education* (1998) and *Learning Reconsidered* 2 (2006) are examples of national reports which promote the benefits of inclusive environments that attempt to break down the barriers between a student's academic life and social life. In essence, researchers and leaders in the field of higher education are calling upon institutions to create educationally purposeful environments. These environments should foster opportunities for students and faculty as well as peers to interact in ways which are meaningful. Astin's (1993, 1999) research has clearly shown that interactions with faculty and peers are one of the most powerful developmental forces on a student's development.

Residentially-based learning communities are one type of intentional environment that hold the potential for breaching the walls that compartmentalize a student's collegiate experience. The fundamental purpose of these communities is to facilitate student interactions with faculty and peers in the environment where they spend the majority of their collegiate life. A formal partnership to establish communities between academic and student affairs is a major step toward creating the intimate educational environment which fosters developmental growth and learning.

However, a consistent definition or programmatic design for these communities is absent in the literature. The literature generally classifies learning communities into one of four categories. The first three styles of learning communities link academic classes with a specific cohort of students, but do not possess a residency requirement. The fourth style is residentially-based and these communities are formed around an academic program or theme, which requires students to collaborate in activities outside of the classroom (Gabelnick, 1990; Lenning & Ebbers, 1999; Zhao & Kuh, 2004). Brower and Dettinger's (1998) research also found that many forms of learning communities exist and generally have common academic and social features. In the National Study of Living Learning Programs (Inkelas, 2008), the researchers confirmed Brower and Dettinger's earlier findings and identified fourteen primary categories and twelve subcategories of residentially-base learning communities and included academic, lifestyle, cultural and civic/social justice programs. Conversely, the current study's finding refutes the previous research and found only half of the programs in the study had co-curricular requirements and the vast majority possessed no academic requirements (Inkelas, 2008).

Regardless of the variation in the design or focus of these communities, the overarching intent of these programs is create smaller, more meaningful environments within the context of a larger institution. The definition of learning communities is varied but is identifiable by their requirement for students to live together in a defined area of a residential life program and encourages collaboration on programs specifically designed for that community. The research on the success of these communities to enhance learning or the development of students is varied; however, the literature is clear that residentially-based learning communities are intended to foster peer to peer, faculty/student interactions and to create more intimate living environments.

#### Rationale

The renewed interest in creating integrative living environments has resulted in colleges and universities directing extensive fiscal and human resources as well as space within residence halls toward the development of these communities. The sizeable investments of precious resources are intended to provide a more intimate learning environment and enhance a student's academic and social growth in comparison to students who reside in traditional residence halls. The philosophy which provides the framework for these communities contends that these outcomes are achieved through intentional living environments that foster faculty-student and peer interaction(Inkelas, Soldner, Longerbeam, & Leonard, 2008).

The current empirical research clearly shows that residentially-based learning communities have positive effects on student retention, involvement, academic achievement, and psychosocial development (Inkelas, Johnson, et al., 2006; Inkelas et al., 2008; Pascarella & Terenzini, 2005; Shapiro & Levine, 1999). However, several issues limit a thorough understanding of the effect of residentially-based learning communities on a student's development.

Residential learning communities are based on a common philosophy to integrate a student's academic and social life into one unit; however, each community is uniquely designed to meet each individual institution's goals (Inkelas, Johnson, et al., 2006). Institutional and/or individual community studies within a college or university provide data which may provide insights for other institutions; however, specific programmatic outcomes and research design limit the ability to generalize these findings. A second issue which affects the ability to accurately study the effects of learning communities on students is the relative lack of in-depth research on these programs (Huerta, 2004; Inkelas, 2004; 2003). One possible rationale for the minimal research on residential communities is the lack of a clear and consistent definition of Living-Learning Communities (Gabelnick, 1990). However, despite the need for these issues to be addressed, the current literature provides little explanation as to why the research on residentially-based learning communities is limited. A logical assumption for relatively limited research may be the distinctive nature of each institution and their unique educational rationale for the establishment of each program. This assertion is supported by Inkelas (Inkelas, Vogt, Longerbeam, & Johnson, 2006) who initiated the first National Study of Living-Learning Programs, a multi-institutional study that proposed a standardized definition and method of assessment in an attempt to generalize the research findings across a wide variety of institutions.

A consistent issue in the literature that has hindered the generalization of singleinstitutional studies is the reality that the majority of living-learning programs are established to address specific institutional objectives. Inkelas and Weisman (2003) found living-learning communities are most commonly established at large universities that are attempting to make a more personal environment for their students. This significant detail has resulted in the bulk of research findings being based on large, public institutions in mid and southwestern regions of the United States. Furthermore, the research conducted at these institutions does not examine the effectiveness of specific learning communities, but instead aggregates the findings of multiple programs (Inkelas, Johnson, et al., 2006). For example, Inkelas' original National Study (2004) identified fourteen categories or types of communities within two-hundred and seventy four institutions.

Additional factors to consider when evaluating the ability to generalize current research findings is the fact that many students self-select into learning communities (Inkelas, Vogt, Longerbeam, & Johnson, 2006; Inkelas & Weisman, 2003), and that measurement tools typically rely on student perception to determine program effectiveness (Inkelas & Weisman, 2003). Finally, the research appears inconsistent as to whether faculty, peers, or the specific environment have a direct or indirect effect on a student's development (Pascarella, Terenzini, & Blimling, 1994; Pascarella & Terenzini, 2005; Pike, 2000; Zhao & Kuh, 2004). These limitations are consistently cited by the researchers as implications in individual research studies; however, their acknowledgement is only used to affirm their contention that the findings are relevant but not conclusive. The current research affirms that residentially-based learning communities hold the potential to positively affect students' collegiate experience, but the research also consistently shows individual development and programmatic outcomes are dependent on multiple factors including program goals and institutional type and size.

Current research may be classified as focusing on either the examination of intellectual growth (Shapiro & Levine, 1999) or a program's effectiveness in meeting learning outcomes. However, research focused on the influence of how these communities affect a student's psychosocial development is limited. Additionally, research conducted at medium sized, private institutions or on specific types of communities is generally absent in the current research, with the noted exception of Inkelas' National Study of Living Learning Programs (2004; 2008) which included a variety of institutions and blends academic and social communities.

This study was intended to add to the current body of research in an attempt to address some of the previously cited limitations. The study examined one specific academically focused, residentially-based learning community within a private, religiously founded, Research I institution with a population classified as medium sized with an enrollment of fewer than 10,000 undergraduates. Specifically, the program studied, an honors living-learning community, that operates within the context of an institution in the northeast whose admissions standards are classified as highly competitive. Given these unique features, as compared to the majority of current literature, this study proposed to find evidence in support of the literature that residentially-based learning communities enhance students' psychosocial development.

The study of a residentially-based honors learning community will also provide additional benefits. First, a very small body of literature exists which focuses specifically on honors students (Lease, 2002; Seifert, Pascarella, Colangelo, & Assouline, 2007). This study was looking to: expand the current literature on academically focused livinglearning communities', focus on students' developmental growth; and provide insight into whether participating in residentially-based learning communities influences honors students' psychosocial development. This type of study is not common in the literature. Pascarella and Terenzini (2001) suggested a similar frame for examining the differential effects between various residence hall arrangements in a specific program.

The preponderance of research focuses on the positive outcomes of engagement, retention, and increased peer to peer and faculty interaction. This study focused on an

area of living-learning programs which has received less consideration. Specifically, this study quantitatively examined whether first year honors communities positively affect a student's psychosocial development when compared to first year honors students who reside in the traditional halls. Given the focus on psychosocial development and the age of the population, Chickering's theory of student development (1993) is one of the most applicable and respected developmental theories. Chickering's theory frames student development as a continuous and cumulative movement through a series of developmental tasks, vectors, which are addressed throughout their college career and beyond. Additionally, Chickering's concept of "redundancy" complements the current research on how living-learning communities affect engagement. In turn engagement can influence a student's ability to make meaning from people and their surrounding social and academic environment. Because the specific research issue was psychosocial growth within a population of first year honors students, it was essential to use an instrument with the ability to examine the early vectors of Chickering's theory in order to determine the community's effect on students' development. This instrument will be briefly discussed in the research design section of this chapter and in greater depth in Chapter 3.

In summary, this study was intended to build upon the current base of research on residentially-based learning communities by providing greater insight into how an honors living-learning community affects academically high achieving students' psychosocial development. The research is clear that learning communities can positively affect students' relationships to the institution, peers and faculty. Furthermore, research such as the National Study of Living Learning Programs (Inkelas, 2008) has shown the potential these communities hold to improve the overall collegiate experience for specific populations within a community (Inkelas, Vogt et al.,2006) However, as Lease (2002) noted, the research on what affects the psychosocial development of honors students is limited. This study addressed a population which has received a significant amount of institutional resources to enhance their collegiate experience, but has received little attention in the literature as to how their environment influence their development.

#### Purpose of the Study

The purpose of this study was to determine if first year honors students who participate in a residentially-based learning community exhibit greater psychosocial development over first year honors students who reside in traditional residence halls.

#### **Research Questions**

The intended outcome of this study was to determine answers for the following research questions:

- Do first year honors students who participate in an honors residentially-based learning community have greater psychosocial development compared to honors students who reside in traditional residence halls?
- 2. Do female honors students who participate in an honors residentially-based learning community have greater psychosocial development compared with males who participate in the program?

#### Significance of the Study

The intent of this research was to study one honors based living-learning community within the context of a medium sized private institution located in an under studied region. The current literature on residentially-based learning communities provides a persuasive argument for the importance of these communities in the educational development of students. However, as previously noted, the current research on living-learning communities primarily focuses on large public institutions in the midwest region of the United States. Furthermore, the majority of current research combines academic and social learning communities into one study. This type of research design may have benefits of efficiency; however, a study focused solely on one specific type of residentially-based learning community would more clearly identify if developmental growth occurs and, under which specific environmental conditions. As it relates to institutional type, this study will be conducted at a private medium sized university which is rarely represented in the current research. This study also provided insight as to whether living-learning communities at private institutions support the findings in the current body of literature.

A second and significant element to this study is the specific population that was examined. Despite aspirations of colleges and universities to attract and retain high academically achieving students with the implementation of academic learning communities, there is limited research on honors students' collegiate experience within the context of living-learning communities. The majority of current research on livinglearning communities focuses on measurement of engagement or institutional persistence. However, honors students, it can be reasonably assumed, are academically engaged and their persistence is higher than an average student as a result of the academic challenge (Astin, 1984). The literature on academically focused living-learning communities provides limited data on the additional developmental benefits which are achieved from participation in one of these communities. This study, in addition to examining a specific type of living-learning community within a private university, looked to establish whether or not honors students who thrive academically benefit from increased psychosocial development over honors students who choose to reside in traditional residence halls.

The outcomes of this study will expand the depth of research on residentiallybased learning by developing a fuller understanding of the effect these communities have on an honors student's personal development. Additionally, the outcomes of this study hold the potential to: provide student affairs practitioners with additional data to support and expand collaboration with academic affairs in the creation of educationally purposeful residential facilities, provide guidance in the allocation of resources, and supply another tool for the development and evaluations of programmatic learning outcomes.

#### Definition of Terms

The following list of terms and definitions is provided to assure a common understanding of language used throughout the study:

<u>Faculty-Student Interaction</u>: Formal and informal out-of-class interactions between a faculty member and a student which, depending on the type of interaction, has the potential to impact the development of a student (Pascarella & Terenzini, 2005);

<u>Honors Students</u>: students admitted to an institution who, based on the college or universitys' definition, possess higher academic ability than the average student and are offered admission into the institution's academically intensive honors program;

<u>Learning Community</u>: an educational model which links interdisciplinary courses around a common academic or social theme (Gabelnick, 1990); <u>Psychosocial Development</u>: traditional age college students moving through a "series of developmental tasks or stages , including qualitative changes in thinking, feeling, behaving, valuing and relating to others and oneself" (Chickering & Reisser, 1993);

<u>Traditional aged college student</u>: An undergraduate student between the ages of 17-24; and

<u>Residentially-Based Learning Community</u>: Students housed in a common community developed around an academic or social program and requires students to collaborate in activities outside of the classroom.

#### Overview of Research Design

This research studied the psychosocial development of first year honors students who participate in a residentially-based learning community. Specifically, this study quantitatively measured the difference in psychosocial growth between first year honors students who participate in a residentially-based learning community and honors students who reside in traditional residence halls. The study employed a control group of first year non-honors students who reside in traditional residence halls. The study used a quasiexperimental design because participants were not randomly assigned to groups but elected to live in the housing of their choice.

To measure potential growth, the Student Developmental Task and Lifestyle Assessment (SDTLA) was employed. This is a standardized instrument created to measure psychosocial development for a college age population between for the ages of 17-24 based on Chickering's and Reisser's (1993) revised theory of developmental growth through seven vectors. This instrument is designed to measure growth in three developmental tasks: Establishing and Clarifying Purpose, Developing Autonomy and Developing Mature Interpersonal Relationships (Winston, Miller, & Cooper, 1999).

The instrument was administered as a pretest in the second week of the fall semester and as a post test in January at the conclusion of students' freshman first full semester. The sample is comprised of 102 students who reside in the honors learning community and 100 honors students who reside in traditional freshman residence halls. The instrument was administered electronically and took approximately 30 minutes to complete. This form of administration was chosen for efficiency of delivery in comparison to a paper and pencil format.

#### Limitations

The study of residentially-based learning communities has several unique programmatic features which limits the generalizations. Similar to the literature on learning communities in general, my study was limited by the fact that students selfselected into these communities, presumably because they have a higher level of motivation and engagement in the institution than the average residential student. Because of student self-selection and criteria for admission into the honors program, participants in this study could be randomly assigned to the honors program or to their housing assignment. The housing system of this particular institution assigned all interested honors students to the learning community and the remaining honors students were assigned to a specific region of campus housing for first year students.

A second factor that challenges the generalization of the findings is the sample size. The qualification for acceptance into the honors program and honors housing capacity limits the sample size to 102, which is relatively small. An additional limiting factor was that this study examined only one honors program in a single institution with one style of living-learning community.

This study was designed to measure the developmental growth of honors students in a specific residentially-based learning community. However, the collegiate experience exposes students to both formal and informal programs which can also affect their psychosocial development. The scope of this study does not permit the consideration of all factors which may influence a student's developmental growth or all types of developmental growth. Finally, this study was conducted at one medium sized private, religiously affiliated university in the northeast. Therefore, it is not feasible to generalize the results of this study to other private or public institutions of varying size enrollment.

#### **Overview**

This dissertation is composed of five chapters. Chapter 1 introduces the problem to be studied and provides a framework for its relevance to the field of student affairs.

Chapter 2 presents a brief explanation of the historical founding of residentiallybased learning communities. The chapter then reviews the current theoretical literature which forms the foundation for these communities. The final section of the chapter reviews the current literature which attempts to study the effect of these communities on a student's growth.

Chapter 3 provides a detailed description of the methodology used to conduct research. This chapter includes the literature used to consider the design of the study and the treatment of the data.

Chapter 4 presents and discusses the results associated with honors students' exposure to residentially-based learning communities in relation to honors students who

reside in traditional freshman residence halls and chapter 5 draws conclusions and discusses the implications of the findings.

In summary, the following chapters present a quantitative study of honors residentially-based learning communities in a highly selective private university. This study of learning communities is based on specific theories that contend that intentional environments positively affect a student's developmental growth. This study and the research instrument are based Chickering's theory of Identity Development. However, there are a multitude of aspects which influence a college student's growth. Based on this factor, consideration was also given to Astin's Involvement Theory and Bronfenbrenner's Ecology Theory to understand how living-learning communities affect students.

#### Chapter 2

#### LITERATURE REVIEW

On campuses across the United States, institutions of higher education are attempting to make students' collegiate experience more meaningful. One of the central methods for doing this is the creation of residentially based learning communities. These intentional educational environments exist under a variety of names but the objective of these programs is to extend a student's learning environment beyond the classroom.

A clear definition or programmatic design for these communities is absent in the literature. In fact, Schroeder and Mable (1994) concluded that the literature does not differentiate between types of residentially-based learning communities and furthermore, "there is no consensus of the term Residential College" (p. 243). However, the difference between learning communities and living and learning communities is that the latter concept requires participants to live together in a community which intentionally fosters integration of a student's social and academic life into one seamless environment. Brower and Dettinger (1998) noted in their research that many forms of learning communities exist, but all have common academic and social features.

Learning communities typically fall into one of four categories. The first type of learning community links academic classes with a specific cohort of students, but does not possess a residency requirement. Learning clusters is another style of community which is similar to the linked courses model; however, learning cluster expand the course load to three or four common classes and is not residentially based. The third type of community is Freshman Interest Groups (FIG's) which attempt to link courses around a major and provides an instant community for first year students but which does not usually include a housing element. The fourth type of community is residentially-based, developed around an academic program or theme, and requires students to collaborate in activities outside of the classroom (Gabelnick, 1990; Lenning & Ebbers, 1999; Zhao & Kuh, 2004). The focus of this literature review is specifically to examine the development, developmental theory and current research of residentially-based learning communities.

Traditionally, the difference between living and learning communities and residential colleges was the presence of a faculty member residing within the college and supervising a specific building or complex (Inkelas, 2008; Schroeder et al., 1994). However, as previously noted, the literature does not consistently differentiate between these types of communities. To reduce confusion and remain consistent with current literature, this review will use the terms Residential College and Living Learning Community (LLC) interchangeably unless otherwise noted.

#### History

Today's colleges and universities are undertaking several initiatives to improve the quality of education. One of these initiatives is the creation of small, residentiallyfocused learning communities within the larger institution. The intent of these communities is to create a seamless educational environment between students' social and academic lives as they become actively engaged with faculty in the learning process. In the United States today, this concept may sound revolutionary. However, the concept of residentially-based learning communities is steeped in history and dates back to the sixth century. This concept of an inclusive educational environment or Collegiate Way was transplanted from Europe to American higher education with the founders of Harvard University. The founders transported the values and ideals of a residentially based education, in which faculty and students live and learn together, from their own educational experiences at Oxford and Cambridge (Oakley, 1992).

