

ABSTRACT

Title of Dissertation: THE RELATIONSHIP OF DEMOGRAPHIC,
ASPIRATIONAL, SITUATIONAL, EMPLOYMENT,
AND COMMUTING FACTORS TO COMMUTER
STUDENTS' PERCEPTIONS OF MATTERING AT A
LARGE PUBLIC UNIVERSITY

Adrienne Hamcke Wicker, Doctor of Philosophy, 2004

Dissertation directed by: Associate Professor Marylu K. McEwen
Department of Counseling and Personnel Services

The purpose of this study was to explore the predictive ability of demographic, aspirational, situational, employment, and commuting blocks of variables to commuters' feelings of mattering at a large, public university. The relationship of these variables and mattering to GPA and overall satisfaction were also explored. Finally, this research developed psychometrically sound scales from the Student Satisfaction Inventory to measure aspects of the mattering construct.

Data for this study came from the 1999 administration of the Student Satisfaction Inventory to upperclass students in Professional Writing classes at the University of Maryland. Only students who indicated that they commuted to campus were included in the analyses.

Exploratory factor analyses ($N=646$) were employed to create three mattering scales: Positive Attention, Institutional Commitment to Diverse Populations, and Personalized Academic Advising. Blocked hierarchical regression ($N=524$) was performed to assess the relationship between race, gender, educational goal, institutional choice, class load, class level, resident life experience, college, employment status, location of employment, commute status, and commute distance to mattering. As secondary analyses, blocked hierarchical regression was again employed to examine the relationship between these variables and the mattering scales to GPA and overall satisfaction. Significance was set at $p < .05$.

Overall equations were significant for the Positive Attention and Personalized Academic Advising scales. Commute distance and type of commuter did not emerge in any of the analyses as significant predictors of mattering, GPA, or overall satisfaction. For the Positive Attention scale, the aspirational and situational blocks were significant. The only block with significant predictive capacity for the Institutional Commitment to Diverse Populations scale was the demographic one. For the Personalized Academic Advising scale, the aspirational and situational blocks were significant predictors. Overall equations were significant for GPA and overall satisfaction. For GPA, the demographic, aspirational, situational, and employment blocks of variables were significant predictors. For overall satisfaction, the aspirational and mattering blocks were significant predictors.

Implications from this research suggest that certain aspects of mattering are important in understanding commuter students' feelings of satisfaction with the university. Commuting specific aspects of students' experience, however, may not be as salient as attention to other variables.

THE RELATIONSHIP OF DEMOGRAPHIC, ASPIRATIONAL, SITUATIONAL,
EMPLOYMENT, AND COMMUTING FACTORS TO COMMUTER STUDENTS'
PERCEPTIONS OF MATTERING AT A LARGE PUBLIC UNIVERSITY

by

Adrienne Hamcke Wicker

Dissertation submitted to the Faculty of the Graduate School of the
University of Maryland, College Park in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
2004

Advisory Committee:
Associate Professor Marylu K. McEwen, Chair
Assistant Professor Karen Kurotsuchi Inkelas
Affiliate Associate Professor Barbara Jacoby
Associate Professor Karen O'Brien
Affiliate Assistant Professor Richard Stimpson

© Copyright by

Adrienne Hamcke Wicker

2004

DEDICATION

In memory of my mother,

Carol “Mike” Hamcke

1938-2002

ACKNOWLEDGEMENTS

Being pregnant with my second child during the final phase of this dissertation, I can't help but notice the similarities between this process and gestation and birth. During my entire doctoral career and especially through the writing of this dissertation, there have been a number of people who have taken on the mantle of academic midwife and doula. My deepest appreciation and gratitude to:

- My committee and especially my advisor, Marylu McEwen, for helping bring this baby into the world;
- Karen Douglas for staying by my side through all the data analyses;
- Sharon La Voy and the staff in the Office of Institutional Research and Planning for preparing my data set and answering random and sometimes panicked questions along the way;
- My family-in-law for the gift of hours of time to write without distraction from my beloved two-year old, Andrew;
- Steve Wicker, my husband, for cheering me on, keeping me laughing, and making sure this thing finally got done;
- My father for his love and support especially since the too-soon death of my mother;
- Finally, my son, Andrew, for bringing joy into my life every day.