The ideals of the Collegiate Way, with its residentially-based form of instruction, were common among schools into the early 19<sup>th</sup> century. However, not all college presidents of this time period favored the system and believed a school's limited fiscal resources were best spent on students' intellectual rather than personal lives. Beginning in the early 1840's, some colleges viewed residentially-based learning communities as a financial extravagance and perceived the monitoring of students' moral development as a waste of time for the faculty (Brubacher & Rudy, 2004). The momentum to move away from the residentially-based formation of students continued into the early 20<sup>th</sup> century. A central reason for this shift in philosophy can be found in two central factors of the time. The first was the movement towards the Germanic ideal of a research institution with the establishment of Johns Hopkins University (Altbach, Berdahl, & Gumport, 1999, 2005). The second was the creation and subsequent expansion of state funded land grant colleges whose curriculum focused on the practical application of knowledge and was less focused on became indifferent to the social and moral development of students (Thelin, 2004).

A resurgence of the Collegiate Way was initiated in the 1920's with the leadership of William Harper at the University of Chicago, Lawrence Lowell at Harvard, Alexander Meiklejohn at the University of Wisconsin and Woodrow Wilson from Princeton. The rationale for reinstituting these residentially-based learning communities was based, in part, on ideas from men like Woodrow Wilson who sought to re-develop the social nature of campuses while others, like William Harper, sought to develop an inclusive academic model (Duke, 1996). The ideal of re-creating an inclusive collegiate environment faltered for the next forty years; however, the ideals of Dewey and Meiklejohn and the residentially-based learning community were not completely extinguished. Leaders of higher education in the 1960's, such as Clark Kerr and Dean McHenry, valued the ideals espoused by Meiklejohn in the 1920's with the Experimental College at the University of Wisconsin (Duke, 1996). These progressive leaders in higher education contended that large research institutions of the late 1960's were not providing a comprehensive system of education. Duke (1996) contended that leaders like Kerr and McHenry viewed public systems such as California's, which was a model in providing public education, as impersonal institutions whose faculty were not focused on students and whose curriculum was developing into a system of fragmented electives.

The educational unrest ignited in the 1920's, due to the concern of a disjointed system of higher education, was reignited with the social upheavals of the 1960's and continued into the 1970's with the founding of several colleges committed to the ideals of residentially-based learning communities. Arguably, the most well known of these programs was at Evergreen State College in Washington State, whose faculty initiated a modern style of the Collegiate Way and now serves as a model for modern day programs (Gabelnick, 1990).

The trend of residentially-based learning communities has ebbed and flowed since the 1920's; however, in the last ten years, American higher education has seen a concerted effort to re-create purposeful environments which engage students in their learning processes outside of formal instruction. The rationale for this resurgence in living-learning communities is multi-dimensional. Schroeder and Mable (1994) contend that the establishment of these communities was either the result of large schools seeking to create smaller educational communities within the larger community or prestigious private schools seeking to gain a market advantage for the best students. A second rationale for a resurgence of living-learning communities is today's universities seeking to incorporate the Boyer Commission's (1998) urging for large research universities to integrate the ideals of smaller unified learning communities into their larger institutional mission.

The historical literature clearly shows a continual pendulum effect of societal demands and philosophical ideals affecting institutional support for the Collegiate Way. The articulation of these residentially-base learning communities has varied over the course of 400 years from ensuring the moral development of students to facilitating faculty-student engagement. However, as the literature shows, regardless of time or increased understanding of the learning process, the intended effect and method of providing a holistic educational environment has remained constant.

#### Theoretical Foundations

Residentially-based learning communities are founded on a simple design: to develop an academic or programmatic theme around a physically smaller living community to effect a positive change in the educational environment. However, the interactions that occur between individuals in these communities and the resulting outcomes are complex. Multiple developmental theories may be used to understand their influence on developmental growth. However, given the complex nature of these environments, it may be necessary to consider a blending of theories to fully understand the complexity of how these communities affect growth.

Several types of theories exist which attempt to explain this development including psychosocial, cognitive-structural, typologies, and person-environment approaches. (Chickering & Reisser, 1993; Pascarella & Terenzini, 2005; Widick, Knefelkamp, & Parker, 1980). However, most of the literature on living-learning environments places considerable emphasis on Astin's and Chickering's theories of growth. Additionally, though not specifically addressed in the literature on residentiallybased learning communities, Uri Bronfenbrenner's Ecology Theory has direct application and will be examined in this review.

#### Astin, Bronfenbrenner and Chickering

Individually, no theory can provide a thorough understanding of how livinglearning communities affect individual students. However, Astin's, Bronfenbrenner's and Chickering's theories, when taken together, hold the potential to provide a coherent framework to examine how faculty, peers and the environment within living-learning communities may affect psychosocial growth.

Astin's student involvement theory contends that students who are actively engaged in their environment will increase their development (Astin, 1984; Kuh, 1995; Pascarella & Terenzini, 2005). Bronfenbrenner's work is comparable to Astin's and Chickering's theories; however, his theory is richer in its ability to explain the dynamic process taking place between an individual and other people or the environment.

Bronfenbrenner's theory has an element called "proximal process" in which he states that intentional and consistent interactions must occur between a person and their

23

environment for growth to occur (1995, p. 620). This element of proximal process is similar to Astin's involvement theory which contends that the "amount of physical and psychological energy that the student devotes" facilitates growth (1984, p. 297). However, Bronfenbrenner's theory moves beyond merely determining if energy is devoted to a task and examines the level of intensity, or the amount of energy, exerted by people or the environment to affect a personal change.

Ecology theory is comprised of four layers; the microsystems, mesosystems, exosystems, and macrosystems. These layers, in conjunction with the proximal process, are elements which provide a more complex analysis of the dynamics between individuals and their environment. As Renn and Arnold noted "at the microsystem level, ecology theory resembles Astin's involvement theory, and it is true that the principles of involvement theory hold true in microsystems" (2003, p. 270). However, in relation to residentially-based learning communities, examining the mesosystems in relation to the microsystems is central to understanding how peers influence or the environment affects a student's personal development.

Chickering's theory of identity development plays two central roles in the determination of whether or not participation in living-learning communities affects a student's development. First, the vectors provide a researcher with the ability to quantitatively determine, through assignment to a vector, if the environment has affected psychosocial growth. However, a second element of his theory, similar to Astin's and Bronfenbrenner's theories, asserts that a student's environment is a powerful force on psychosocial development. In relation to residentially-based learning communities, the

concepts of institutional size, faculty-student relationships and friendships have a direct relationship to the development of specific vectors (Chickering & Reisser, 1993).

In relation to these environmental influences, Chickering refers to the term "redundancy" which is defined as "the situation where the number of persons for a given setting exceeds the opportunity for active participation" (Barker and Gump, 1964, as cited in Chickering & Reisser, 1993, p. 268) Chickering theorized that increased redundancy hampered psychosocial development by limiting an individual's opportunity to encounter situations which challenge their current mental process, and thereby limits the development of new coping skills. This concept of redundancy is comparable to Astin's concept of involvement and Bronfenbrenner's proximal process; however, their focus of peer or environment influences does vary. Astin described his theory as attempting to understand "how" growth occurs, whereas Chickering is attempting to determine "what" has changed in the individual (Astin, 1999, p. 522). Conversely, Bronfenbrenner is more interested in the forces or energy occurring between the individual and their environment. Simply stated, Chickering looks for opportunities in the environment which allow growth, Bronfenbrenner examines interactions between people and the environment, and Astin observes the presence of energy and its affect on the person. In relation to residentially-based learning communities, all three theories attempt to examine influences and, as Pascarella and Terenzini (1991) noted, the environment and especially peers influence all elements of a student's development.

#### Women's Development

Initial theories of student development were based on research conducted with traditional age, white males and failed to consider the fact that men and women may differ in their patterns of developmental growth. Subsequent research on psychosocial developmental has found that women and men place different interpretations on autonomy and interpersonal relationships (Jones & Watt, 2001; Reisser, 1995; Straub, 1987; Straub & Rodgers, 1986). The studies of Straub and Rodgers (1986), and Straub (1987), used the precursor to the Student Developmental Task and Lifestyle Assessment (Winston et al., 1999) to provide compelling research that showed the sequence of the vectors was different for women.

Straub (1987) asserted that "there was no single way to develop autonomy" (p. 204). In Reisser's "Revisiting the Seven Vectors" (1995), she affirmed Gilligan's' (1982) contention that men address autonomy by seeking separation and individuation whereas women focus to preserve relationships and seek interdependence. However, Gilligan's assertion should not be interpreted to mean women do not seek autonomy. Instead, women's developmental process seeks to master issues of interpretsonal relationships which, in turn, impacts their ability to develop autonomous relationships (Straub, 1987). In summary, based on Chickering's theory of psychosocial development, women, in sharp contrast to men, will focus on developing interpersonal relationships before moving on to the establishment of autonomy.

#### Current Research on Learning Communities

The philosophy and theory of residentially based learning communities is designed to immerse students in an academically and socially inclusive environment which fosters intellectual and personal growth. The foundation of residentially based learning communities is based upon this longstanding belief, but does the research on these communities support this theory? Further, do students who reside in these living/learning communities have a developmental advantage over students who reside in traditional residence halls? Zhao and Kuh (2004) found renewed interest in living/learning communities and the subsequent research on their effectiveness was the result of "growing recognition that student engagement in educationally purposeful activities in and out of the classroom is a precursor to high levels of learning and personal development" (p. 115).

One outcome of this renewed interest in the development of living/learning communities is research that explores how these environments affect a student's development. However, the majority of the literature notes that generalizations and findings are limited to specific institutions. Review of the research design for several major studies finds limitations, including a lack of uniformity in institutional classification of learning communities, as well as inconsistency in the methods of assessment. The only exception to the current research is Inkelas' (2008a) 2004 and 2007 National Study of Living Learning Program. These two studies were established with the intent to standardize measurement techniques, effectively categorize data and develop findings which are consistent across all types of programs.

The following review will examine these national, generalized studies and institutional specific studies in context of developmental effects of living/learning communities on student development. Chickering and Reisser's (1993) work provides a simple framework which further classifies the research into three categories: studentfaculty relationship, friendship and student communities, and institutional size. However, this review uses a slightly broader classification of environment, faculty, and peers to classify the literature.

#### Environment

The research conducted on the environments of residentially based learning communities consistently affirms several common findings. Pascarella and Terenzini's meta-analysis (2005) of data on learning communities found residential programs held the potential for creating a powerful environment in which students can develop. Specifically, these living-learning communities provide proactive educational environments for students that are supportive and enhance personal development (Kuh, 1993; Kuh et al., 1991; Terenzini, Pascarella, & Blimling, 1996). Inkelas and Longerbeam's (2008) most current findings assert that living-learning communities, in addition to providing a supportive environments, create an atmosphere for their residents which foster "a strong emphasis on study and supporting academic success" (p. 31).

Several factors must be considered when evaluating research on the effectiveness of these programs. First, the research consistently cites that the type of students drawn to participate in living-learning communities may have a higher level of motivation to achieve success. As an example, *The National Study of Living-Learning Programs* (2008) noted that students in living-learning communities did have, on average, higher grade point average (GPA's) than students in traditional residence halls (TRD), but this study did not account for pre-existing abilities or individual motivational levels among participants. The research also found large, research universities with a small number of LLC's were the expectation for this finding, but a rationale was not provided for this anomaly.

A second factor to consider when evaluating the research is that the method for measuring is based on self reported data. Pike's (1995) research on self reported data
determined the method and results are valid and a productive means of assessing a program; however, consideration needs to be given to a student's motivational factors for choosing to live in a learning community versus students who live in traditional residence halls. The research on learning communities affirms that a student's pre-college experience, i.e. family, previous academic success, holds the ability to confound the outcomes of the research. Recent studies on learning communities, most notably Inkelas' The National Study of Living Learning Programs (2008) and Different by Design: An Examination of Student Outcomes Among Participants in Three Types of Living-Learning *Programs* (2003), have developed quantitative instruments which account for preexisting factors and provide a more accurate picture of the effect these communities have on individual students. One implication which may confound the institutional-specific studies is that the research was conducted at primarily large, public research institutions and may not be applicable to medium sized institutions or private universities. The only exception was the National Study which examined 49 large and medium sized, public and private institutions (Inkelas, 2008).

Several individual studies of learning communities have advanced the contention that faculty involvement increases a student's general education as well as fostering academic performance, social and academic involvement, and enhanced personal development (Blimling, 1993; Pascarella, Terenzini, & Blimling, 1999; Pascarella & Terenzini, 2005; Pasque & Murphy, 2005; Rice & Lightsey, 2001). Additionally, several studies found that the environment, which is inclusive of faculty and peers within livinglearning communities, fosters an openness to difference (Inkelas, Johnson, et al., 2006) as well as increases a student's level of persistence in college (Pascarella et al., 1994; Pike, Schroeder, & Berry, 1997; Tinto, 1993; Zhao & Kuh, 2004). In contrast, *The National Study of Living-Learning Programs* (Inkelas, 2008) found no significant difference in the fostering of liberal learning or openness to diversity. Persistence in college is one of the findings that is consistent among all programs; however, there is a question as to whether this is a direct or indirect effect of participation in a residentially-based learning community and the relationship was discussed in only a few of the larger studies.

The research on the effect of residentially based learning programs varied between and among living-learning programs. Several rationales can be used to explain these discrepancies. One explanation is Astin's theory which would say the amount of energy the students invest into their respective learning community would influence the programmatic outcomes (Inkelas, Johnson, et al., 2006; Pike et al., 1997). As noted in the *National Study of Living-Learning Programs* (Inkelas, 2008), there is a wide range of definitions which attempt to classify a residentially-based learning community, but inconsistencies in programmatic expectations for student's personal involvement among programs makes it difficult to conduct comparative assessment. Additionally, the amount of time students are required to invest into the community may also negatively affect their own perception of the community, as well as, their academic or personal development (Inkelas et al., 2006).

A second rationale for the difference among living-learning programs appears to be inconsistency in the intended outcomes of the programs. Specifically, some less academically focused communities simply provide students an opportunity to participate in a program, but are not intended to connect the academic and social components into a seamless environment. The research by Pike (1999) and Pascarella and Terenzini (1991) contends that a majority of the programs are intentionally designed to foster a student's development of learning through differentiation, but only a few are designed to cultivate students' ability to integrate their academic and social life together in the living environment.

A final factor in the literature on environmental effects of residentially-based learning communities is the examination of the direct versus indirect effect on a student's development. Pascarella and Terenzini (2005) define *direct effect* as an "unmediated influence of one variable on another" and *indirect effect* "occurs when the effect is transmitted through an intervening variable or variables" (pp. 12-13). Their analysis of the current literature questions whether residential learning communities have a direct effect on a student's development. The literature infrequently addresses the question; however, the issue is central to understanding if environments foster growth in individual students. In one of the few studies which directly addresses this issue, Pike (1999) asserts that current research shows "living arrangement tended to be indirect, mediated by faculty and peer interaction." (p. 271) This contention was also affirmed by Inkelas (2008) and Pascarella and Terenzini (1980, 2005). However, the lack of data to refute this serves to confirm Pike's contention that environment, though important, only serves as a way to improve facilitation of faculty and peer interactions.

#### Faculty and Peers

The research on faculty influence upon students who reside in residential learning communities is consistent and shows a direct correlation between involvement and a student's personal growth and development. Specifically, faculty interaction has been shown to positively impact a student's identity development, intellectual competence and

31

purpose (Chickering & Reisser, 1993; Terenzini & Pascarella, 1994). However, this research on faculty-student interaction should not be over simplified. The data on national and institution-specific studies shows faculty involvement can influence persistence (Pascarella & Terenzini, 2005; Pike, 1999), facilitate career aspirations (Inkelas & Longerbeam, 2008; Pascarella & Terenzini, 2005), and improve personal satisfaction levels with college (Clarke, Miser, & Roberts, 1988; Sax, Bryant, & Harper, 2005). The factors which influence these outcomes are not merely related to the physical presence or quantity of encounters between faculty and students. Additionally, several studies produced conflicting results as to which types of interactions most influence student growth. A study conducted by Kuh, Hu and Vesper (2000) found one particular group of students who did not benefit over other students from receiving increased attention from faculty. The authors did not pose a clear rationale for this outcome; however, student effort or motivation, which Astin asserts is central to development, could be the cause for the outcomes of this particular study. In contrast, Kuh and Hu (2001) conducted a second study of student-faculty interaction and found an opposite finding with a strong correlation between positive student perceptions and faculty contact. Pascarella and Terenzini's (2001) research found "the quality and intensity" of the relationship between faculty and students is what influences development (p. 352).

Evidence supporting the contention that the quality of faculty involvement is more central to personal development and programmatic outcomes is consistent in the literature. As evidenced by Astin (1993) and Pascarella and Terenzini (2005), their meta analysis confirms that informal and formal interactions with faculty have a positive impact on students' personal growth. Astin's research specifically focuses on the informal or personal interactions which facilitate self-perceptions of positive growth. Conversely, Pascarella and Terenzini concluded more "substantive interactions", defined as informational questioning and course related feedback, resulted in positive effects on students' growth (2005, p. 122). They contend these findings result from students perceiving an environment which is more academically based and, in turn, facilitates individual growth.

As Kuh and Hu (2001) noted, the research faculty influence has developed increasing interest among academic affairs as institutions seek improved faculty-student interactions. This has led to conversations about developing residentially-based learning communities. The research on residentially-based learning communities, as it relates to faculty-student interactions, consistently affirms the contention that faculty involvement in these communities increases students' developmental growth. Inkelas' (2008) research maintains that residentially-based learning communities can have programmatic designs which provide faculty clear parameters on how to provide a unique educational experience not readily available in traditional residence halls. The national and institutional specific literature provides consistently positive but disconnected outcomes among programs except in the areas of faculty-student and peer influence on personal development. The literature, which addresses faculty-student relationships, is consistent in that these interactions have an indirect effect on development (Garrett & Zabriskie, 2004; Kuh et al., 2000; Pascarella & Terenzini, 2001). This does conflict with the vision of the creators of these communities who intentionally design living environments to facilitate purposeful and consistent faculty-student interactions.

The literature on the impact of faculty involvement in living-learning communities may not be equal for men and women. The research consistently shows that a student's perceived quality of faculty interaction is essential to student developmental growth. However, in reviewing literature on living-learning communities, there is a body of research which examines gender perceptions of faculty involvement. One particular national study conducted by Sax (2005) examined data using CIRP (Cooperative Institutional Research Program) and CSS (College Student Survey) from first year students to examine their perceptual difference of faculty among women and men. The research found faculty interactions can negatively affect women if they perceive a faculty member does not value their opinion. Despite these potential negative influences on faculty-students interactions, the majority of the literature consistently finds a positive correlation between faculty interactions and a student's development (Astin, 1993).

Faculty-student interactions are a dynamic process; however, the research is still unclear as to what specific types of interactions produce positive growth in a student's development. This lack of clarity in understanding the relationship between students, faculty or peers may be the result of inconsistent methodologies used to study program effectiveness or an unclear definition of a living-learning program (Inkelas, 2008). In an attempt to bring order, several researchers have developed typologies to establish a clearer understanding of this dynamic process. In reviewing the literature, Cox and Orehovec (2007) created a well-defined typology to illustrate the levels of facultystudent interaction. The typology is comprised of the following five modes: 1. disengagement which is defined as no interaction between students and faculty outside the classroom, 2. incidental contact which is defined as unintentional interactions, usually classified as polite recognition of the individual, 3. functional interaction which is contact between a student and faculty member regarding a specific academic activity, 4. personal interaction which is classified as student-faculty involvement with more than professional contact and holds the potential of developing into a relationship, and 5. mentoring which is defined as student-faculty relationships where the faculty member supports the student not only in their academic pursuits, but also provides emotional support and role modeling (Cox & Orehovec, 2007, pp. 351-356). Additionally, each of these types of interaction have levels of frequency which flow along a continuum (Cox & Orehovec, 2007). Their research findings support the assertion that quality faculty-student interactions have a positive effect on a student's development, but Cox (2007) also found "unintentional and superficial" (p. 360) interactions are important to student development as they can lay the foundation for future, more meaningful interactions or relationships.

Faculty play a major role in a student's development, but the single most significant influence on growth and development is a student's peer group (Astin, 1993; Inkelas & Longerbeam, 2008). Pascarella and Terenzini's (2005) meta-analysis of the data consistently found that peers in learning communities positively influenced the psychological and social development of students. Specifically, students' progressive development in these residentially-based learning communities was the result of seeking out peers for a sense of shared beliefs, identity and membership to a specific group. One of the most consistent outcomes from participation in a living-learning community was persistence in college which was directly correlated to peer influence (Gabelnick, 1990; Inkelas & Longerbeam, 2008; Pascarella & Terenzini, 2005; Zhao & Kuh, 2004). Additionally, peer influence was a significant contributor to student learning and supporting educational aspirations (Inkelas & Longerbeam, 2008; Inkelas & Weisman, 2003; Pike, 1999). Finally, learning communities place a premium value on the development of collaborative friendships and fostering a sense of ownership of their learning community (Gabelnick, 1990; Inkelas, 2008b). In residential learning communities, peer relations are developed by the close community which fosters socialization to specific norms of behavior. The peer climate forms a sense of identity and ownership within these living/learning communities which sequentially holds and positively influences the growth in a student's cognitive complexity, liberal learning (Inkelas, Vogt, Longerbeam, Owen, & Johnson, 2006) and development of "intellectual energy" (Gabelnick, 1990, p. 69). However, the central element to the development of group identity, ownership and all the positive outcomes is the ability to have peer interactions extend beyond classroom discussion and into students' social life (Pascarella & Terenzini, 2005).

#### Homogeneity

One of the unintended effects of a residential learning community is the creation of overly homogeneous environments. This review found the majority of residential learning communities are created through self selection and resulted in students of similar backgrounds and interests selecting these unique living options. A possible negative consequence of these residentially-based learning communities is the fact that students are missing the opportunity to socialize with others from varying backgrounds and serving as a role model for students who are not as academically or socially involved (DeCoster, 1966). However, Schroeder and Mable's (1994) research found the homogeneity of peer groups in residential learning communities had a positive impact on participants and facilitated an environment of increased competition, recognition of individual accomplishment and rewards for motivation.

Honors communities are one of the most homogeneous residentially-based learning environments because these specific communities attract students who have achieved high academic success in high school. Additionally, a common theme in the research has shown that students who are interested in participating in residentially-based learning communities also hold high academic aspirations and a desire to be actively involved on campus. Honors communities are designed to promote academic integration, provide rigorous and enriching environments and, in the case of large public institutions, to function as a small liberal arts college (Clarke et al., 1988; Lease, 2002; Longerbeam, Inkelas, & Brower, 2007). Residentially-based honors learning communities offer an environment where students feel more academically challenged (Seifert et al., 2007), have the opportunity to interact with faculty on a social level and have increased access to institutional resources (Brower & Inkelas, 2007). Pascarella and Terenzini (2001) found students with the "highest level of educational aspirations" (p. 351) derived the largest developmental benefit from residential learning communities. Similar outcomes were found in two studies which positively link academic performance with residing in a residentially-based honors program (Blimling & Hample, 1979; Pascarella et al., 1994). Blimling (1993) concluded that "students with superior academic skills established a peer supported standard of academic achievement" and this environment indirectly affected academic performance through either the "nature of competition" (p. 268) or the collegial environment.

37

#### Summary

This review was intended to examine the historical, developmental theory and current literature of residentially-based learning communities. The final section of this review highlights particular gaps in the literature and calls for future research.

Inkelas and Weisman (2003) noted the majority of the current research literature on residentially-based learning communities is conducted on programs at large public universities. This review also found the majority of the research on living-learning programs is concentrated on large single institution studies which failed to differentiate academic and social communities and result in the data being aggregated into broad conclusions. The current research may be classified as focusing on either the examination of intellectual growth (Shapiro & Levine, 1999) or a program's effectiveness in meeting learning outcomes. This literature review found minimal research which focuses specifically on the influence of residential-learning communities on a student's psychosocial development.

A clear direction for future research would be the examination of students' psychosocial development within a single residential-learning community. Given the need to assure consistent variables in the research, an ideal population would be an honors living-learning community. These students must meet specific programmatic standards to be classified as honors students and, generally, are highly motivated individuals. Additionally, in *The Effects of Honors Program Participation on Experiences of Good Practices and Learning Outcomes*, the researchers found that minimal studies exist which focus specifically on honors students (Seifert et al., 2007). This, coupled with Pascarella and Terenzini's (2001) recommendation that future

research should examine the differential effects between various residence hall arrangements, provides a focus for future research to compare the psychosocial development of honors students who reside in a residentially based learning community to honors students who live in traditional residence hall.

In conclusion, the findings of this review pointed to a clear gap in the literature which provides an opportunity for new research. Specifically, the study of psychosocial development of honors students who reside in academically focused residentially-based learning communities. Furthermore, given that the preponderance of current research is focused on large public institutions, an untapped area to examine these developmental effects would be at a medium sized private or public institution. The study could examine whether the factors of environment, faculty and peers in a residentially-based learning community have a clear and positive relationship with students' psychosocial development.

#### Chapter III

### METHODOLOGY

Chapter 3 presents the methodology used for this study. It is divided into five sections: research question, study design, population, instrument, data collection and analysis. This chapter describes the program studied, the design of the study, the instrument that was employed and how the data was analyzed.

#### Research Question

The purpose of the research was to study the psychosocial development of first year honors students who participate in a residentially-based learning community.

This study was designed to determine:

- Do first year honors students who participate in a residentially-based honors learning community have increased psychosocial development as compared to honors students who reside in traditional residence halls?
- 2. Do female honors students who participate in a residentially-based honors learning community have increased psychosocial development as compared with males who participate in the program?

#### Research Design

This study quantitatively measured the difference in psychosocial growth between students who participate in a residentially-based honors learning community and honors students who reside in traditional residence halls in the first semester of their freshman year.

Given that honors students at the institution studied have the choice to live in the Honors House or a traditional residence hall; this study employed a quasi-experimental

design. This type of design is used when the population under study cannot be randomly assigned to groups (Creswell, 2003). Black (1999) noted that a quasi-experimental design is similar to an experimental design, which is excellent in determining causal relations, but the quasi design is a more practical method for conducting research in real life situations. Specifically, the study used a pretest-posttest design with non-equivalent groups. Borg (1993) asserts that the pretest-posttest "design is probably the most widely used quasi-experimental design in educational research" (p. 319). However, caution must be exercised in accepting the findings with the same confidence as a true experimental design because the participants are not randomly assigned to groups (Borg, 1993). In a study where groups are not randomly assigned, the two groups may start out unequal and, consequently, any difference found may not be the result of exposure to a specific treatment. Conversely, Black (1999) asserts that non-equivalent group findings are less generalizable, unless the participants are specifically chosen because they are fairly representative of the general population under study. Furthermore, Black (1999) maintains that in a pre and post-test design with non-equivalent groups, the pre-test "may help ensure equivalence of groups and the measure would be of gain scores, which overcomes some of the criticism of lack of control of extraneous variables" (p. 70). Additionally, a pre-post test design has the ability to establish a baseline for both groups prior to the treatment which results in strengthening of the outcomes and provides greater generalization to similar institutions (Black, 1999).

#### **Population**

The population studied in this research was first year students at Boston College, a medium sized, highly selective, and religiously affiliated university in the eastern region of Massachusetts. The participants in this study were members of the University's honors program and were between 18 and 19 years old. Eligibility for admission into the honors program requires a student to be in the top 5% of their high school class and to have a minimum of 1450 out of a possible 1600 on their SAT's. The Director of the Honors Program for the School of Arts and Sciences, Dr. Mark O'Connor, accepts an average of 200 students out of 2300 first year students to participate in the program. Members of the Honors Program have several academic requirements, including participation in a yearlong honors seminar class for their freshman and sophomore years. Dr. O'Connor describes these seminar classes as in-depth discussions and lively debates with faculty members in a small group setting.

Honors students have the choice of living in either of the two areas designated for first year students. The majority of students who opt not to participate in the Honors Living-Learning community reside in residence halls which are in close proximity to the Honors House. The Honors House has a maximum capacity of 102 spaces for first year students. All first year students who are accepted into an honors program are eligible to apply for residency in the Honors House. In an average academic year, 50% or 100 of the first year honors students choose to reside in the Honors House while the remaining 100 students choose to reside in the traditional residence halls. The program is designed specifically for the residents of the house; however, if an honors student was unable to secure a bed space in the program, housing administrators permit these students to participate in programs and activities. Historically, the demand to reside in the house has not exceeded its capacity. The rationale for students opting to reside in the house versus the traditional residence halls appears to be a matter of personal choice. A recent study on honors students concluded some high performing students fear residing in an Honors House may negatively affect their socializing with non-honors students (Seifert et al., 2007). The traditional residences were defined, for this study, as freshman-designated residential facilities equipped with double rooms and common bathrooms. Additionally, the traditional residence halls are staffed, on average, with one resident assistant for every 45 residents and the building staff provides programs based on a generalized model developed by the Department of Residential Life.

The Honors House is staffed with six upperclassmen who are also members of the Honors Program. This student staff is comprised of three undergraduate Resident Assistants who have responsibilities of community development, crisis management and policy enforcement. Additionally, there are three undergraduates who serve as House Liaisons to work with the faculty and the Residential Life staff in the development of academically focused programs specially tailored to members of the house. Members of the freshman Honors House are required to sign a supplemental housing contract which ensures they understand the expectations of the community. Members of the Honors House agree to attend a minimum of six house programs per semester, participate in the planning and execution of academic and social programs and actively participate in a community which is respectful and supportive of an intellectually engaging community of scholars. The residents of the house understand that if they fail to meet the expectation of the community they will be administratively removed from the community and reassigned to room in one of the traditional residence halls.

The student and professional staff work with faculty and residents to plan weekly academic and social programs designed to meet the diversity of residents' interests.

43

However, regardless of whether the programs are social or academic, all activities are designed for the common goals of creating an intellectually challenging environment, facilitating faculty/student interactions outside of the classroom or fostering a unified community. Examples of weekly academically focused programs range from a faculty led discussion of Primal Aggression in the contemporary movie Fight Club to an evening workshop on the art of fiction writing. A popular program in the fall semester of 2009, which drew 75 students, was attending the opera Carmen in Boston followed by a dinner discussion with Dr. O'Connor. Cultural programs ranged from a religious celebration night in which students, who are primarily Catholic, participated in Hillel's student celebration of Hanukah to a lecture on the origins and demonstration of classic Irish step dancing. The honors residents also develop programs which are intended to bring the community closer and help manage the stress of meeting the programs high academic standards. Typical weekly social programs included a "girl's night" in the lounge, game and movie nights, dinners and desserts with faculty and scenic trips to Boston. Lastly, the "house" staff meets on a regular basis with the residents to help them connect, discuss life in the community as well as to plan or announce upcoming events.

In comparison, the honors students who reside in the traditional residence are not under any special requirement to actively participate in the community. Programs are planned by the Resident Assistants and the staff encourages residents to participate in the planning, but residents are not required to participate or attend any building events except for floor meetings which occur, on average, two times a semester. An RA must, as part of their responsibilities, coordinate at least one academic program per semester, but these programs usually occur outside of the residence hall. The building staff does work to develop community among the residents, but unlike the Honors House residents, this community is based solely upon social relationships.

In all other ways, honors students who reside in either the Honors House or the traditional halls have a comparative residential experience. In both communities students are assigned to a double room with a roommate, use common area bathrooms, have access to communal space and are required to adhere to specific polices and community standards. The physical design and basic expectations of behavior are similar between the two styles of residential facilities. Additionally, it should be also noted that the Honors House is specifically designed not to be an exclusive community. Boston College's Residential Life Department supports the University's focus on the development of a whole community and, as a result, all events specifically planned for the Honors House are open all honors students who reside in the traditional residence halls and, if space permits, also open to non honors students who wish to participate. This results in a very fluid environment where all Honors students, regardless of specific living environment, are able to interact with faculty and peers in social settings outside of the classroom.

However, the overall experience of a resident who participates in the Honors House is unique in comparison to a student who resides in the traditional halls. Honors students who reside in the living-learning community are immersed in a homogenous environment where students share similar academic values and aspirations and seek meaningful interactions with faculty and peers outside the classroom. The residents of the house experience an environment that encourages and facilitates discussion surrounding academic and social topics beyond the classroom. The honors students who reside in other buildings are always visitors and would be unable to experience the full spectrum of social interactions which occur between peers and with faculty throughout the day. The Honors House creates a more natural social environment for honors faculty to interact with students outside of the classroom on a regular basis, likely resulting in more intense and meaningful interactions between faculty and students.

#### Instrument

The Student Developmental Task and Lifestyle Assessment (SDTLA) is a standardized assessment tool created to measure psychosocial development in traditional age college students (Winston et al., 1999). The theoretical foundation and guiding force for the current version of the SDTLA is based on Chickering and Reisser's (1993) theory of psychosocial growth. The instrument is designed to measure changes in "feelings and attitudes that are indicative of students who have satisfactorily achieved certain developmental tasks common to young adults college students " (Winston et al., 1999, p. 11). Winston et al. (1999) revised this instrument from the 1991 Student Development Task and Lifestyle Inventory to "develop an assessment and procedure that educational practitioners can use with young adult college students to facilitate development of life purpose, mature interpersonal relationships and academic autonomy" (p. 4).

There are four forms of the current SDTLA. For this study, form 1.99 was employed which measures three developmental tasks whereas other forms only measure one specific developmental task. Form 1.99 consists of 153 questions designed to measure growth in the following three developmental tasks: Establishing and Clarifying Purpose, Developing Autonomy, and Developing Mature Interpersonal Relationships. Each of these tasks has up to four subtasks. Winston et al. (1999) defines the subtasks as "a more specific element or part of the larger developmental task" (p. 10). Additionally, this instrument includes two scales: Salubrious Lifestyle and Response Bias. The response bias scale is intended to prevent students from presenting an unrealistically positive image of themselves while the lifestyle scale, is designed to measure behaviors related to health and wellness (Winston et al., 1999). Secondly, the instrument collects demographic information. Specifically, for this study, the instrument collected data on age, race, gender, and place of residence; however, only gender, race and residency were relevant to this study.

## Scoring

The SDTLA uses a variety of Likert scales with assigned point values ranging from 1 to 5 for the one hundred and fifty three questions. To obtain the raw scores for each of the 3 tasks and ten sub-tasks, the data was categorized by sub-task and task. Next, to calculate the raw scores, the responses for each task and sub-task were summed and divided by the number of items to which the student responded (see the chart below for details values of tasks and sub-tasks). After obtaining the raw scores, the data was separated by gender, as recommended by the developers, before converting the raw scores to T scores using the normative data provided by the administrators from Appalachian State University (Winston et al., 999).

Task	Number	Scale Value	Range of
	of Items		Scores
Establishing and Clarifying Purpose	51	1-5	51-275
(PUR)			
Educational Involvement(EI)	14	1-5	14-70
Career Planning(CP)	14	1-5	14-70
Life Planning(LP)	13	1-5	13-65
Cultural Participation(CUP)	10	1-5	10-50
Developing Autonomy(AUT)	51	1-5	51-275
Emotional Autonomy(EA)	17	1-4	17-68
Interdependence(IND)	14	1-5	14-70

Academic Autonomy(AA)	11	T or F	11-22
Instrumental Autonomy(IA)	9	1-4	9-36
Mature Interpersonal Relationships(MIR)	24	1-5	24-120
Peer Relationships(PR)	10	1-5	10-50
Tolerance(TOL)	14	1-2	14-28
Salubrious Lifestyle Scale (SL)	17	1-5	17-85
Social Desirability*	6	Tor F	6-12
Experimental*	4	1-5	4-20

\* Will not be included in ANOVA or RMANOVA

Tasks and Subtasks

The SDTLA, as previously discussed, measures three specific developmental tasks and ten sub-tasks. This section provides a brief description of each task and subtask as well as the coding used to identify each element on the instrument.