TABLE OF CONTENTS

LIST OF TABLES	vi
Chapter I: Introduction.....	1
Mattering	3
Purpose of the Study	5
Research Questions.....	7
Definition of Terms.....	9
Summary.....	9
Chapter II: Review of the Literature.....	11
Commuter Students.....	11
Diversity of the Commuter Population	11
Common Needs and Concerns of Commuter Students.....	14
Research on Commuter Students and Effects of Commuting	18
Relationship of Commuting with Academic Success and Cognitive Development	26
Relationship of Commuting with Persistence and Retention	31
Relationship of Commuting with Student Engagement.....	36
Relationship of Commuting with Satisfaction with Student Services	39
Mattering.....	41
Theoretical and Empirical Foundation of Mattering	41
Components of Mattering	50
Operationalization of Mattering.....	54
Recent Research on Mattering.....	55
Employment.....	62
Summary.....	65
Chapter III: Methodology	66
Purpose.....	66
Hypotheses.....	68
Study Design.....	69
Institutional Context.....	72
Original Sample	72
Study Sample	73
Measures.....	75
Student Satisfaction Inventory.....	75
Derived Scales	78
Procedure.....	79
Data Preparation.....	80
Reconstruction of Variables.....	81
Development of Mattering Scales.....	84
Data Analysis.....	87
Summary.....	91

Chapter IV: Results.....	92
Exploratory Factor Analysis: Development of Mattering Scales	92
Hypothesis 1: Operationalization of the Mattering Concept	92
Sample A.....	93
Sample B.....	95
Multiple Regression Analyses: Exploration of Relationships Between Independent Variables and Mattering, GPA, and Satisfaction	101
Hypothesis 2: Relationship of Demographic, Aspirational, Situational, Employment, and Commuting Variables to Mattering.....	107
Hypothesis 3: Relationship of Demographic, Aspirational, Situational, Employment, Commuting Variables, and Mattering Scales to Cumulative GPA.....	114
Hypothesis 4: Relationship of Demographic, Aspirational, Situational, Employment, Commuting Variables, and Mattering Scales to Overall Satisfaction.....	117
Summary.....	120
Chapter V: Discussion	123
Interpretations of Findings.....	124
Mattering Construct	124
Relationship of Selected Variables With Mattering	127
Relationship of Mattering to Outcome Variables: Grade Point Average and Satisfaction.....	133
Summary	141
Limitations	144
Instrumentation	144
Sample.....	145
Method	146
Implications for Practice.....	147
Suggestions for Future Research	150
Summary.....	152
Appendix A: Student Satisfaction Inventory	154
Appendix B: Comparison of Participants Included and Removed from Regression Analyses	159
Appendix C: Brief Summary of Mattering for Expert Reviewers.....	161
References.....	163

LIST OF TABLES

Table 1: Items Selected from Student Satisfaction Inventory	71
Table 2: Demographic Information for Students in Study Sample.....	74
Table 3: Items Selected from Student Satisfaction Inventory by Reviewers as Relevant to Mattering.....	85
Table 4: Summary of Variables Used in Regressions	90
Table 5: Exploratory Factor Analysis and Factor Loadings on Sample A	94
Table 6: Exploratory Factor Analysis and Factor Loadings on Sample B	96
Table 7: Exploratory Factor Analysis and Factor Loadings on Total Sample.....	99
Table 8: Means and Standard Deviations of Items in Mattering Scales.....	100
Table 9: Means and Standard Deviations of Independent Variables with Mattering, GPA, and Overall Satisfaction.....	102
Table 10: Correlation Matrix of Variables Used in Study.....	104
Table 11: Summary of Regression Equation Predicting Positive Attention.....	109
Table 12: Summary of Regression Equation Predicting Institutional Commitment to Diverse Populations	111
Table 13: Summary of Regression Equation Predicting Personalized Academic Advising.....	113
Table 14: Summary of Regression Equation Predicting Cumulative GPA	116
Table 15: Summary of Regression Equation Predicting Overall Satisfaction.....	119