The developers of the SDTLA cite the research of Chickering and Reisser's (1993) in *Education and Identity* as a significant influence in the development of this instrument. The SDTLA is a 153-item instrument which is based on three of Chickering and Reisser's (1993) revised vectors: Moving through Autonomy toward Interdependence, Developing Mature Interpersonal Relationships, and Developing Purpose. The developers of this instrument, Winston, Miller and Cooper (1999), further divided these developmental tasks into ten sub-tasks which are "more specific component of the larger developmental tasks" (p.11). These sub-tasks are separate concepts which are affected by varying collegiate and personal experiences, but also share commonality with each other and the three larger developmental tasks (Winston et al, 1999). These sub-tasks are based on Chickering and Reisser's (1993) contention that "development is not isolated; students do not concentrate solely in developing autonomy, for the exclusion of all other developmental domains" (Winston et al., 1999, p. 29). Based on this contention, the developers identified the sub-tasks to provide clarity of the

intercorrelations between tasks and sub-tasks. To affirm this argument Winston et al. (1999) conducted a series of tests to verify the intercorrelations and concluded "subtasks within a task area correlated relatively highly with each other and with the aggregate of items for the task" (p. 29).

*Establishing and Clarifying Purpose of Task (PUR).* This task is intended to measure a student's educational engagement, breath of cultural awareness and interest, as well as planning for their future professional and social lives. Determination of growth on this task is derived from measuring development in the four sub-tasks. Educational Involvement (EI) is determined by measuring the level of student's active engagement in their learning. Career Planning (CP) determines growth by a level of vocational planning. Lifestyle Planning (LP) seeks to quantify a student's understanding and integration of their value systems into their personal and professional life objectives. Cultural Participation (CUP) assesses their interest and engagement in non-academic activities including, but not limited to, participation in community service and expression of new cultural interests (Winston et al., 1999)

Developing Autonomy (AUT). This task is designed to measure students' ability to differentiate their personal ideas, values and thoughts from those of their family, friends and larger community. This developmental task is comprised of four sub-tasks designed to measure how successfully they have developed autonomy and interdependence. Emotional Autonomy (EA) gauges a student's ability to make decisions or judgments without seeking the approval of others. Growth on this sub-task would also be typified by students developing healthy relationships with parents, faculty or other adult figures. Interdependence (IND) measure a person's ability to understand how their actions affect the larger community and the shared responsibility of living with a group of people. Academic Autonomy (AA) assesses a student's ability to be self directed, positively address issues of uncertainty and seek assistance when required. Instrumental Autonomy (IA), as opposed to emotional autonomy, measures a student's practical application of independence. Growth in this area is measured by a student's ability address their personal needs and responsibilities without specific direction from others.

*Mature Interpersonal Relationships (MIR).* Measurement of this task is determined by how students view their relationships with peers as well as their respect for those who possess different backgrounds or beliefs. The two specific sub-tasks within this category are: Peer Relationships (PR) which assesses a student's ability to develop open and honest relationships with friends and Tolerance (TOL) which measures not only a student's ability to accept difference, but their ability to seek out and engage people with differing backgrounds, beliefs or world views.

#### *Reliability and Validity*

The SDTLA originates from Judith Prince's 1973 Developmental Task Scale for College Students (Winston et al., 1999). Over the past thirty five years, this instrument has been revised and evolved into the current tool which serves many uses including the assessment of learning outcomes and program effectiveness. However, for the purposes of this proposed study, the SDTLA is appropriate for researching the psychosocial development of traditional age college students.

Since its inception, revisions to the SDTLA were intended to refine specific tasks with the most recent version designed to serve as a research and assessment tool (Winston et al., 1999). This re-tooling of the SDTLA has required the developers to assess the validity and reliability of the instrument. The current version of the SDTLA was tested using a normative sample of students collected from 31 private and public, two and four year institutions in North America. The results of the normative study revealed two factors which are essential to this proposed study. Winston et al. (1999) found that age was not highly correlated to performance on the instrument; however, an analysis of performance by gender showed that women received higher scores than men on all three major tasks.

*Reliability.* The SDTLA was measured for estimations of reliability using testretest and a Cronbach alpha test. Reliability testing is conducted to assure the instrument consistently measures what it is intended to measure (Ary, Jacobs, & Razavieh, 2002). The test-retest method was used by the developers to measure stability of the instrument over time. The Cronbach alpha of coefficients, which determines reliability of instruments to measure perceptions or attitudes (Ary, Jacobs, & Razavieh, 2002), was also used to calculate the internal consistency of the instrument.

Winston et al. (1999) conducted the test-retest method over a four week period at two different institutions. Results of the testing found with p< .01 the correlations for all tasks, sub-tasks ranged from .70 to .89 with an average of .80 (Winston et al., 1999). The developers concluded that the SDTLA does have "temporal stability" and "is more than adequate for group data" (Winston et al., 1999, p. 27). In relation to internal consistency, the alpha coefficients ranged from .62 to .88 based on a large group of students (n=1822) at institutions in North America (Winston et al., 1999).

*Validity*. A test of validity is intended to verify that an instrument actually measures what it asserts to measure (Black, 1999). To test the validity of each task and

respective sub-tasks, the developers of the SDTLA identified other instruments whose scales were conceptually related to the various task or sub-tasks. Establishing and Clarifying Purpose (PUR) and its sub-tasks were correlated with the scales from three separate instruments. The instruments used to test validity were *Career Development* Inventory (Super, Thompson, Lindeman, Jordaan, & Myers, 1981), College Student *Experience* (Pace, 1983), and *Life Skills Developmental Inventory* (Picklesimer, 1991). The correlations between these instruments and Establishing and Clarifying Purpose (PUR) ranged between .28 and .60 (Winston et al., 1999). It was noted that the strongest correlations (.60) existed between the Career Exploration Scale from the Career Development Inventory and the lowest correlation (.28) with Experiences with Faculty Scale in the College Student Experiences (Winston et al., 1999). The task of Developing Autonomy (AUT) was correlated with the *Georgia Autonomy Scale* (Winston, Phelps, Mazzeo, & Torres, 1997) and with the Family Independence and Study Habits scales from the *Peterson College Student Questionnaire* (Peterson, 1968). The correlations between these two instruments and Developing Autonomy (AUT) ranged from .21 to .67. The researchers noted that the SDTLA's Instrumental Autonomy sub-task had the lowest correlation (.21) between Instrumental Autonomy and the Georgia Autonomy Scales. The strongest correlation (.67) existed between Academic Autonomy and the Study Habits scale from the College Student Questionnaire. Developing Mature and Interpersonal Relationships (MIR) was measured against *Phinney's Multi-Group Ethnic Identity Measure* (Phinney, 1992). Correlations between Developing Mature and Interpersonal Relationships (MIR) and Phinney's Multi-Group Ethnic Identity Measure ranged between .25 and .67. The lowest correlation exists between the Peer Relations sub-task

and the Multi-Group Ethnic Identity Measure. Finally, a correlation of .83 was found between the *Response Bias Scale and Marlowe-Crowne Social Desirability Scale* (Marlowe & Crowne, 1960). The developers of the SDTLA determined that small sample size was the determining factor for low Alpha coefficients for Instrumental Autonomy and Peer Relationships and caution researchers from using these specific sub-tasks as dependent variables (Winston et al. 1999).

#### Data Collection and Analysis

#### Data Collection

The Student Developmental Task and Lifestyle Assessment instrument was administered electronically and took approximately 30 minutes to complete. This form of administration of the SDTLA was chosen for several key reasons. First, electronic administration was chosen over a paper and pencil format for its efficiency of delivery, convenience for participants and security of the data (Sproull, 1986; Thach, 1995). Secondly, Creswell (2003) asserts that electronic surveys are less expensive and are a simpler form of data collection. Finally, a web-based survey generally provides a higher return rate (Ary et al., 2002). This form of data collection can pose an issue of confidentiality when using a large scale e-mail for distribution (Thach, 1995); however, the administrators of the web-based format, Appalachian State University's Office of Student Development, sent individual e-mails to participants with a web link to the form and required use of a personal identification password. Finally, the developers caution researchers that "since the SDLTA is a self reported instrument and lends itself to social desirability response...the means of gaining rapport" (Winston et al., 1999, p. 34) between participants and the researcher must be carefully planned. The design of this study reduced this concern as the researcher had no direct contact with the participants.

After receiving approval from Boston College's Human Subject Committee, the e-mail addresses of the first year honors students were obtained through the Office of Student Services. The addresses were sent in an Excel spreadsheet attachment to the Office of Student Development at Appalachian State which owns and administers the SDTLA. Staff at the Office of Student Development sent individual e-mails to the students, on a predetermined date, inviting them to participate in the study (Appendix A). The identity of the participants remained confidential, and e-mail addresses were only used to send the web link and to notify the winners of the incentive for participation.

The initial e-mail inviting student's to participate in the study was sent on September 13, 2009 and included the web-link to the survey (Appendix B) and requested students to complete the survey by September 21<sup>st</sup>. In the first week of their seminar classes, the honors faculty informed students of the pending e-mail and encouraged them to participate in the study. As part of the announcement, students were provided a letter of endorsement from Dr. O'Connor as well as a written explanation of the study's intent and relevance to the honors program. Additionally, the Honor House student staff posted flyers encouraging honors students to participate in the study. Copies of these flyers were also given to the Resident Assistants in the traditional residence halls inviting honors freshmen to participate. Finally, in an effort to ensure an acceptable response rate, the students were offered an incentive to complete the survey. The initial e-mail informed students that participants who completed the pre and post-test would be entered into a drawing to win a gift certificate for either \$150, \$75 or \$25 to the University's book store. A follow up e-mail was sent to the participant's mid-way through the week requesting them to complete the survey by the 21<sup>st</sup> (Appendix A). The post-test e-mail was sent to students on January 5<sup>th</sup> and asked them to complete the survey by January 21<sup>st</sup> (Appendix A). Given that participants were asked to complete the post-test survey over the holiday break, the students were provided an additional week to complete the survey. *Analysis* 

The developers recommend specific steps prior to attempting any type of statistical analysis. First, the developers found that women score higher than men on all measures and, as a result, strongly recommend researchers separate the data by gender before conversion of raw scores to T scores for analysis. Secondly, the Response Bias (RB) scale was built into the SDTLA to indentify participants who "attempt to portray themselves in a unrealistically favorable way" (Winston et al., 1999, p. 13). The Response Bias Scale uses a point range of 1 to 6 and the developers note, for research purposes, that any student with a score higher than 3 is not providing a true picture of themselves and should be removed from the study (Winston et al., 1999). Finally, Winston et al. (1999) noted that a scoring sheet missing a few items will not invalidate the instrument; however, the developers recommend any participant who fails to answer 12% or more of the questions should be removed before analyzing the data (Winston et al., 1999). This percentage did not appear to be based on any specific findings, but "an intuitive-based suggestion based on familiarity with the instrument and the collection of normative data" (Winston et al., 1999, p. 16).

*Statistical Analysis*. The purpose of this study was to test the hypothesis that first year honors students who reside in an honors living-learning community experience

increased psychosocial growth versus students who reside in traditional halls. Given the hypothesis of this study, the independent variables for this study were gender and their housing assignment and the dependent variables were the summed scores of psychosocial growth in each task. To analyze the findings, an ANOVA and RMANOVA were employed for this study using SPSS, a statistical software package. The Analysis of Variance (ANOVA) was used to measure the variance in means for each dependent variable and the Repeated Measure Analysis of Variance (RMANOVA) was used to examine the effects within subjects. The assumptions for both the ANOVA and RMANOVA are similar expect the repeated measures requires the means that the variance of the population be equal (Hinkle, Wiersma, & Jurs, 2003).

Best and Kahn (1989) cited the ANOVA as useful to determine the difference between means beyond what could be "attributed to sampling error" (p. 288). Specifically, a two-way ANOVA or factorial design was used to analyze the T scores for all tasks and subtasks. Given this study's hypothesis, a two-way analysis was determined to be the appropriate form for analyzing the data. The criteria for establishing a one or two tailed test can be based on several factors; however, the two factor design is applicable if the independent variables are not randomly selected and the analysis is attempting to simultaneously examine two independent variables (Hinkle et al., 2003). Additionally, a factorial design is efficient in its ability to clearly examine the effects of gender and housing on psychosocial development as well as the possible interactions between these two independent variables (Black, 1999; Hinkle et al., 2003). Furthermore, Ary et al. (2002) cite the factorial design as a more powerful tool in comparison to a oneway ANOVA for testing a hypothesis. A second tool used in the data analysis was the repeated measure ANOVA (RMANOVA). The difference between an ANOVA and a RMANOVA is that an ANOVA looks to see if the means between two groups are significantly different (Borg & Gall, 1989). The RMANOVA enriches the understanding of the data by looking for a significant change in means between each group over a specific period of time. Hinkle et al. (2003) propose that an RMANOVA be used when "measuring the same individual two or more times on the dependent variable" (p. 357). In relation to this study, the RMANOVA was employed to see if the difference between the pre-test and post-test means for the students in Honors Housing was statistically different than the difference in pre and post-test means for the honors students in the traditional residence halls.

The final element in developing the plan for analyzing the data was to minimize the potential of making a Type I or II error. A type I error occurs when the research rejects the null hypothesis when in fact it is true (Hinkle et al., 2003). To reduce the chances of making this error, Hinkle et al. (2003) recommend a .05 level of significance be established for the analysis. A type II error is defined as retaining the null hypothesis when, in fact, it is false and occurs if the study lacks power (Ary et al., 2002). Hinkle et al. (2003) assert that sample size is one of the main factors which can negatively impact the power of a study. Additionally, Avery et al. (2002) contend that issues of power should not be addressed at the end of a research project; instead, as part of the research design process. Based on these assertions and this study, with a sample size of N=100 for Honors House versus N=100 for traditional residence hall, a power analysis at 80% using the normative data provided by the developers of the SDTLA determined a sample size of 48 to 50 participants is required to minimize the chance of a type II error.

#### Chapter IV

#### Results

This chapter presents the outcomes of the statistical analysis of the pre and posttest data. The chapter is organized into four sections. The first section presents a brief description of the students who were invited to participate in the study. The second section provides the descriptive statistics and statistically significant findings for the pretest data whereas the third section presents the descriptive statistics and findings for the post-test data. Finally, the fourth section summarizes the general findings of the statistical analysis.

#### **Participants**

First year students in the Honors program have the choice of living in either the Honors House or the traditional residence halls. The first year honors students who opt not to live in the Honors House reside in traditional residence halls in close proximity to the Honors House. There are 198 first year students who accepted the invitation to participate in the University's Honors program and, of these, 88 chose to reside in the Honors House.

#### **Pre-Test Descriptive Statistics**

The administration of the pre-test to the 198 first year honors students yielded a response rate of 48% with 96 students completing the initial survey. The response from honors students who reside in the traditional residence halls was 66.6% versus a 33.3% response rate from students who reside in the Honors House. Of the 96 students who completed the survey, 67.7% were female and 32.3% were men. Within the Honors House, the gender breakdown was evenly split; however, within the traditional residence

halls 76.5% of the respondents were female. In terms of race, 87.5% of the respondents self-identified as Caucasian. Representative comparisons of participants in this study by race were reasonably similar to the overall freshmen honors program; however, in regards to gender, there was a slightly higher participation rate among females in this study as compared to all women in the freshmen honors program. See table 1-4 for the complete breakdown of response rate by gender, race and housing.

Winston et al. (1999) recommend that participants who fail to answer 12% of the questions on any task or subtask be removed from the analysis. Additionally, the developers of the instrument advise that any individual who scores 3 or higher on the response bias scale or are identified as completing the questionnaire too quickly also be removed from the study. The descriptive statistics showed 96 participants completed the entire survey. In relation to the response bias scale, no participants scored higher than 1. Additionally, none of the participant's responses were flagged as being completed in an unreasonable amount of time.

Table 1

	Male		F	emale	Total	
	N	%	N	%	N	%
Honors House	16	50	16	50	32	100
Traditional Residence Hall	15	23.4	49	76.6	64	100
Total	31	32.3	65	67.7	96	100

Gender and Living Environment of Respondents for Pre-Test

# Table 2

# Race of Respondents for Pre-Test

	Ν	%
Black or African American	1	1
Asian or Pacific Islander	9	9.4
White or Caucasian	84	87.5
Bi-racial	1	1
Other	1	1
Total	96	100%

## Table 3

# Gender comparison of participants to freshmen Honors Program

	Honors Program	Participants
Male	38%	32%
Female	62%	68%
Total	100%	100%

Table 4

# Race comparison of participants to freshmen Honors Program

	Honors Program	Participants
Black or African American	1%	1%
Asian or Pacific Islander	11%	9.4%
White or Caucasian	88%	87.5%
Total	100%	100%

The study was designed in a pre-test/post-test format and was intended to examine whether residing in a residentially-based learning community affects a student's psychosocial development. The data from the study were used to examine how these specific living environments, Honors House versus traditional residence halls, affect residents' psychosocial development. The analysis compared these two environments' overall effect on developmental growth as well as examined the effects across living arrangements by gender and within each community.

Pre-test data were collected within the first two weeks of the honors students' freshmen year. A two-way analysis of variance (ANOVA) was performed for each of the three tasks: Developing Autonomy (AUT), Developing Mature and Interpersonal Relationships (MIR) and Establishing and Clarifying Purpose (PUR) and the Salubrious Lifestyle Scale (SL). The two independent variables used in the ANOVA were gender and living environment. The control group was honors students who reside in the traditional residence halls and the experimental group was honors students who reside in the Honors House. (See Table 5 for the means and standards deviations)

### Table 5

	Developing Autonomy		Mature Interpersonal Relationships		Establishing and Developing Purpose		Salubrious Lifestyle	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Honors House Men	59.48	8.77	56.76	8.00	52.08	12.53	59.48	8.77
Honors House Women	57.47	7.78	52.11	8.84	51.43	6.96	57.47	7.78
TRH Men	58.67	7.59	54.40	11.83	47.56	8.08	58.67	7.59
THR Women	58.83	7.88	55.54	8.40	48.21	9.01	58.83	7.88

Pre-test Means and Standard Deviations for Tasks AUT, MIR and PUR by Gender and Living Environment (no statistically significant difference)

TRH= Traditional Residence Hall

#### **Pre-Test Analysis**

The analysis of the pre-test means for the three tasks and Salubrious Lifestyle scale showed no statistically significant difference in scores between the two groups with p=.557 for AUT, p=.167 for MIR and p=.762 for PUR. (See table 6 for tasks AUT, MIR and PUR)

ANOVA's were also conducted comparing the mean scores for the same sex within the two styles of housing as well as comparing men to women within each type of living environment. No statistically significant difference was found between the mean scores between groups or within groups by gender. Analysis of the Salubrious Lifestyle Scale also showed no differences between gender and types of housing with p=.942. Finally, an ANOVA was conducted on race and found no statistical significance between the groups with p= .439 for AUT, p=.195 for MIR and p=.141 for PUR.

Table 6

Source	Type III Sum	df	Mean	F	Sig.	Partial	Observed
	of Squares		Square			Eta	Power
						Squared	
Corrected Model	34.708	3	11.569	.182	.908	.006	.083
Intercept	259187.891	1	259187.891	4076.024	.000	.978	1.000
Gender	16.149	1	16.149	.254	.616	.003	.079
Housing	1.472	1	1.472	.023	.879	.000	.053
Gender*Housing	22.075	1	22.075	.347	.557	.004	.090
Error	5850.134	92	63.588				
Total	336524.586	96					
Corrected Total	5884.842	95					

ANOVA Comparing Gender and Living Environment for Developing Autonomy (AUT)

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta	Observed Power
						Squared	
Corrected Model	299.642	3	99.881	1.165	.328	.037	.304
Intercept	187238.034	1	187238.034	2183.493	.000	.960	1.000
Gender	2.284E-6	1	2.284E-6	.000	1.000	.000	.050
Housing	282.237	1	282.237	3.291	.073	.035	.435
Gender*Housing	7.927	1	7.927	.092	.762	.001	.060
Error	7889.148	92	85.752				
Total	241397.350	96					
Corrected Total	8188.790	95					

ANOVA Comparing Gender and Living Environment for Establishing and Clarifying Developing Purpose (PUR)

ANOVA Comparing Gender and Living Environment for Mature Interpersonal Relationships (MIR)

Source	Type III	df	Mean	F	Sig.	Partial	Observed
	Sum of		Square			Eta	Power
	Squares					Squared	
Corrected Model	202.307	3	67.436	.829	.481	.026	.224
Intercept	225782.403	1	225782.403	2776.690	.000	.968	1.000
Gender	57.820	1	57.820	.711	.401	.008	.133
Housing	5.310	1	5.310	.065	.799	.001	.057
Gender*Housing	157.824	1	157.824	1.941	.167	.021	.281
Error	7480.843	92	81.314				
Total	298040.441	96					
Corrected Total	7683.151	95					

Subtask Analysis

The ANOVA showed means between the Honors House and traditional residence

hall participants were statistically equivalent for the three central tasks; however,

statistically significant differences were noted on the subtask Educational Involvement

(EI) for the task Establishing and Clarifying Purpose (PUR) which measures how engaged a student is in the academic life of their college/university. The difference in means between the two living environments for EI was found at p=.024 with an observed power of .623. This finding indicates that the mean scores for students who reside in the Honors House (mean of 64.80, standard deviation of 14.42) were higher as compared to honors students in the traditional residence halls (mean of 58.54, standard deviation of 14.42). Additionally, a difference in means was noted in subtask Peer Relationships (PR) for the task Developing Mature and Interpersonal Relationships (MIR) which assesses levels of interdependence with friends. On subtask PR, a difference in means between honors men with a mean of 55.61 and standard deviation of 9.93 and women with mean of 54.99 and standard deviation of 8.99 was noted at p=.032 with an observed power of .576. This finding indicates that freshmen males in both types of living environments have a stronger sense of interdependence than females in relation to friends and adult figures. (See Table 7)

Table 7

Source	Type III	df	Mean	F	Sig.	Partial Eta	Observed
	Sum of		Square			Squared	Power
	Squares						
Corrected Model	1024.582	3	341.527	2.051	.112	.063	.510
Intercept	284342.807	1	284342.807	1707.412	.000	949	1.000
Gender	18.602	1	18.602	.112	.739	.001	.063
Housing	879.109	1	879.109	5.279	.024	.054	.623
Gender *Housing	185.524	1	185.524	1.114	.294	.012	.181
Error	15321.161	92	166.534				
Total	369274.186	96					
Corrected Total	16345.743	95					

ANOVA Comparing Gender and Living Environment for Subtask Educational Involvement (EI)
Source	Type III Sum of	df	Mean Square	F	Sig.	Partial Eta Squared	Observed Power
	Squares						
Corrected Model	392.625	3	127.542	1.590	.197	.049	.406
Intercept	206758.168	1	206758.168	2577.647	.000	.966	1.000
Gender	379.078	1	379.078	4.726	.032	.049	.576
Housing	5.806	1	5.806	.072	.789	.001	.058
Gender *Housing	15.427	1	15.427	.192	.662	.002	.072
Error	7379.502	92	80.212				
Total	265439.163	96					
Corrected Total	7762.128	95					

ANOVA Comparing Gender and Living Environment for Subtask Peer Relationships (PR)

#### Comparison to Norms

Using t-tests, a comparison of the means was conducted between the pre-test data and the normative data provided in the Student Development Task and Lifestyle Assessment technical manual. Based on the developer's normative samples, they have established the mean to be 50 and the standard deviation to be 10 for all tasks and subtasks (Winston et al., 1999). The comparison of the means confirmed that a statistically significant difference existed between participants in this study and the normative data on a majority of the tasks and subtasks. This finding indicates that honors students mean scores were higher when compared to the normative sample. The only notable exception to these findings was on the task Establishing and Clarifying Purpose (PUR) which showed no significant differences in the mean; however, on PUR subtasks Educational Involvement (EI) and Career Planning (CP), statistical significance in means was noted with honors students' means significantly higher than the norm group.

#### Post-Test Descriptive Statistics

The post-test was administered in the second week of January after students had received their grades for the fall semester. The invitation to participate in the post-test study was sent to 198 first year honors students and yielded a response rate of 38% with 76 students completing the survey. The response from honors students who reside in the traditional residence halls was 61.8% versus a 36.8% response rate from students who reside in the Honors House. Of the 76 students who completed the survey, 61.8% were female and 38.2% were male. Within the Honors House, the gender breakdown was 53.7% male and 46.3% female; however, within the traditional residence halls 70.8% of the respondents were female and only 29.2% were males. In terms of race, 89.5% of the respondents self-identified as Caucasian. (See Table 8 for the means and standard deviations for the three tasks and SL scale)

#### Table 8

	Developing Autonomy		Mature Interpersonal Relationships		Establishing and Developing Purpose		Salubrious Lifestyle	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Honors House Men	60.22	8.70	55.93	10.63	56.98	12.36	56.00	10.17
Honors House Women	57.46	7.70	52.80	7.91	52.78	9.67	58.95	5.23
TRH Men	60.03	5.57	54.97	13.42	53.16	11.15	55.67	6.36
TRH Women	59.00	7.14	53.31	9.62	50.70	9.09	59.35	8.46

Post-test Means and Standard Deviations for Tasks AUT, MIR and PUR by Gender and Living Environment

TRH= Traditional Residence Hall

## ANOVA

Employing an ANOVA to analyze the post-test means, for the three tasks showed no statistically significant difference in scores between the two groups. (See table 9) Analyses were also conducted for gender within the two styles of housing, comparing men to women within each living environment and race on all tasks and lifestyle scale but no statistically significant difference was detected between the means.

#### Table 9

Source	Type III	df	Mean	F	Sig.	Partial Eta	Observed
	Sum of		Square			Squared	Power
	Squares						
Corrected Model	66.156	3	22.052	.411	.745	.017	.128
Intercept	228400.183	1	228400.183	4261.132	.000	.984	1.000
Housing	7.518	1	7.518	.140	.709	.002	.066
Gender	58.787	1	58.787	1.097	.299	.015	.178
Housing*Gender	12.246	1	12.246	.228	.634	.003	.076
Error	3805.658	71	53.601				
Total	266449.455	75					
Corrected Total	3871.814	74					

ANOVA Comparing Gender and Living Environment for Developing Autonomy (AUT)

Source	Type III	df	Mean Square	F	Sig.	Partial	Observed
	Sum of					Eta	Power
	Squares					Squared	
Corrected Model	102.928	3	34.309	.319	.812	.013	.109
Intercept	191974.813	1	191974.813	1785.610	.000	.962	1.000
Housing	.874	1	.874	.008	.928	.000	.051
Gender	93.102	1	93.102	.866	.355	.012	.151
Housing*Gender	8.716	1	8.716	.081	.777	.001	.059
Error	7633.365	71	107.512				
Total	226889.955	75					
Corrected Total	7736.293	74					

ANOVA Comparing Gender and Living Environment for Mature Interpersonal Relationships (MIR)

ANOVA Comparing Gender and Living Environment for Establishing and Clarifying Purpose (PUR)

Source	Type III	df	Mean	F	Sig.	Partial	Observed
	Sum of		Square			Eta	Power
	Squares					Squared	
Corrected Model	408.491	3	136.164	1.285	.286	.051	.329
Intercept	186027.679	1	186027.679	1755.534	.000	.961	1.000
Housing	141.679	1	141.679	1.337	.251	.018	.207
Gender	180.360	1	180.360	1.702	.196	.023	.251
Housing*Gender	12.486	1	12.486	.118	.732	.002	.063
Error	7523.615	71	105.966				
Total	216853.678	75					
Corrected Total	7932.106	74					

### ANOVA for Subtask

An analysis of the post-test data, using an ANOVA, revealed a statistically significant difference in the mean scores between men and women on the subtask Emotional Autonomy (EA) of task Developing Autonomy (AUT) and the subtask Peer Relationships (PR) for the task Mature Interpersonal Relationships (MIR). The Emotional Autonomy subtask measures a student's level of self confidence and interpersonal relationship with adult figures whereas the Peer Relationships subtask assesses the level of interdependence a person has with their friends.

Comparing gender, regardless of housing type, the difference in means for Emotional Autonomy (EA) with male mean 57.11, standard deviation 4.91 and female mean 52.44, standard deviation 7.71, was found significant at p=.007. This result indicates that, overall, men feel a greater sense of emotional independence as compared to women. On the Peer Relationship (PR) subtask, a difference in means for males 57.45, standard deviation 8.79 and female mean 51.03, standard deviation 9.37, significance was noted at p=.01. This finding indicates that men in the honors program possess a greater sense of self and a reduced need to conform to their group of friends.

#### Comparison to Norms

A comparison of the means was conducted between the post-test data and the normative data provided in the Student Development Task and Lifestyle Assessment technical manual. As previously stated, the developers have established the mean of their data to be 50 and the standard deviation to be 10 for all tasks and subtasks (Winston et al, 1999). A comparison of means, employing a t-test, confirmed that a statistically significant difference exists between participants in this study and the normative data. The findings indicate that Boston College students scored higher than the normative group on the majority of tasks and subtasks. The only noted exception on the post-test analysis was on the Lifestyle Planning (LP) subtask which showed no significant difference between the participants in this study and the norm population.

#### RMANOVA

The ANOVA is a useful tool for studying differences between two or more groups at a specific time; however, it only provides part of picture of the honors students' current development level. The intent of this study was to measure if specific living environments affect a student's psychosocial development over the course of a semester. To accurately determine if a statistically significant change in means occurred between the pre and post-test, a Repeated Measure Analysis of Variance (RMANOVA) was employed to analyze the post-test scores. The RMANOVA is designed to measure participant's individual scores over a varying period of time (Borg & Gall, 1989). Hinkle et al. (2003) noted, when employing RMANOVA, the scores for each individual are dependent whereas in ANOVA the scores are independent. This requires variation in scores to be portioned into "variations among the individual, variation among test occasions and residual variation" (Hinkle et al. 2003, p 359). Another way of stating this analysis it to say the RMANOVA treats the time when the "dependent variable is measured" as one factor and the two groups, control and experimental, "are the other factor" (Borg and Gall. 1989, p 732). Simply stated, a researcher using the RMANOVA is "interested in whether the difference between the pretest and posttest means of the experimental group is significantly greater or less than the difference for the control group" (Borg & Gall, p 732). The result of conducting a RMANOVA, in addition to an ANOVA, is that it provided a fuller understanding of the data by simultaneously comparing the individual mean scores of each task and subtask for the pre and post data sets.

To accurately measure if growth occurred over the course of the semester using RMANOVA, the pre and post data sets were combined into a single data set and participants who did not complete both surveys were removed from the analysis. The modification of the data reduced the overall response rate to 31% with 62 students completing both surveys. The response rate by gender and living environment remained relatively constant to the post-test data with 35% of men and 65% of females participating. In relation to the Honors House, 59% of the men and 30% of the women responded whereas 41% of the men and 70% of the women from the traditional residence halls responded to both surveys. The adjustment in the data set reduced the response by 10% from the pre-test; however, the representation remained relatively consistent between the pre and post-test data. Finally, the post-test data were verified to assure they met the ANOVA and RMANOVA assumptions of homogeneity, kurtosis and skewness before it was analyzed.

The comparison between the pre and post-test data using a RMANOVA (Repeated Measures Analysis of Variance) did reveal statistically significant differences, p <.001, between means for men and women in both living environments for the task Establishing and Clarifying Purpose (PUR). This indicates growth occurred for all participants during the semester for Establishing and Clarifying a sense of Purpose. (See table 10)

Table 10

RMANOVA Comparing Gender and Living Environment for Establishing and Clarifying Purpose Task

Source	PUR	Type III	df	Mean	F	Sig.
		Sum of		Square		-
		Squares				

PUR	Linear	300.082	1	300.082	20.489	.000
PUR*Gender	Linear	8.308	1	8.308	.567	.454
PUR*Housing	Linear	11.523	1	11.523	.787	.379
PUR*Gender*Housing	Linear	2.049	1	2.049	.140	.710
Error(PUR)	Linear	849.465	58	14.646		

#### RMANOVA for Subtasks

The analysis of the subtasks employing an RMANOVA showed significant positive change in pre-test to post-test means for six of the ten subtasks. Positive changes over the course of the semester were noted for men and women in both in the Honors House and traditional residence halls for the subtasks Emotional Autonomy (EA) p<.001, Interdependence (IND) p<.001, Educational Involvement (EI) p=.000, Career Planning (CP) p< .001, Lifestyle Planning (LP) p=.030 and Tolerance (TOL) p<.001.

#### Summary

The intent of this study was to examine the effect that specific living environments have on freshmen honors students' psychosocial development. The factors of housing style and gender were examined using a pre-test/post-test design implemented in the first semester of the students' freshmen year in college. This study analyzed the effect between, as well as within, a residence hall specifically for first year honors students and a traditional residence hall environment where honors students live among other first year students.

The analysis of the three tasks and the Lifestyle scale showed, in general, that neither the Honors House nor the traditional residence halls have a major effect on a student's psychosocial development over a period of one semester. However, on specific subtasks, change was noted between genders. Additionally, an RMANOVA (repeated measure ANOVA) was employed to look for statistically significant differences between the pre-test and post-test period for all tasks, subtasks and Salubrious Lifestyle scale. As noted, the RMANOVA is an appropriate technique to employ when attempting to identify variations among the same individuals or testing periods over a specific time period (Hinkle et al. 2003). The RMANOVA showed mean scores increased, for men and women in both living environments, on the task Establishing and Clarifying Purpose (PUR) as well as on six of the ten subtasks. The RMANOVA also noted growth for all participants over the course of the semester for the subtask (EI) Educational Involvement. However, with respect to the Educational Involvement subtask, the initial analysis of the pre-test data using an ANOVA found a significant difference between the two living environments while the post-test ANOVA found no significant difference between members of the Honors House and the traditional residence halls.

Finally, the mean scores for participants of this study were compared with the normative data provided by the developers of the instrument. The analysis of the pre-test and post-test data showed the mean scores of participants were statistically higher than the norm on all tasks and on the majority of subtasks.

#### CHAPTER V

Interpretation, Limitations and Recommendations

This chapter presents the interpretation of the findings, implications of the study, and recommendations for possible future research. The interpretation of the results is divided into two sections. The first section will discuss pre-test findings. The second section will address the outcomes of the post-test data. The third section will address the limitations and the last section will present recommendations for future research.

#### Summary

The history of residentially-based learning communities dates back to the sixth century. Initially these living and learning environments were developed as a matter of practicality; however, the concept of blending students' educational and social lives has evolved, most notably in England, into intentional and cohesive educational living environments for students. In the history of American higher education, societal support for residentially-based learning communities has ebbed and flowed since the founding of Harvard. Today, American higher education is experiencing a resurgence in these unique learning environments. Multiple rationales exist for this resurgence; however, the Boyer Commission's (1998) recommendation that colleges and universities integrate the ideals of smaller unified educational environments into the fabric of their institutions is a widely held rationale for their implementation.

The intent of this study was to determine if residing in a residentially-based learning community for first year honors students affected residents' psychosocial development. Current literature on these living/learning environments rarely addresses the psychosocial development of undergraduates. The lack of specific research on the effect of these unique learning communities on students' development is in contrast to the meta-analysis research of Astin (1999) and Pascarella and Terenzini (1991, 2005) who have consistently found that engagement with faculty and peers outside of the classroom has a direct impact on a student's sense of personal development.

This study employed the Student Developmental Task and Lifestyle Assessment (1999) to measure first year honors students' developmental growth. This instrument, which is based on Chickering's (1993) revised theory of student development, assesses student behaviors and attitudes through a series of developmental tasks and subtasks (1999). This study was designed specifically to compare the developmental growth of first year honors students who resided in the Honors House to honors students who chose to live in the traditional residence halls.

#### *Interpretation*

#### Pretest

The pre-test analysis established two important aspects of this study. First, it determined the developmental baseline for the two groups of honors students. Secondly, the pre-test allowed for a comparison of the students to normative data for North American college students provided by the developers of the SDTLA.