CHAPTER I

INTRODUCTION

Defined by the National Clearinghouse for Commuter Programs as students who do not live in institution-owned housing on campus (Jacoby, 1989), commuter students are a considerable majority of today's college student population. In fact, 84% of college students today commute to campus (National Center for Education Statistics, 2000). The reasons students commute to campus are varied. Although some commuter students might prefer to live on campus, others prefer to live off campus or simply do not have the option to live on campus due to financial or life obligations. Although commuters may indeed be the numerical majority, their experience is regularly shadowed by the residential traditions that have come to define a typical or standard college experience (Jacoby, 1989). Most faculty and administrators, resident students when they were in college, regard the residential experience as the norm (Jacoby, 1989). Movies, television, and books portray the undergraduate experience as residential. And, many faculty and staff are surprised when told that their campuses are predominantly commuter (Likins, 1986). As a result, "the residential philosophy – one that assumes students are traditional-aged, full-time, in pursuit of a degree, and campus-oriented – is the dominate [sic] perspective of many who are in higher education, including students" (Rockensies, 1995, p. 45). With such a vast number of students no longer having the "normative" residential experience, the time has come to develop a deeper awareness of the characteristics, needs, issues, and concerns of today's majority population – commuter students.

Unfortunately, relatively little empirical research on commuter students exists. What is available often compares commuters to resident students thus masking the complexity within the commuter population. Although important, this comparison-oriented research regularly results in a portrayal of the commuter experience as less than ideal. Data are often analyzed such that commuting to campus emerges as the problem to be solved rather than the institutional response to the reality, needs, and concerns of this significant population. This perspective further perpetuates the residential experience as the normative one, inhibits institutions of higher education from critically examining policies and practices from a commuter perspective, and continues to marginalize this major college student population.

Responding to the need for more empirical research about commuter students, this study, through the use of archival data, examined the experience of commuters at the University of Maryland, a four-year, public, research institution with a large commuter population. In particular, commuters' sense of mattering to the institution was examined. Specifically, aspects of the commuting experience (i.e., commute time, dependent/independent commute status), personal demographics of commuters (i.e., race/ethnicity, gender), aspirational variables (i.e., educational goal and institutional choice), situational variables (i.e., class load [full- or part-time status], class level, and college), and employment patterns (i.e., location and employment status) were studied to assess their relationship to mattering. As secondary analyses, the relationships between mattering and the outcome variables of grade point average and satisfaction were also explored. Grade point average is regularly examined by scholars as a measure of

academic success (Pascarella & Terenzini, 1991), yet no studies exploring the relationship between mattering and GPA exist. Similarly, little research about mattering and student satisfaction exists, even though understanding student satisfaction is often used as a direct measure of postsecondary success (Knox, Lindsay, & Kolb, 1992). Because commuters represent a majority of the student population both at the University of Maryland and nationwide, the focus of this study was on the experience of commuter students and the diversity within that population rather than in comparison to residential students.

Mattering

Mattering, as defined by Rosenberg and McCullough (1981), is the “direct reciprocal of significance” (p. 163). In psychological terms, mattering is a function of how the self (I) perceives his or her importance to the other (You). That is, how important do I feel I am to you? Rosenberg and McCullough are recognized as the initiators of this field of study; however, it is Nancy Schlossberg who has brought this common sense but deeply influential concept to the world of higher education. Suggesting that a strong connection exists between mattering and typical areas of concern in student affairs such as involvement, community, satisfaction, and retention, Schlossberg (1989) wrote “...for whether they [students] are traditional or nontraditional, gifted or average, male or female, all students are concerned about belonging and mattering” (p. 14).

Mattering is a particularly salient dimension of study in regard to commuters for they are regularly marginalized by institutional history and practice (Jacoby, 1989). Faculty who suggest that students unravel a difficult assignment in the residence hall

after class, student groups who hold regular meetings in the evening hours, administrative offices that are not open all day or for extended hours, and university publications that refer to resident students as “we” and commuter students as “they” are just a few examples of practices that marginalize commuter students by implying that they do not matter to the institution. In addition, without the structures typically provided through residential services and programs that offer formal and informal opportunities for socializing, information acquisition, and involvement, commuter students must work harder to develop a sense of belonging to the university.

Examining the degree to which commuters feel that they matter allows for a fresh perspective on the commuting experience. A review of the commuter literature reveals that most studies examine either how commuters compare to their residential peers or how commuting relates to particular outcomes such as grade point average, cognitive growth, and social development. Although these are certainly important avenues for consideration, exploring commuters’ sense of mattering to the institution helps to shift the frame of reference away from commuting culpability and toward institutional responsibility. Furthermore, analyzing commuters as a distinct group rather than in comparison to residents allows for an in depth exploration of the commuting phenomenon. With over three quarters of today’s college students commuting to campus (National Center for Education Statistics, 2000), an exploration of their experiences as a unique population is warranted.