The analysis of the pre-test data found no statistically significant differences between the two residential groups on the three tasks Developing Autonomy, Developing Mature and Interpersonal Relationships and Establishing and Clarifying Purpose and Salubrious Lifestyle scale. However, statistically significant differences were found on two of the sub-tasks. First, Honors House members scored higher than honors students residing in the traditional halls on the subtask for Educational Involvement (EI). According to the developers (Winston et al, 1999), two elements which can account for growth on this subtask are a student's sense that they are actively involved their learning process and that they are "knowledgeable about available resources and are actively involved in the academic life of the college/university" (p. 12). Several factors may account for why residents of the Honors House initially scored higher on this subtask. First, in the Honors House initial building meeting with the Resident Director and Resident Assistants, the staff discussed the programs, services and faculty involvement in the house as well as expectations that residents actively participate in the community. Conversely, honors students who resided in the traditional halls attended a floor meeting with content generalized for all members of the community and did not explicitly encourage active involvement in the community. Additionally, the Honors House is optional for students who are accepted into the honors program. Residents of this community may be more motivated or feel a heightened sense of engagement in their academic life as a result of increased faculty involvement outside of the classroom. A final consideration is the potential for bias. Given the smaller sample size and smaller response rate of this pre-test group, the honors students who participated in this study may be more involved in their respective communities and function at a higher developmental level than their freshmen honors cohort overall.

The second statistically significant difference in the pre-test data showed that men scored higher than women, regardless of housing type, on the subtask for Peer Relationships (PR). Winston et al. (1999) typify this subtask as students developing an increased sense of independence and "feeling less need to conform to the standards of friends or to conceal shortcomings or disagreements" (p. 13). However, this difference should not be interpreted that men are more developed on this subtask. The developers of the SDTLA found low alpha coefficient for this subtask and cautioned the use of making inferences from this subtask with small samples (Winston et al., 1999).

Additionally, a t-test was conducted for the tasks, subtasks and the lifestyle scale to determine if a difference in means existed between the pre-test data and the normative sample provided in the SDTLA technical manual. The results showed that the mean scores of the participants in this study were significantly higher than the norm population on the majority of tasks, subtasks and lifestyle scale. The exceptions were on the task Establishing and Clarifying Purpose (PUR) and its sub-tasks Career Planning (CP) and Lifestyle Planning (LP). Winston et al. (1999) categorized Establishing and Clarifying Purpose (PUR) as a task in which students believe they have clear educational goals, are establishing their own values system and are becoming actively involved in new cultural activities. Additionally, the subtasks Career Planning (CP) and Lifestyle Planning (LP) assess a student's development of self-awareness of personal and career strengths, values and their ability to integrate these characteristics into their daily lives. Overall, Boston College honors students appear to more developmentally advanced than the normative population. A possible explanation for this finding may be related to the nature of Boston College honors students. Members of the honors program typically have near perfect grades and entrance exam scores. Additionally, these students rank in the top 5% of the admitted class, are involved in many social activities, and the Director of the Honors program describes them as being highly focused and driven to succeed. Given these traits of being academically and socially advanced, it would appear logical that these students' would also function at a higher developmental level. A probable explanation for initially

scoring within the normal range on the tasks developing purpose, career planning and lifestyle planning may be related to the fact that the pre-test was administered during the first week of their collegiate career. These students might normally function at a higher level on these specific items but, given a new educational environment, they may have been questioning their abilities, beliefs and educational goals.

#### Post-test

This study was designed to answer two questions: First, do first year honors students who live in an honors based learning community experience higher levels of psychosocial development over the course of a semester as compared to honors students who reside in traditional residence halls? Second, do female honors students who reside in the honors learning community experience greater psychosocial development over the course of a semester as compared to males who participate in the program? The data from the post-test answered these specific questions and, additionally, provided some insight into the program's effect as compared to the norm.

In response to questions one and two, when comparing the post-test scores, analyses of variance showed no difference after one semester of college between males and females or between the Honors House and honors students who reside in the traditional residence halls for the three main tasks Developing Autonomy, Mature Interpersonal Relationships and Establishing and Clarifying Purpose. The students who reside in the Honors House did not show any greater psychosocial growth compared to honors students who lived in the traditional residence halls. Furthermore, the data on the three main tasks revealed no difference in psychosocial growth for gender within either living environment. However, the ANOVA of the post-test data did show men, in both living environments, had statistically higher mean scores on the subtasks for Emotional Autonomy (EA) and Peer Relationships (PR).

The developers of the SDTLA defined growth in Emotional Autonomy as becoming more independent and requiring less affirmation from friends and family. Specifically, developmental growth in this area is marked by a student's ability to develop "constructive relationships with adult figures and the ability to raise opposing points of view" (Winston et al., 1999, p. 12). Initially, this finding appears to indicate that over the course of the fall semester, males, in both style of housing, developed an increased capacity for emotional independence versus females. However, this difference should not be automatically interpreted to imply women are less developed on this task. Several factors warrant consideration when interpreting this subtask. First, as previously noted, the SDTLA is based on Chickering's theory of psychosocial development. As Reisser noted (1995) in "Revisiting the Seven Vectors", on issues of autonomy, women place a different value on relational autonomy and seek to "preserve the relationship" (Reisser, 1995, p. 507). In comparison, men value developing independent relationships with peers and adult figures, whereas women place a higher value on attempting to maintain these relationships (Miller, 1991). This assertion does not preclude women from the type of emotional autonomy as defined in the SDTLA. Instead, Straub and Rodgers (1987), who used the SDTLA in their study of women's development, discovered freshmen women were more likely to initially focus on the development of mature interpersonal relationships and then move to developing autonomy later in their collegiate experience.

In summary, men who resided in either living environment did score higher than women after one semester on the subtask for Emotional Autonomy (EA); however, this may be a function of normal developmental differences and not a result of participation in a specific program or housing environment.

The pre and post-test data for the Peer Relationships subtask (PR) showed that all men in the honors program had higher mean scores in comparison to women in the honors program. However, as previously noted, caution should be exercised when interpreting this finding as significant. In studies with small samples, the SDTLA has a low reliability for this specific subtask. Given the small number of responses to this posttest survey, it would not be prudent to make generalizations with regard to gender on this subtask.

The ANOVA on pre-test data showed a statistical difference favoring students in the Honors House over honors students in the traditional residence halls on the subtasks for Educational Involvement (EI). However, the ANOVA on post-test data showed no differentiation in means between the two living environments. This change is most likely the result of all honors students starting classes, meeting with their honors advisor and generally becoming active in their academic programs. The initial test was administered prior to honors students in the traditional residence halls having the opportunity to fully engage in the academic life of the campus. Given the structure of the Honors House, members of this community may have initially experienced a heightened sense of engagement which would have explained the higher mean scores on the pre-test.

Conversely, the RMANOVA, which is designed to measure the difference in means between the pre and post-test data, did show growth occurred during the first semester. Specifically, the analysis confirmed a change in means for the task Establishing and Clarifying Purpose (PUR) and the subtasks Educational Involvement (EI), Career Planning (CP), Lifestyle Planning (LP), Emotional Autonomy (EA), Interdependence (IND) and Tolerance (TOL). A review of these seven developmental tasks for commonalities brings to light two common themes. First, all participants in this study became more engaged in their collegiate experience and more intentional in the planning process over the course of the fall semester. Secondly, all participants grew in how they view themselves in relation to peers and adults.

A specific rationale for why the mean scores for these honors students changed is unclear; however, these findings are supported by the general patterns of how the collegiate experience affects developmental growth. Specifically, researchers have found interactions with peers and faculty in their living environments does have a direct effect on student development (Astin, 1993; Cox & Orehovec, 2007; Pascarella & Terenzini, 2001, 2005); however, the data from this study does not support the contention that a specific living environment facilitated their psychosocial development beyond the general effect that living on campus has on a student's development. Developmental growth is expected of any student over time. The mean scores of the participants in this study started higher than the normative data and continued to grow over the course of their first semester in college. A plausible rationale for the higher mean scores may be, in part, be due to the personal characteristics of honors students at Boston College. These honors students are the top academic performers in an institution which is nationally ranked as highly competitive for admission. Additionally, the academic rigors of the honors program, their close working relationship with faculty and the natural cohort of

talented students may explain why a change in means was shown regardless of gender or living environment. A final consideration may be the institution's Jesuit and Catholic mission and its focus on formational development, which challenges students to think of their academic life from a comprehensive perspective and intentionally seeks to create an environment that seamlessly blends students' academic, social, and spiritual life into one educational process (Appleyard, 2007). To thoroughly examine this last point, the study would need to include non-honors students from Boston College as well as students from other highly selective institutions which do not espouse beliefs of formational development or Jesuit ideals. The central point, as found in Bronfenbrenner's research, is no single environmental influence can be identified as affecting an individual's psychosocial development. Overall, the dynamics of being a high achieving individual in an academically challenging and socially engaging environment would naturally place these students very high on a developmental scale and may explain why there was no significant difference between the two populations of honors students.

Finally, when comparing the post-test data set to the normative data, the analysis indicates that Boston College honors students had significantly higher mean scores than the norm population on nine of the ten subtasks. The initial comparison of pre-test means to the norm population showed Boston College honors students' mean scores on the subtasks for Career and Lifestyle planning was not significantly different from the norm. The post-test analysis employing the RMANOVA found the students grew in both of these subtasks over the course of the semester. However using t-tests to compare participants with the normative data showed mean scores for the Lifestyle Planning (LP) subtask remained within the norm. The finding on this subtask was not unexpected given that the Lifestyle Planning measures how students perceive their future and their ability to integrate ethical and religious values into planning their future. Chickering and Reisser (1993) noted that only some tasks are encountered early in the developmental process. Given this subtask would be precipitated by meaningful challenges to their belief structure, it is reasonable that there was a change in means, but not statistically different from the normative data.

#### Limitations

The data do not show a direct correlation between living in a residentially-based learning community and psychosocial development. Current literature shows living and learning communities have benefits at large public institutions; however, based on the findings of this study, these communities do not appear to have benefits for a medium size Jesuit and Catholic institution with a strong commitment to student formation. Limitations in this study exist which warrant consideration when evaluating the outcomes of this research. First, consideration must be given to the small sample size of this study which makes it difficult to make assumptions regarding the effect of living environments on students' developmental experience. Second, this study was conducted at a single, highly selective private university in the northeastern region of the United States. Given the unique nature of the population in this study and the competitive admission standards, generalization to other institutions is limited. In addition, issues of objectivity with respect to self reported data and self selection limits generalization. Research has shown self reported data to be valid (Pike, 1995, 1996) and the SDTLA does measure participant bias; however, this study was not a random sample and honors students are generally highly motivated individuals who volunteer to participate in the Honors program.

Finally, the developer's normative data are based on 1800+ students from a variety of institutions; however, there is no accurate way to determine if honors students were part of the data collection process.

#### **Recommendations**

The psychosocial development of individuals is a continuous and complex process that cannot be easily identified in one study or means of investigation. This study quantitatively examined how two specific styles of living environments affected honors students' development as they started their collegiate career. The possibilities for future research of how living environments affect students' psychosocial development are only limited by the curiosity of the researcher.

It is recommended that future designs consider extending the length of exposure to the environments, including non-honors students or studying multiple class years to develop a wider perspective of honors students' development and increase the sample size.

A richer and more in-depth understanding of the effect that residentially-based learning communities have on students would be obtained through a qualitative study. Quantitative methods are useful for determining if an effect exists but they only provide a snapshot of students' psychosocial development. A qualitative study could provide clarity on how honors students' interaction with faculty and peers frame their experience in specific living environments and, in turn, nurture or hinder their development. The data from this current study revealed the possibility that this residentially-based learning community may not be meeting women's specific developmental needs. A qualitative study may provide more insight as to how this type of living/learning environment affects female honors students' development.

As previously stated, this study showed that residing in the Honors House did not singularly influence the students' development. However, the benefits of residentiallybased learning communities to actively engage students in their collegiate experience by creating smaller learning environment, at specific types of institutions, is well established in the research. The idea established over 400 years ago is simple; creating an intentional and seamless collegiate experience between students' academic and social lives will develop a whole person. The current research, which has been conducted primarily at larger public institutions, supports the contention that smaller learning communities within the larger institutional community positively influence a student's academic and psychosocial development. However, the question of whether colleges, who inherently value creating intentional learning environments for all students, need specific residentially-based learning communities is to be determined.

The findings of this study indicate first year honors students at Boston College are experiencing psychosocial growth as a result of participating in the University's honors program. Additionally, students' developmental growth is strongly influenced by the school's religious mission and care for the individual. As a result of institutional commitment to formational development, this type of institution may not require specific living/learning communities to enhance their students' psychosocial development.

85

# APPENDIX A

# E-mail Correspondence

#### September invitation e-mail

September 13, 2009

Dear Honors Student,

I am a doctoral student in the Lynch School's Department of Higher Education at Boston College and I would like to invite you to take part in an exciting opportunity in which your invaluable insights and experiences can have a positive impact on the Honors Program. As your seminar professor announced in class, I am conducting a unique research study on honors students and how living on campus effects their psychosocial development. Your participation will not only advance our understanding of the needs of honors students, but may be used to enhance the programs and services provided to Boston College Honors students at Boston College.

As a participant in this study you will be asked to answer a series of questions ranging from issues of autonomy to friendship and future goals. This study is designed in a pre and post-test format and if you agree to participate in this study the pre-test will be complete by September 18<sup>th</sup>, and the post-test will be administered at the completion of your first semester. This survey takes taking approximately 20-30 minutes to complete and all answer are completely confidential. To ensure confidentiality, each participant will be provided with personal verification code upon entering the web link. The e-mail containing the link for the post-test will be sent in the first week of January. To ensure the findings of the study are available to the Honors faculty for second semester, all response need to be completed by January 19, 2010.

As a participant in this study, you will be helping to advance the current base of knowledge on the developmental needs of honors students. Additionally, all participants who complete the pre and post-test will be entered into a drawing for a chance to win a \$150, \$75 or \$25 gift certificate to the Boston College Book store.

At the bottom of this e-mail there is a link to the website. Participation in this study is voluntary, if you choose to participate; the website will ask you to confirm your e-mail address and will give you an individualized security code. This security code will enable you to re-enter the site if you are unable to complete the survey in one session. If you decide not to participate, you can withdraw from participation in this survey by closing your browser at anytime.

I would like to thank you in advance for your participation and desire to improve the quality of Boston College's Honors Program. Please remember your responses will be held in the strictest of confidence.

Sincerely,

### September reminder e-mail

September 15, 2009

Dear Honors Student,

On Sunday, you received an e-mail from me requesting your participation in a research study on Honors students at Boston College. If you have already completed the survey, I want to thank you for your participation. If you have not completed the survey, I hope you choose to participate.

Your participation in this study will advance the body of research on how on residence hall environments impact an honor student's development. Additionally, the Honors faculty will include this research as part of the programs self study to improve programs and services to their students. The questionnaire takes approximately 20-30 minutes to complete and is completely confidential.

As a participant in this pre and post-test study, you will be entered into a drawing for a chance to win a gift certificate for \$150, \$75 or \$25 to the Boston College Book stores.

At the bottom of this e-mail there is a link to the website. If you choose to participate, the website will ask you to confirm your e-mail address and will give you an individualized security code. This security code will also enable you to re-enter the site if you are unable to complete the survey in one session. If you decide not to participate, you can withdraw from participation in this survey by closing your browser at anytime.

If you choose to participate, I would appreciate **your response to the survey by** September 18<sup>th</sup>.

Sincerely,

### January initial e-mail

January 4, 2010

Dear Honors Student,

In September you participated in a unique research study on honors students and how living on campus effects their psychosocial development. As a participant in this study, you were asked to answer a series of questions related to development. These questions ranged from issues of autonomy to friendship and future goals.

As noted in the e-mail from September, this study is a pre and post-test design. The posttest is identical to the previous questionnaire. Your continued participation in this study will advance the body of research on how on residence hall environment impact an honor student's development. Additionally, the Honors faculty will include this research as part of the programs self study to improve programs and services to their students..

The questionnaire will take approximately 20-30 minutes to complete. This post-test needs to be completed by January 19<sup>th</sup>. The personal verification code that was provided to you in September will permit access to the questionnaire and ensure confidentiality. If you have forgotten your personal code, the website will ask you verify your e-mail address and will then provide your access code. If you decide not to participate, you can withdraw from participation in this survey by closing your browser at anytime.

As a reminder, participants in this study will be entered into a drawing for a chance to win a gift certificate for \$150, \$75 or \$25 to the Boston College Book stores.

I would like to thank you in advance for your continued participation in this study and desire to improve the quality of the honors program. Please remember your responses will be held in the strictest of confidence.

Sincerely,

### January reminder e-mail

January 11, 2010

Dear Honors Student,

On January 4<sup>th</sup>, you received an e-mail from me requesting your continued participation in a research study on Honors students at Boston College. If you have already completed the follow-up survey, I want to thank you for your participation. If you have not yet completed the survey, I want to encourage your continued participation.

The questionnaire takes approximately 20-30 minutes to complete and your participation in this study will advance the body of research on how on residence hall environment impact an honor student's development. Additionally, the Honors faculty will include this research as part of the programs self study to improve programs and services to their students.

As a participant in this study, you will be entered into a drawing for a chance to win a gift certificate for \$150, \$75 or \$25 to the Boston College Book stores.

At the bottom of this e-mail there is a link to the website. The personal code that was provided to you in September will permit access to the questionnaire and ensure confidentiality. If you have forgotten your personal code, the website will ask you verify your e-mail address and will then provide your access code. If you decide not to participate, you can withdraw from participation in this survey by closing your browser at anytime.

If you choose to participate, I would appreciate **your response to the survey by January** 19<sup>th</sup>.

Sincerely,

# APPENDIX B

Consent Form

#### **Informed Consent**

#### The Psychosocial Effect of Residentially-Based Learning Communities on First Year Honors Students in a Highly Selective Private University

#### Purpose of the Study:

This is a study being conducted by Henry Humphreys, a doctoral candidate in the Lynch School of Education at Boston College. The purpose of this study is to determine if first year honors students who participate in a residentially-based learning community exhibit greater psychosocial development compared to first year honors students who reside in traditional residence halls.

#### What will be done:

As a participant in this study you will be asked to answer a series of questions ranging from issues of autonomy to friendship and future goals. This study is designed in a pre and post-test format and if you agree to participate in this study the pre-test will be complete by September 18<sup>th</sup>, and the post-test will be administered at the completion of your first semester. This survey takes taking approximately 20-30 minutes to complete and all answer are completely confidential. The e-mail containing the link for the post-test will be sent in the first week of January. To ensure the findings of the study are available to the Honors faculty for second semester, all response needs to be completed by January 15, 2010.

#### **Benefits of this Study:**

As a participant in this study, you will be helping to advance the current base of knowledge on the developmental needs of honors students. Additionally, all participants who complete the pre and post-test will be entered into a drawing for a chance to win a \$150, \$75 or \$25 gift certificate to the Boston College Book store.

#### **Risks or discomforts:**

No risks or discomforts are anticipated from taking part in this study. If you feel uncomfortable with a question, you can skip that question or withdraw from the study altogether. If you decide to quit at any time before you have finished the questionnaire, your answers will NOT be recorded.

#### **Confidentiality:**

To ensure confidentiality, each participant will be provided with personal verification code upon entering the web link. If you choose to participate, the website will ask you to confirm your e-mail address and will give you an individualized security code. This security code will enable you to re-enter the site if you are unable to complete the survey in one session. The researcher will see the data without your indentifying information. E-mail addresses will be stored by the test administrator organization electronically in a password protected computer. After the study is completed all participants' e-mail addresses will be deleted.

#### Decision to quit at any time:

Your participation is voluntary; you are free to withdraw your participation from this study at any time. If you do not want to continue, you can simply close your web browser. If you do not click on the "submit" button at the end of the survey, your answers and participation will not be recorded. If you complete the pre and post survey, you will be entered in the drawing.

#### How the findings will be used:

Your participation will not only advance our understanding of the needs of honors students, but may be used to enhance the programs and services provided to Boston College Honors students at Boston College.

#### **Contact information:**

If you have concerns or questions about this study, please contact Henry J. Humphreys at <u>Humphrhe@bc.edu</u>.

By beginning the survey, you acknowledge that you have read this information and agree to participate in this research, with the knowledge that you are free to withdraw your participation at any time without penalty.

Appendix C

Statistical Analysis for Pre-test Data

Source	Type III	df	Mean	F	Sig.	Partial	Observed
	Sum of		Square			Eta	Power
	Squares					Squared	
Corrected Model	34.708	3	11.569	.182	.908	.006	.083
Intercept	259187.891	1	259187.891	4076.024	.000	.978	1.000
Housing	1.472	1	1.472	.023	.879	.000	.053
Gender	16.149	1	16.149	.254	.616	.003	.079
Housing*Gender	22.075	1	22.075	.347	.557	.004	.090
Error	5850.134	92	63.588				
Total	336524.586	96					
Corrected Total	5884.842	95					

ANOVA Comparing Living Environment and Gender for Developing Autonomy Task (AUT)

ANOVA Comparing Living Environment and Gender for Mature Interpersonal Relationships Task (MIR)

Source	Type III	df	Mean	F	Sig.	Partial	Observed
	Sum of		Square			Eta	Power
	Squares					Squared	
Corrected Model	202.307	3	67.436	.029	.481	.026	.224
Intercept	225782.403	1	225782.	2776.	.000	.968	1.000
			403	690			
Gender	57.820	1	57.820	.711	.401	.008	.133
Housing	5.310	1	5.310	.065	.799	.001	.057
Gender*Housing	157.824	1	157.824	1.941	.167	.021	.281
Error	7480.843	92	81.314				
Total	298040.441	96					
Correct Total	7683.151	95					

Source	Type III	df	Mean	F	Sig.	Partial	Observed
	Sum of		Square			Eta	Power
	Squares					Squared	
Correct Model	299.642	3	99.881	1.165	.328	.037	.304
Intercept	187238.034	1	187238.034	2183.493	.000	.960	1.000
Gender	2.284E-6	1	2.284E-6	.000	1.000	.000	.050
Housing	282.237	1	282.237	3.291	.073	.035	.435
Gender*Housing	7.927	1	7.927	.092	.762	.001	.060
Error	7889.148	92	85.752				
Total	241397.350	96					
Corrected Total	8188.790	95					

ANOVA Comparing Living Environment and Gender for Establishing and Clarifying Purpose Task (PUR)

ANOVA Comparing Living Environment and Gender for Salubrious Lifestyle (SL)

Source	Type III	df	Mean	F	Sig.	Partial Eta	Observed
	Sum of		Square			Squared	Power
	Squares						
Corrected Model	199.387	3	66.462	.788	.504	.025	.214
Intercept	250446.404	1	250446.404	2969.281	.000	.970	1.000
Gender	164.808	1	164.808	1.954	.166	.021	.282
Housing	69.498	1	69.498	.824	.366	.009	.146
Gender *Housing	.444	1	.444	.005	.942	.000	.051
Error	7759.813	92	84.346				
Total	329196.780	96					
Corrected Total	7959.200	95					

# ANOVA Comparing Living Environment and Gender for AUT Subtasks EI, AA, IND, and IA

# Emotional Autonomy (EA)

Source	Type III Sum of	df	Mean Square	F	Sig.	Partial Eta Squared	Observed Power
	Squares						
Corrected Model	284.351	3	94.784	1.289	.283	.040	.334
Intercept	249528.351	1	249528.351	3393.233	.000	.974	1.000
Gender	212.459	1	212.459	2.889	.093	.030	.391
Housing	35.870	1	35.870	.488	.487	.005	.106
Gender * Housing	88.510	1	88.510	1.204	.275	.013	.192
Error	6765.410	92	73.537				
Total	324772.993	96					
Corrected Total	7049.760	95					

# Academic Autonomy (AA)

Source	Type III Sum of	df	Mean Square	F	Sig.	Partial Eta Squared	Observed Power
	Squares						
Corrected Model	22.499	3	7.500	.131	.941	.004	.073
Intercept	262658.580	1	262658.	4599.0	.000	.980	1.000
			580	98			
Gender	12.736	1	12.736	.223	.638	.002	.075
Housing	3.390	1	3.390	.059	.808	.001	.057
Gender *Housing	.029	1	.029	.001	.982	.000	.050
Error	5254.202	92	57.111				
Total	342028.867	96					
Corrected Total	5276.701	95					

# Interdependence (IND)

red	Power
	100001
.001	.056
.963	1.000
.001	.056
.000	.053
.000	.050
	.001 .963 .001 .000 .000

# Instrumental Autonomy (IA)

Source	Type III	df	Mean Square	F	Sig.	Partial Eta	Observed
	Sum of					Squared	Power
	Squares						
Corrected Model	35.122	3	11.707	.170	.916	.006	.080
Intercept	224399.032	1	224399.032	3267.742	.000	.973	1.000
Gender	8.766	1	8.766	.128	.722	.001	.064
Housing	10.770	1	10.770	.157	.693	.002	.068
Gender *Housing	18.668	1	18.668	.272	.603	.003	.081
Error	6317.729	92	68.671				
Total	293682.112	96					
Corrected Total	6352.851	95					

# ANOVA Comparing Living Environment and Gender for MIR subtasks PR and TOL

# Mature Peer Relationships (PR)

Source	Type III	df	Mean	F	Sig.	Partial Eta	Observed
	Sum of		Square			Squared	Power
	Squares						
Corrected Model	382.625	3	127.542	1.590	.197	.049	.406
Intercept	206758.168	1	206758.168	2577.647	.000	.966	1.000
Gender	379.078	1	379.078	4.726	.032	.049	.576
Housing	5.806	1	5.806	.072	.789	.001	.058
Gender * Housing	15.427	1	15.427	.192	.662	.002	.072
Error	7379.502	92	80.212				
Total	265439.163	96					
Corrected Total	7762.128	95					

Tolerance (TOL)

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Observed Power
Corrected Model	370.251	3	123.417	1.369	.257	.043	.353
Intercept	270039.669	1	270039.669	2995.916	.000	.970	1.000
Gender	27.783	1	27.783	.308	.580	.003	.085
Housing	5.334	1	5.334	.059	.808	.001	.057
Gender * Housing	235.353	1	235.353	2.611	.110	.028	.359
Error	8292.505	92	90.136				
Total	363029.660	96					
Corrected Total	8662.756	95					

ANOVA Comparing Living Environment and Gender for PUR subtasks EI, LP, CUP, and CP

# Educational Involvement (EI)

Source	Type III	df	Mean	F	Sig.	Partial Eta	Observed
	Sum of		Square			Squared	Power
	Squares						
Corrected Model	1024.582	3	341.527	2.051	.112	.063	.510
Intercept	284342.807	1	284342.807	1707.412	.000	.949	1.000
Gender	18.602	1	18.602	.112	.739	.001	.063
Housing	879.109	1	879.109	5.279	.024	.054	.623
Gender*Housing	185.524	1	185.524	1.114	.294	.012	.181
Error	15321.161	92	166.534				
Total	369274.186	96					
Corrected Total	16345.743	95					

Lifestyle Planning (LP)

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Observed Power
Corrected Model	287.791	3	95.930	1.008	.393	.032	.266
Intercept	190284.096	1	190284.096	1998.555	.000	.956	1.000
Gender	.549	1	.549	.006	.940	.000	.051
Housing	268.218	1	268.218	2.817	.097	.030	.383
Gender*Housing	19.432	1	19.432	.204	.652	.002	.073
Error	8759.396	92	95.211				
Total	246577.574	96					
Corrected Total	9047.188	95					

# Cultural Participation (CUP)

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Observed Power
Corrected Model	179.310	3	59.770	.754	.523	.024	.206
Intercept	241880.666	1	241880.666	3051.788	.000	.971	1.000
Gender	70.559	1	70.559	.890	.348	.010	.154
Housing	.355	1	.355	.004	.947	.000	.051
Gender*Housing	135.681	1	135.681	1.712	.194	.018	.254
Error	7291.798	92	79.259				
Total	313565.615	96					
Corrected Total	7471.108	95					

# Career Planning (CP)

Source	Type III	df	Mean	F	Sig.	Partial Eta	Observed
	Sum of		Square			Squared	Power
	Squares						
Corrected Model	311.519	3	130.840	.669	.573	.021	.186
Intercept	230249.001	1	203249.00	1310.0	.000	.934	1.000
			1	06			
Gender	11.492	1	11.492	.074	.786	.001	.058
Housing	261.184	1	261.184	1.683	.198	.018	.250
Gender*Housing	30.334	1	30.334	.196	.659	.002	.072
Error	14273.908	92	155.151				
Total	267916.582	96					
Corrected Total	14585.427	95					
Appendix D

Statistical Analysis for Post-test Data

Source	Type III	df	Mean	F	Sig.	Partial Eta	Observed
	Sum of		Square			Squared	Power
	Squares						
Corrected Model	66.156	3	22.052	.411	.745	.017	.128
Intercept	228400.183	1	228400.183	4261.132	.000	.984	1.000
Housing	7.518	1	7.518	.140	.709	.002	.066
Gender	58.787	1	58.787	1.097	.299	.015	.178
Housing*Gender	12.246	1	12.246	.228	.634	.003	.076
Error	3805.658	71	53.601				
Total	266449.455	75					
Corrected Total	3871.814	74					

ANOVA Comparing Gender and Living Environment for Developing Autonomy (AUT)

ANOVA Comparing Gender and Living Environment for Developing Autonomy (MIR)

Source	Type III	df	Mean	F	Sig.	Partial	Observed
	Sum of		Square			Eta	Power
	Squares					Squared	
Corrected Model	102.928	3	34.309	.319	.812	.013	.109
Intercept	191974.813	1	191974.813	1785.610	.000	.962	1.000
Housing	.874	1	.874	.008	.928	.000	.051
Gender	93.102	1	93.102	.866	.355	.012	.151
Housing*Gender	8.716	1	8.716	.081	.777	.001	.059
Error	7633.365	71	107.512				
Total	226889.955	75					
Corrected Total	7736.293	74					

Source	Type III	df	Mean	F	Sig.	Partial Eta	Observed
	Sum of		Square			Squared	Power
	Squares						
Corrected Model	408.491	3	136.164	1.285	.286	.051	.329
Intercept	186027.679	1	186027.679	1755.534	.000	.961	1.000
Housing	141.679	1	141.679	1.337	.251	.018	.207
Gender	180.360	1	180.360	1.702	.196	.023	.251
Housing*Gender	12.486	1	12.486	.118	.732	.002	.063
Error	7523.615	71	105.966				
Total	216853.678	75					
Corrected Total	7932.106	74					

ANOVA Comparing Gender and Living Environment for Developing Autonomy (PUR)

ANOVA Comparing Living Environment and Gender for Salubrious Lifestyle (SL)

Source	Type III	df	Mean Square	F	Sig.	Partial	Observed
	Sum of					Eta	Power
	Squares					Squared	
Corrected Model	206.851	3	68.950	1.066	.369	.043	.277
Intercept	215585.008	1	215585.008	3333.343	.000	.979	1.00
Gender	178.518	1	178.518	2.760	.101	.037	.374
Housing	.024	1	.024	.000	.985	.000	.050
Gender *Housing	2.186	1	2.186	.034	.855	.000	.054
Error	4591.948	71	64.675				
Total	256441.508	75					
Corrected Total	4798.799	74					

# ANOVA Comparing Living Environment and Gender for AUT Subtasks EA, AA, IND, and IA

#### Emotional Autonomy (EA)

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Observed Power
Corrected Model	360.959	3	120.320	2.561	.062	.098	.608
Intercept	195639.901	1	195639.901	4164.801	.000	.983	1.000
Gender	357.650	1	357.650	7.614	.007	.097	.777
Housing	4.901	1	4.901	.104	.748	.001	.062
Gender * Housing	14.852	1	14.852	.316	.576	.004	086
Error	3335.197	71	46.975				
Total	324772.993	75					
Corrected Total	3696.156	74					

#### Academic Autonomy (AA)

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Observed Power
Corrected Model	119.830	3	39.943	.668	.574	.027	.184
Intercept	232121.149	1	232121.149	3883.747	.000	.982	1.000
Gender	7.961	1	7.961	.133	.716	.002	.065
Housing	21.292	1	21.292	.211	.299	.648	.095
Gender *Housing	8.168	1	8.168	.081	.777	.001	.059
Error	7169.917	71	100.985				
Total	257117.863	75					
Corrected Total	4364.403	74					

# Interdependence (IND)

Source	Type III	df	Mean	F	Sig.	Partial Eta	Observed
	Sum of		Square			Squared	Power
	Squares						
Corrected Model	41.124	3	13.708	.136	.938	.006	.074
Intercept	216784.950	1	216784.950	2146.710	.000	.968	1.000
Gender	7.961	1	7.961	.133	.716	.002	.065
Housing	21.292	1	21.292	.211	.299	.648	.095
Gender *Housing	8.168	1	8.168	.081	.777	.001	.059
Error	7169.917	71	100.985				
Total	257117.863	75					
Corrected Total	7211.041	74					
Corrected Total	/211.041	/4					

# Instrumental Autonomy (IA)

Source	Type III Sum of	df	Mean Square	F	Sig.	Partial Eta Squared	Observed Power
	Squares		-			-	
Corrected Model	204.940	3	68.313	1.044	.378	.042	.272
Intercept	205514.603	1	205514.603	3141.410	.000	.978	1.000
Gender	122.781	1	122.781	1.877	.175	.026	.272
Housing	5.518	1	5.518	.084	.722	.001	.059
Gender *Housing	114.289	1	114.289	1.747	.191	.024	.256
Error	6317.729	92	68.671				
Total	293682.112	96					
Corrected Total	4849.840	74					

## ANOVA Comparing Living Environment and Gender for MIR subtasks PR and TOL

Source	Type III	df	Mean	F	Sig.	Partial Eta	Observed
	Sum of		Square			Squared	Power
	Squares						
Corrected Model	755.066	3	251.689	2.929	.039	.110	.673
Intercept	192867.753	1	192867.753	2244.303	.000	.969	1.000
Gender	610.595	1	610.595	7.105	.010	.091	.748
Housing	18.655	1	18.655	.217	.643	.003	.075
Gender * Housing	1.122	1	1.122	.013	.909	.000	.051
Error	6101.498	71	85.937				
Total	221637.678	75					
Corrected Total	6856.564	74					

#### Mature Peer Relationships (PR)

Tolerance (TOL)

Source	Type III	df	Mean	F	Sig.	Partial Eta	Observed
	Sum of		Square			Squared	Power
	Squares						
Corrected Model	64.150	3	21.383	.182	.908	.008	.082
Intercept	184567.270	1	184567.270	1573.321	.000	.957	1.000
Gender	18.301	1	18.301	.156	.694	.002	.068
Housing	3.569	1	3.569	.030	.862	.000	.053
Gender * Housing	22.721	1	22.721	.194	.661	.003	.072
Error	8329.054	71	117.311				
Total	223393.782	75					
Corrected Total							

ANOVA Comparing Living Environment and Gender for PUR subtasks EI, LP, CUP, and CP

Source	Type III	df	Mean	F	Sig.	Partial Eta	Observed
	Sum of		Square			Squared	Power
	Squares						
Corrected Model	672.872	3	224.291	2.219	.093	.086	.540
Intercept	209450.975	1	209450.	2071.8	.000	.967	1.000
			975	54			
Gender	165.437	1	165.437	1.636	.205	.023	.243
Housing	283.027	1	283.027	2.800	.099	.038	.379
Gender*Housing	244.474	1	244.474	2.418	.124	.033	.335
Error	7177.640	71	166.534				
Total	245769.847	75					
Correct Total	7850.512	74					

Lifestyle Planning (LP)