Only one published instrument exists to measure mattering, The Mattering Scales for Adult Students in Higher Education (Schlossberg, Lassalle, & Golec, 1990). This

instrument is designed to examine the experiences of undergraduate students 23 years of age or older. No instrument exists to measure mattering among traditional age college students.

Purpose of the Study

Even though commuter students are a numerical majority (Jacoby, 1989; National Center for Education Statistics, 2000), the amount of research on this population is surprisingly limited. Conducting research on a population that is very diverse, constantly in motion, and generally not as “captive” as residential students is and has been difficult (Knefelkamp & Stewart, 1983; Likins, 1991). This has, unfortunately, left student affairs professionals with a dearth of information and resources to assist in serving and enhancing the experience of these students. Similarly, no published studies exist exploring whether or how much commuters feel that they matter to their institutions, although one study examining commuters’ feelings of marginality was discovered (Kodama, 2002). This dissertation offers new, important, and useful information about the experience of some of today’s commuter students. In addition, through creation of a mattering scale, this study operationalized the mattering concept for traditional-age college students.

The framework used to guide the selection and grouping of variables for this study was Astin’s Input-Environment-Outcome (I-E-O) model of assessment (1991). This model posits that “any educational assessment project is incomplete unless it includes data on student inputs, student outcomes, and the educational environment to which the student is exposed” (p. 18). Inputs describe characteristics students bring to

the institution. Environmental influences refer to the breadth of experiences that occur at the institution. And outcomes describe student characteristics after exposure to the environment.

In this study, input data included variables assessing commuter students' demographic characteristics, specifically race/ethnicity and gender, and aspirations regarding educational goal and institutional choice. Environmental data included the situational variables of class load, class level, college, resident life experience as well variables about employment and commuting. Finally, mattering operated as both an outcome and an environmental variable. First, it was treated as an outcome variable assessing the degree to which commuter students experienced feelings of mattering to the institution. Then, in secondary research questions, it was treated as an environmental variable in addition to the others to determine its relationship to the outcome variables of GPA and overall satisfaction.

To operationalize the mattering concept, this study used exploratory factor analysis to derive mattering scales from selected items on the Student Satisfaction Inventory (Schreiner & Juillerat, 1994). Then, multiple regression was employed to determine the predictive capacity of five blocks of variables (demographic, aspirational, situational, employment, and commuting) to students' feelings of mattering. In addition, the predictive capacity of mattering on satisfaction and GPA was also explored.

This research project considered the experience of commuter students at the University of Maryland in regard to their feelings of mattering to the institution. This study used archival data from the 1999 administration of the Student Satisfaction

Inventory (Schreiner & Juillerat, 1994) to juniors and seniors in a required Professional Writing course at the University of Maryland. The demographic makeup of the total 1,433 participants closely mirrored the overall student body at this university suggesting that it was a representative sample. For this study, only students who indicated that they did not live on campus were included in analyses. The original sample size for this study was 867, representing 61% of the original sample. With elimination of cases, the sample size for the factor analyses was 646 and for the regression analyses was 524.

Research Questions

The following questions guided this research:

1. Can a set of items from the Student Satisfaction Inventory be supported statistically to form a scale or scales that assess mattering?
2. How well do the sets of demographic variables (i.e., race/ethnicity and gender), aspirational variables (i.e., educational goal and institutional choice), situational variables (i.e., class load [full- or part-time status], class level, resident life experience, and college), employment variables (i.e., location and employment status), and commuting variables (i.e., commute time and dependent/independent commute status) contribute to an understanding of mattering?
3. As a secondary analysis, how well does mattering contribute to an understanding of grade point average over and above the blocks of demographic variables, aspirational variables, situational variables, employment variables, and commuting variables?

4. As a secondary analysis, how well does mattering contribute to an understanding of satisfaction over and above the sets of demographic variables, aspirational variables, situational variables, employment variables, and commuting variables?

Definition of Terms

In any research endeavor, it is important to clearly define the terms used throughout the process. The following definitions were used for this research:

Commuter student: A college student who does not live in institution-owned housing on campus (definition used by the National Clearinghouse for Commuter Programs) (Jacoby, 1989).

Dependent commuter student: A commuter student who lives “at home with parents or a close relative who assumes parental responsibilities” (Rue & Stewart, 1982, p. 8).