Source	Type III	df	Mean	F	Sig.	Partial Eta	Observed
	Sum of		Square			Squared	Power
	Squares						
Corrected Model	427.517	3	142.506	1.223	.308	.049	.314
Intercept	173996.379		173996.379	1493.563	.000	.955	1.000
Gender	341.623	1	341.623	2.932	.091	.000	.393
Housing	14.553	1	14.553	.125	.725	.002	.064
Gender*Housing	.100	1	.100	.001	.977	.000	.050
Error	8271.321	71	116.476				
Total	203785.058	75					
Corrected Total	8698.838	74					

## Cultural Participation (CUP)

Source	Type III Sum of	df	Mean Square	F	Sig.	Partial Eta Squared	Observed Power
	Squares		1			1	
Corrected Model	240.331	3	80.110	.884	.454	.036	.234
Intercept	205590.294	1	102.697	1.133	.291	.016	1.000
Gender	101.111	1	101.111	1.115	.295	.015	.181
Housing	102.697	1	102.697	1.133	.291	.016	.183
Gender*Housing	73.807	1	73.807	.814	.370	.011	.154
Error	6437.584	71	79.259				
Total	240294.669	75					
Corrected Total	6677.915	74					

## Career Planning (CP)

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Observed Power
Corrected Model	146976.500	3	146976.500	1293.278	.000	.948	1.000
Intercept							
Gender	102.277	1	102.277	.900	.346	.013	.155
Housing	45.253	1	45.253	.398	.530	.006	.095
Gender*Housing	9.029	1	9.029	.079	.779	.001	.059
Error	8068.899	71	113.646				
Total	174497.241	75					
Corrected Total	8253.053	74					

#### References

- Altbach, P., G, Berdahl, R., O, & Gumport, P. (1999, 2005). American Higher Education in the 21st Century: Social Political and Economic Challenges. Baltimore, Maryland: Johns Hopkins University Press.
- American College Personnel Association. (1996). *The student learning imperative: Implications for student affairs* American College Personnel Association.
- Appleyard, J. (2007). *The Journey into Adulthood: Understanding Student Formation*.Boston: Boston College.
- Ary, D., Jacobs, L. C., & Razavieh, A. (2002). Introduction to Research in Education (Seventh ed.). CA: Thomson Corporation.
- Astin, A. (1999). Student Involvement: A Developmental Theory for Higher Education. Journal of College Student Development, 40(5), 518-529.
- Astin, A. W. (1984). Student Involvement: A Developmental Theory for Higher Education. *Journal of College Student Personnel*, 25, 297-308.
- Astin, A. W. (1993). What Matters in College? Four Critical Years Revisited. San Francisco: Jossey-Bass.
- Best, J. W., & Kahn, J. V. (1989). *Research in Education* (Sixth ed.). Englewoods Cliffs, New Jersey: Prentice Hall.
- Black, T. R. (1999). Doing Quantitative Research in the Social Sciences. London: SAGE Publications.
- Blimling, G. S. (1993). The Influence of College Residence Halls on Students. In J. C. Smart (Ed.), *Higher Education: Handbook of Theory and Research* (Vol. IX, pp. 248-307). New York: Agathon Press.

- Blimling, G. S., & Hample, D. (1979). Structuring the peer Environment in Residence
   Halls to Increase Academic Performance in Average-Ability Students. *Journal of College Student Personnel*, 310-316.
- Blimling, G. S., & Whitt, E. J. (1998). Principles of Good Practice for Student Affairs. *About Campus*, 3(1), 10.
- Borg, W. R. (1993). *Applying Educational Research A Practical Guide* (Third ed.). New York: Longman.
- Borg, W. R., & Gall, M. D. (1989). *Educational Research An Introduction* (5th ed.). White Plains, New York: Longman.
- Boyer, E. (1998). The Boyer Commission on Educating Undergraduates in the Research University, Reinventing Undergraduate Education: A Blueprint for America's Research Universities. Stony Brook, NY.
- Bronfenbrenner, U. (1995). Developmental ecology through space and time: A future perspective. In P. Moen, G. H. Elder & K. Luscher (Eds.), *Examing Lives in Context: Perspective on the ecology of human development* (pp. 619-647).
  Washington, DC: American Psychological Association.
- Brower, A. A., & Dettinger, K. M. (1998). What is a Learning community? Toward a comprehensive model. *About Campus*, *3*(5), 15-21.

Brower, A. M., & Inkelas, K. K. (2007). Assessing Learning Communities Programs and Partnerships Learning Communities and Student Affairs: Partnering for Powerful Learning (pp. 103-113). Olympia,WA: Learning Communities and Educational Reform.

- Brubacher, J., S, & Rudy, W. (2004). Higher Education in Transition: A History of American Colleges and Universities (Fourth Edition ed.). New Brunswick, New Jersey: Transaction Publishers.
- Chickering, A., & Zelda, G. (Eds.). (1991). *Applying the Seven Principles for Good Practice in Undergraduate Education* (Vol. 47). San Francisco: Jossey-Bass.
- Chickering, A. W., & Reisser, L. (1993). *Education and Identity* (Second ed.). San Francisco: Jossey-Bass.
- Clarke, J. H., Miser, K. M., & Roberts, A. O. (1988). Freshman Residential Programs: Effects of Living-Learning Structure, Faculty Involvement, and Thematic Focus. *Journal of College and University Student Housing*, 18(2), 7-13.
- Cox, B. E., & Orehovec, E. (2007). Faculty-Student Interaction Outside the Classroom: A Typology from a Residential College. *The Review of Higher Education*, 30(4), 343-362.
- Creswell, J. W. (2003). *Research Design Qualitative, Quantitative, and Mixed Methods Approaches* (Second ed.). Thousand Oaks: SAGE Publications.
- DeCoster, D. A. (1966). Housing Assignments for High Ability Students. *Journal of College Student Personnel*, 19-22.

Duke, A. (1996). Importing Oxbridge. New Haven: Yale University Press.

Gabelnick, F. a. J. M., Roberta Matthews, Barbara Leigh Smith. . (1990). Learning Communities: Building Connections Among Disciplines, Students and Faculty: New Directions for Teaching and Learning,: (Vol. 41). San Francisco:: Jossey-Bass.

- Garrett, M. D., & Zabriskie, M. S. (2004). The Influence of Living-Learning Program Participation on Student-Faculty Interaction. *Journal of College & University Student Housing*, 33(1), 38-44.
- Gilligan, C. (1982). In a different voice: Psychological theory and women's development.Cambridge, MA: Harvard University Press.
- Hinkle, D. E., Wiersma, W., & Jurs, S. G. (2003). Applied Statistics for the Behavioral Sciences. Boston: Houghton Mifflin.
- Huerta, J. C. (2004). Do Learning Communities Make A Difference? *Cambridge Journals*, *37*(2), 291-296.
- Inkelas, K. (2004). Living and Learning Together: Results from the 2004 National Study on Living-Learning Programs. Retrieved April 19, 2008
- Inkelas, K. (2008a). National Study of Living-Learning Programs: 2007 Report of Findings. Retrieved October 4, 2008, from <u>http://www.livelearnstudy.net/</u>
- Inkelas, K., Vogt, K., Longerbeam, S., & Johnson, D. (2006). Measuring Outcomes of living-Learning Programs: Examining College Environments and Student Learning and Deveolopment. *Journal of General Education*, 55(1), 40-76.
- Inkelas, K. K. (2008b). Innovative Directions for Living-Learning Program Research and Practice. *Journal of College and University Student Housing*, *35*(1), 8-13.

Inkelas, K. K., Johnson, D., Lee, Z., Daver, Z., Longerbeam, S. D., Vogt, K., et al.
(2006). The Role of Living-Learning Programs in Student's Preceptions of
Intellectual Growth at Three large Universities. *National Association of Student Personnel Administrators*, 43(1), 115-143.

- Inkelas, K. K., & Longerbeam, S. D. (2008). Working Toward a Comprehensive
  Typology of Living-Learning Programs. In G. Luna & J. Gahagan (Eds.), *Learning initiatives in the residential setting* (Vol. Monograph 48, pp. 29-43).
  Columbia, South Carolina: University of South Carolina, National Center for The
  First-Year Experience and Students in Transition.
- Inkelas, K. K., Soldner, M., Longerbeam, S. D., & Leonard, J. B. (2008). Differences in Student Outcomes by Types of Living-Learning Programs: The Development of an Empirical Typology. *Research in higher education*, 49(6), 495-512.
- Inkelas, K. K., Vogt, K. E., Longerbeam, S. D., Owen, J., & Johnson, D. (2006). Measuring Outcomes of Living-Learning Programs: Examining College Environments and Student Learning and Development. *Journal of General Education*, 55(1), 40-76.
- Inkelas, K. K., & Weisman, J. L. (2003). Different by Design: An Examination of Student Outcomes Among Participants in Three Types of Living-Learning Programs. *Journal of College Student Development*, 44(3), 335-368.
- Jones, C. E., & Watt, J. D. (2001). Moral Orientation and Psychosocial Development: Gender and Class-Standing Differences. *NASPA Journal*, *39*(1), 1-13.
- Keeling, D. R. (Ed.). (2006). Learning Reconsidered 2: Implementing a Campus-Wide Focus on the Student Experience. NASPA-052.
- Kenny, S. S., Thomas, E., Katkin, W., Lemming, M., Smith, P., Glaser, M., et al. (1998).
  The Boyer Commission on Educating Undergraduates in the Research University,
  Reinventing Undergraduate Education: A Blueprint for America's Research
  Universities. Retrieved from <u>http://hdl.handle.net/1951/26013</u>

- Kuh, G., & Hu, S. (2001). The Effects of Student-Faculty Interaction in the 1990s. The Review of Higher Education, 24(3), 309-332.
- Kuh, G. D. (1993). In their own words: What students learn outside the classroom. *American Educational Research Journal*, *30*, 277-304.
- Kuh, G. D. (1995). Cultivating "High-Stakes" Student Culture Research. *Research in higher education*, 36(5), 563-576.
- Kuh, G. D., Douglas, K. B., Lund, J. P., & Ramin-Gyurnek, J. (1994). Student Learning Outside the Classroom: Transcending Artificial Boundaries. Washington, D.C: George Washington University, School of Education and Human Development.
- Kuh, G. D., Hu, S., & Vesper, N. (2000). "They Shall Be Known By What They Do": An Activities-Based Typology of College Students. *Journal of College Student Development*, 41(2), 228-244.
- Kuh, G. D., Schuh, J., & Whitt, E. (1991). Involving colleges: Successful approaches to fostering student learning and development outside the classroom. San Francisco: Jossey-bass.
- Lease, J. A. (2002, March 29, 2008). Psychosocial Development in the University: A Study of Freshman Honors Students. *Georgia Journal of College Student Affairs* Retrieved March 29, 2008
- Lenning, O., & Ebbers, L. (1999). The powerful potential of learning communities: Improving education for the future. *ASHE-ERIC Higher Education Report*, 26(6).
- Longerbeam, S. D., Inkelas, K. K., & Brower, A. M. (2007). Second Hand Benefits: Student Outcomes in Residnece Halls with Living Learning Programs. *Journal of College and University Student Housing*, 34(2), 20-30.

- Luna, G., & Gahagan, J. (2008). Residence Halls-The Classroom Expanded. In G. Luna
  & J. Gahagan (Eds.), *Learning Initiatives in the Residential Setting*. Columbia,
  SC: University of South Carolina, National Resource Center for The First Year
  Experience and Students in Transition.
- Marlowe, D., & Crowne, D. P. (1960). A new scale of social desirability independent of psychopathology. *Journal of Consulting Psychology*, 24, 349-354.
- Miller, J. B. (1991). The Development of Women's Sense of Self. In A. G. K. Judith V. Jordan, Jean Baker Miller, Irene P. Stiver, Janet L. Surrey (Ed.), *Women's Growth in Connection: Writing from the Stone Center* (pp. 11-26). New York: Guilford.
- Oakley, F. (1992). Community of Learning. New York: Oxford University Press.
- Pace, C. R. (1983). *College Student experiences: A questionaire* (2nd ed.). Los Angeles: University of California, Higher Education Research Institute.
- Pascarella, E., Terenzini, P. T., & Blimling, G. S. (1994). The Impact of Residential Life on Students. In C. C. Schroeder, P. Mable & Associates (Eds.), *Realizing the Educational Potential of Residence Halls* (pp. 22-52). San Franciso: Jossey-Bass.
- Pascarella, E., Terenzini, P. T., & Blimling, G. S. (1999). Students' Out-of-Class
  Experiences and Their Influence on Learning and Cognitive Development: A
  Literature Review. *Journal of College Student Development*, 40(5), 610-623.
- Pascarella, E. T., & Terenzini, P. T. (1980). Student-Faculty and Student-Peer Relationships as Mediators of the Structural Effects of Undergraduate Residence Arrangement. *Journal of Educational Research*, 73(6).
- Pascarella, E. T., & Terenzini, P. T. (1991). *How College Affects Students: Findings and Insights from Twenty Years of Research*. San Francisco: Jossey-Bass.

- Pascarella, E. T., & Terenzini, P. T. (2001). Student-Faculty and Student-Peer Relationships as Mediators of the Structural Effects of Undergraduate Residence Arrangement. *Journal of Educational Research*, 344-353.
- Pascarella, E. T., & Terenzini, P. T. (2005). How College Affects Students: A Third Decade of Research (Vol. 2). San Francisco: Jossey-Bass.
- Pasque, P. A., & Murphy, R. (2005). The Intersections of Living-Learning Programs and Social Identity as Factors of Academic Achievement and Intellectual Engagement. *Journal of College Student Development*, 46(4), 429-441.
- Phinney, J. S. (1992). The multi-group ethnic identity measure: A new scale for use with diverse groups. *Journal of Adolescent Research*, 7(2), 156-176.
- Picklesimer, B. K. (1991). The development and evaluation of life skills development inventory--college form. Unpublished Doctoral dissertation. University of Georgia.
- Pike, G. R. (1999). The Effects of Residential Learning Communities and Traditional Residential Living Arrangements on Educational Gains during the First Year of College. *Journal of College Student Development*, 40(3), 269-284.
- Pike, G. R. (2000). Assessment Measures Methodological Issues in the Assessment of Learning Communities. Assessment Update, 12(2), 14-15.

Pike, G. R., Schroeder, C. C., & Berry, T. R. (1997). Enhancing the Educational Impact of Residence Halls: The Relationship between Residential Learning Communities and First-Year College Experiences and Persistence. *Journal of college student development*, 38(6), 609-621.

- Pike, R. G. (1995). The Relationship between Self Reports of College Experiences and Achievement Test Scores. *Research in higher education*, 36(1), 1-21.
- Pike, R. G. (1996). Limitations of Using Students' Self-Reports of Academic Development as Proxies for Traditional Achievement Measures. *Research in higher education*, 37(1), 89-114.
- Reisser, L. (1995). Revisiting the Seven Vectors. *Journal of College Student* Development, 36(6), 505-511.
- Renn, K. A., & Arnold, K. D. (2003). Reconceptualizing Research on College Student Peer Culture. [Bronfenbrenner]. *Journal of Higher Education* 74(3), 261-291.
- Rice, N. D., & Lightsey, O. R. (2001). Freshman Living Learning Community:
   Relationship to Academic Success and Affective Development. *Journal of College and University Student Housing*, 30(1), 11-17.
- Sax, L. J., Bryant, A. N., & Harper, C. E. (2005). The Differential Effects of Student-Faculty Interaction on College Outcomes for Women and Men. *Journal of College Student Development*, 46(6), 642-659
- Schroeder, C., & Mable, P. (1994). Realizing The Educational Potential of Residence Halls. San Francisco: Jossey-Bass.
- Seifert, T. A., Pascarella, E. T., Colangelo, N., & Assouline, S. (2007). The Effects of Honors Program Participation on Experiences of Good Practices and Learning Outcomes. *Journal of College Student Development*, 48(1), 57-74.
- Shapiro, N. S., & Levine, J. H. (1999). Creating Learning Communities A Practical Guide to Winning Support.Organizing for Change and Implementing Programs.
  San Francisco: Jossey-Bass.

- Sproull, L. S. (1986). Using Electronic Mail for Data Collection in Organizational Research. *The Academy of Management Journal*, 29(1), 159-169.
- Straub, C. A. (1987). Women's development of autonomy and Chickering's theory. Journal of College Student Personnel, 28, 198-205.
- Straub, C. A., & Rodgers, R. F. (1986). An exploration of Chickering's theory. Journal of College Student Personnel, 27, 216-224.
- Super, D. E., Thompson, A. S., Lindeman, R. H., Jordaan, J. P., & Myers, R. A. (1981). *The Career Development Inventory (College and University Form)*. Palo Alto, CA: Consulting Psychologist Press.
- Terenzini, P. T., & Pascarella, E. (1994). Living with myths: undergraduate edcuation in America. *Change*, *26*(1), 280-285.
- Terenzini, P. T., Pascarella, E., & Blimling, G. S. (1996). Students' Out-of-Class Experiences and Their Influence on Learning and Cognitive Development: A Literature Review. *Journal of College Student Development*, 37(2), 149-162.
- Thach, L. (1995). Using Electronic Mail to Conduct Survey Research. *Educational Technology*, 35(2), 27-31.
- Thelin, J. R. (2004). *A History of American Higher Edcuation*. Baltimore: Johns Hopkins University Press.
- Tinto, V. (1993). Leaving College: Rethinking the causes and cures of student attrition (2nd ed.). Chicago: University of Chicago.
- Widick, C., Knefelkamp, L., & Parker, C. A. (1980). Student Development. In U.Delworth & G. R. H. a. Associates (Eds.), *Student Services A Handbook for the Profession*. San Francisco: Jossey-Bass.

- Winston, R. B., Miller, T. K., & Cooper, D. L. (1999). Student Developmental Task and Lifestyle Assessment. Retrieved October 25, 2008, from <u>http://sdtla.appstate.edu</u>
- Winston, R. B., Phelps, R. E., Mazzeo, S., & Torres, V. (1997). A short measure of students' autonomy development: The Georgia Autonomy Scales. *College Student Affairs Journal*, 17, 4-17.
- Zhao, C.-M., & Kuh, G. D. (2004). ADDING VALUE: Learning Communities and Student Engagement. *Research in Higher Education*, *45*(2), 115-138.