Independent commuter student: A commuter student who does not live at home with parents or guardians. An independent commuter student may share or live alone in an apartment, house or other dwelling (Rue & Stewart, 1982).

Mattering: The feeling that others depend on us, are interested in us, are concerned with our fate, experience us as an ego-extension, or appreciate us (Rosenberg & McCullough, 1981; Schlossberg, 1989).

Chapter III provides a detailed explanation of how these definitions were operationalized for this study.

Summary

This chapter offered an initial overview of this study. A brief highlight of pertinent literature formed the basis for this chapter followed by a discussion of the significance and purpose of this study. Research questions were posed as well as salient terms defined. Chapter II, which provides an in depth analysis of the literature on commuter students and mattering, further confirms the need for new research on both of

these topics on their own as well as in relation to one another. Chapter III details the methodology for this dissertation. Chapter IV presents the results of the statistical analyses, and Chapter V analyzes the meaning of these findings and suggests implications and avenues for further study.

CHAPTER II

REVIEW OF THE LITERATURE

This chapter provides a review of the literature relevant to this study. In particular, literature, research, theories, and concepts about commuter students, mattering, and student employment are summarized and reviewed.

Commuter Students

This portion of the literature review serves to deepen the reader's understanding of commuter students including the variety in the population and some needs and concerns common among students who commute. In addition, a review of the relatively sparse literature on the effects and impacts commuting has on college students' experiences and outcomes is offered. Even though these effects and impacts are not directly relevant to this study, no research specifically linking commuters and mattering exists. Thus, this portion of the literature review offers a broad analysis of the commuter literature.

Diversity of the Commuter Population

The nationally used definition of commuter students – students not living in institution-owned housing on campus (Jacoby, 1989) – is necessarily broad. Like most classifications it provides a broad-brush perspective that is effective in offering a label for a group of students but ineffective in explaining the great diversity within this majority population. Rue and Stewart (1982) highlighted this problem stating that:

...commuters are made up of a number of different subgroups, and not all subgroups are represented on each campus. Adding to the confusion is the fact

that different subgroups are distinguished by characteristics which have important implications for the kinds of services they require. (p. 8)

In an attempt to distinguish the finer elements of the commuter population, Rue and Stewart (1982) devised a matrix consisting of three variables each with two components resulting in “eight distinctly different types” (p. 9) of commuter students. The first of these variables is derived from where (or more accurately, in what situation) a student lives. Its two components are dependence and independence. Rue and Stewart (1982) described dependent commuters as those who live “at home with parents or a close relative who assumes parental responsibilities” (p. 8). Independent commuters, on the other hand, are those who “live on their own; they may share an apartment or house, have a place to themselves, or even live in Greek housing” (Rue & Stewart, 1982, p. 8). The next variable, age, is broken down to traditional and non-traditional. Rue and Stewart defined non-traditional students as those who are “25 or older....usually, these are students who have had a break in their education and have returned to school. They may, in fact, have a spouse [or partner] or children” (1982, p. 8). The final variable is enrollment status -- full- or part-time. Rue and Stewart suggested that “although this is defined differently in terms of number of credit hours at different schools, it is a reflection of what else may be going on in a student’s life” (1982, p. 9). When these variables are connected together eight unique types of commuter students emerge:

1. dependent, traditional, full-time
2. dependent, non-traditional, full-time
3. dependent, non-traditional, part-time

4. dependent, traditional, part-time
5. independent, non-traditional, full-time
6. independent, traditional, full-time
7. independent, traditional, part-time
8. independent, non-traditional, part-time

Recognizing that these variables are a bit dry, a few descriptions may be helpful. Kerry, 18 years old, is a first-time full-time freshman who lives at home with her parents (full-time, dependent, traditional commuter); Juan, 35 years old, is married and a father of three children, works full-time, and takes one class each semester (part-time, non-traditional, independent commuter); Ting, 21 years old, lives with her partner and takes a full-load of classes (full-time, traditional, independent commuter).

Rue and Stewart's (1982) matrix is a helpful tool in understanding the complexity of the commuter population, however, their distinction of dependent and independent requires some discussion. Unfortunately, the terms dependent and independent are also the terms designated by the U. S. Department of Education to describe the financial status of students (Dependency Status, U.S. Department of Education, 2000). Independent students are generally those who pay for their own education, file their own taxes, and cannot be claimed as a dependent on a parent's or guardian's taxes. Dependent students are those who can be claimed as a dependent on another's taxes and are generally financially dependent on another to pay for college tuition and other expenses. The combination of these terms can create confusion. For example, a financially dependent commuter may live on his or her own in an off-campus apartment where the rent is paid

for by parents. This student would be classified an “independent” commuter even though he or she is not financially independent. Another example is a student who lives with parents or relatives to save money but is technically financially independent. Because he or she lives “at home,” he or she would be considered “dependent.” Unfortunately, no other terms have been used in the literature to distinguish commuters by their living arrangements, thus, the Rue and Stewart (1982) housing-related definitions of dependent and independent were followed in this study.

Rue and Stewart’s (1982) model is also dated. Dimensions of demographic and identity difference such as race, gender, sexual orientation, and ethnicity are absent from this matrix. In addition, variables such as commute distance and type and status of employment are also relevant student characteristics that impact the experience of commuter students (Jacoby, 1989; Wilmes & Quade, 1986).

This dissertation examined the experiences of dependent and independent, traditional-aged, full- and part-time students. In addition, the variables of race, gender, commute distance, type and duration of employment, educational goal, institutional choice, class load [full- or part-time status], class level, college, resident life experience, satisfaction, and GPA are included in the analyses.

Common Needs and Concerns of Commuter Students

With the great diversity of the commuter population, student affairs practitioners often struggle to find ways to meet the needs of this heterogeneous population. In 1986, Wilmes and Quade proposed a set of needs and concerns that were common among

commuter students regardless of their age, living situation, or enrollment status. They suggested that:

a set of shared circumstances that impact most commuters emerges. All commuters must deal with issues related to mobility. Additionally, commuters frequently share a struggle related to having multiple life roles, finding and integrating systems of support, and developing a sense of belonging on their campuses. (p. 26)

Each of these needs and concerns is discussed below.

Mobility/transportation. Getting to campus is probably the most obvious concern for commuter students. Associated issues such as “inclement weather, car maintenance, finding alternative forms of transportation, and transportation expenses” (Wilmes & Quade, 1986, p. 26) are also concerns for students who do not live on campus. Beneath the surface of these concerns, however, lies an issue of greater importance, “the impact that the time spent commuting has on other aspects of the college experience” (Wilmes & Quade, 1986, p. 26). Navigating between home, school, and possibly work is demanding and requires commuter students to be planful and efficient with their time. As a result, many commuters concentrate their academic schedules into discrete time blocks that leave little time for “hanging out, meeting people, or taking advantage of other nonclassroom-centered opportunities that exist on campus” (Wilmes & Quade, 1986, p. 26). Even though students who live far enough away to have to drive or use public transportation may have greater transportation challenges than students who live close enough to walk to campus, one of the common consequences of these mobility concerns

is that “commuters may lack important information about the campus, its resources, and the points available to them for involvement” (Wilmes & Quade, 1986, p. 26).

Multiple life roles. Referring to commuters as “reinvented students,” Keeling (1999) suggested that “student is only one identity for people who are also employees, wage workers, opinion leaders or followers, artists, friends, children...parents, partners, or spouses” (p. 4). Being a college student is for many commuters just one aspect of their life. Multiple life roles translate into a complex life with many demands on time and energy. Often, commuters must make decisions between “taking an exam or caring for a sick relative or between responding to a critical deadline at work and attending class” (Wilmes & Quade, 1986, p. 27). It is the demands and responsibilities of these multiple life roles that can lead students to decide not to become involved in campus programs and events.

Integrating support systems. With many life roles, commuter students often have various support systems, most of which operate outside of the college campus. “Parents, spouses, children, employers, high school friends, [and] coworkers” (Wilmes & Quade, 1986, p. 27) are examples of these support systems. Finding ways to integrate these support systems into one’s college experience is a significant task for commuter students. Wilmes and Quade suggested that:

...upon entering college many commuters experience a dissonance between their new and old worlds that is difficult to overcome. Each semester negotiations with family, employers, and friends are required to establish priorities, time commitments, and responsibilities. (p. 27)

At the very least, these negotiations take time and energy away from the demands of the college experience. In addition, commuters who live and work with others who are unfamiliar or unsupportive of higher education must manage yet another set of issues – “instead of receiving understanding and support for new roles on campus, the commuter may encounter the increased stress of needing to explain and justify them at home and at work” (p. 27). Integrating these support systems into their college experience is a helpful way for commuter students to bridge the gaps among their multiple worlds. However, institutions rarely provide opportunities for this important integration (Wilmes & Quade).

Developing a sense of belonging. Managing the demands of commuting, multiple life roles and support systems are challenges enough for commuter students.

Unfortunately, however, they also encounter the challenge of feeling a sense of belonging on the campus to which they commute (Wilmes & Quade, 1986). Through subtle and obvious messages, commuter students can feel that they are not welcome and that their needs and concerns are not worthy of attention. Stereotypes that commuters are not “real students,” group study sessions planned in the evening after commuters have left campus, and programs held in residence halls where commuters cannot enter because they do not have a key are examples of ways institutions damage commuters’ sense of belonging to the institution. Commuters are regularly denied the mechanisms to establish a healthy sense of belonging and connection with their institution.

Each of these needs and concerns is embedded in the experience of commuting to college. However, this research study directly explored the relationship of transportation and mobility on commuters’ sense of mattering to the institution. How mattering and

satisfaction are related to commutes of varying lengths was analyzed. In addition, the relationship of on- and off-campus employment to mattering was also explored.

Developing a sense of belonging to an institution fosters feelings of mattering. This notion was explored in the development of the mattering scale.

Research on Commuter Students and Effects of Commuting

As previously mentioned, there is relatively little research about commuting and commuter students and no studies about commuters and mattering. Most of the existing studies examine the relationship of commuting to different aspects of the college experience. Some examine curricular aspects such as grade point average and academic success, others explore co-curricular elements such as involvement, and still others peruse concepts such as persistence and retention. The findings of each study differ yet a shared component of many of them is an analysis of data that paints the commuter experience as less than ideal (that ideal being living on campus). Although the findings of some of these studies have limited direct implication for this research, they are summarized here in order to acquaint the reader with what is known about commuter students.

Noteworthy perspectives: Arthur Chickering and Alexander Astin. It is important to begin this portion of the review with an analysis of three dated yet significant pieces of literature. Even though these works are over 20 years old, they represent the foundation upon which the commuter literature rests. The findings of these studies by Arthur Chickering and Alexander Astin were the first works to examine commuter students as a distinct student population. Although neither Chickering nor Astin used the terms

dependent and independent to describe the different living arrangements for commuters, these descriptors are used throughout this review for clarity.

In 1974, Chickering published *Commuting versus Resident Students*, a seminal work that brought commuter students into the higher education spotlight. A significant work based on a sample of first-time, full-time freshmen from multiple institutions, this book established an unfortunate perspective where “the residents are the haves and the commuters, the have nots” (Chickering, 1974, p. 49). Using data gathered from first year students in 270 two- and four-year colleges and universities, Chickering discovered significant differences between commuters and residents at time of entry, with college experiences, and regarding educational outcomes. A historical caution is warranted here. Chickering’s sample is diverse and large, yet it is not known how readily available samples of non-resident students were nor how common it was for students to live off campus in rented space not with family. No national figures were reported in Chickering’s work, thus it is difficult to envision either how prevalent the commuting phenomenon was in the early 1970s or how similar or dissimilar it is to today’s experiences of commuting to campus.

The pre-college characteristics of the aggregate sample indicated marked differences between commuters and residents (Chickering, 1974). At time of entry, the data indicated that: the parental background characteristics of students (e.g., highest degree obtained, income) were lower for commuters; high school grade point averages were lower for commuters; residents had more high school achievements; more commuters than residents applied only to the college they attended; and more commuters

planned to stop their education with an associate degree while more residents indicated plans to obtain a master's degree. A different picture existed, however, among commuters and residents in public four-year institutions. Chickering found that:

In these institutions parents' educational background, occupation, and income are similar for residents and commuters. But, contrary to the usual pattern, commuters have more liberal attitudes concerning federal policies and social issues, higher grade point averages in high school and more of the academic honors and recognition that accompany superior academic performance... [and] the degree plans and long-run objectives of residents and commuter public colleges are similar. (pp. 50-51)

Chickering examined the college experiences, particularly "student change during the freshmen year" (p. 54), of this substantial sample. Using a random sample of the total 26,806 students who completed the initial and follow-up surveys, Chickering discovered that:

Residents are more frequently supported by parental aid and repayable loans. They are more frequently involved with fraternities and sororities and more often participate in intramural athletics and in various social activities....The [residents] plan to return to the same college and to be full time students more frequently than their commuting peers. Commuters more often finance their education through personal savings and employment. (p. 54)

In addition, his findings suggested that the experience of commuters who lived in a private home or apartment was more similar to commuters who lived at home than to residential students.

These findings are striking; however, one must question Chickering's (1974) sampling procedure. Despite the fact that he did use a random sample of roughly one-fifth of the total sample, his distribution among the different living groups is skewed with over 75% of the sample in the resident category. Moreover, within the scant 24.2% remaining, only 3.7% were independent commuters. Unfortunately, Chickering drew some powerful conclusions about the commuter student experience from a skewed sample distribution.

Analysis of the total sample yielded some distinctions between "commuters who live at home" (Chickering, 1974, p. 55) (dependent commuters) and "students who live in private off-campus housing" (p. 55) (independent commuters). However, Chickering noted that "score differences among the three groups of students who were tested were not great" (p. 55). Dependent commuters had lowest scores on items regarding extracurricular activities and had least frequent interaction with teachers both in and out of the classroom. Independent commuters were least satisfied with the college experience and were least likely to return to school full time. Overall, Chickering contended that there were "consistent differences in commuter-resident experiences and activities despite major variations in institutional size and selectivity" (p. 57).

Finally, Chickering (1974) examined changes during the freshman year and four-year educational outcomes. Data from entry and follow-up surveys indicated that both

dependent and independent commuters less frequently planned to return to college or attend full time in their second year. They also had less faculty contact and were less involved in activities with other students. The bleakest picture Chickering painted was for dependent commuters:

After one year in college, when compared with students who live in college dormitories, students who live at home with their parents are less fully involved in academic activities and in extra-curricular activities with other students, rate themselves lower on a variety of abilities and desirable personal characteristics, [and] are less committed to a diverse array of long range goals. (p. 68).

Independent commuters, on the other hand, “presented a mixed picture” (p. 69) and had scores falling between residential students and dependent commuters. All commuters, however, reported lower satisfaction than residents.

The pattern for four-year educational outcomes was similar to all the previous patterns – commuters, particularly dependent ones, fared the worst while residents achieved higher levels of self-concept, degree attainment, and generally exceeded all predictions. Chickering (1974) summarized:

Perhaps the most striking thing about these diverse studies is the consistency of the results. Whatever the institution, whatever the group, whatever the data, whatever the methods of analyses, the findings are the same....Commuters and residents begin their college careers with an unequal start which strongly favors the residents. The gap between them grows. Residents have access to, find, and are forced to encounter diverse experiences and persons who spur them on their

way. Access, discovery, and encounter occur much less for commuters and they continue in circumstances that add weights to their preexisting handicaps. Thus the major consequence of American higher education as it currently functions for commuters and residents is to increase the distance between them. (pp. 84-85)

So what can be done to decrease this gap between commuters and residents?

Unfortunately, Chickering's (1974) solution to "make residential experiences part of the fabric of education" (p. 10) is a simplistic and shortsighted answer to a complex issue.

The focus on maintaining and even enhancing residential experiences neglects the reality of the commuter student who may not be willing or able to have a residential experience due to family or work obligations. Designing ways for the commuting experience to resemble more closely a residential one is analogous to forcing a square peg into a round hole. Sadly, this ground breaking study and Chickering's accompanying suggestions for change further perpetuate the notion that commuters and commuting are the problems rather than the deeply-ingrained residential tradition that no longer adequately serves a changing student population.

Alexander Astin's 1975 work, *Preventing Students from Dropping Out*, paints a similarly bleak picture for commuter students. Analyzing data collected annually during the 1960s through the Cooperative Institutional Research Program (CIRP), Astin suggested that the first year students who lived on campus were less likely to drop out of school by almost 10%. Further analysis yielded results that dependent commuters, those who lived at home with parents, fared worse than residential students. However, when dependent and independent commuter students were compared to one another, Astin

found that “regardless of type of institution, living in a private room or apartment rather than with parents is beneficial to men and detrimental to women” (pp. 93-94).

Examination of residence arrangements for the first two years of college yielded even more negative findings for commuter students. Students who lived on campus or in Greek housing showed the best rates of persistence; students who began as dependent commuters and then moved on campus had increased rates of persistence; and, students who lived on campus the first year and moved back home had a dramatic increase in dropping out (Astin).

Unfortunately, Astin’s (1975) study presumes the cause of these discouraging findings to be commuting to campus. However, might other factors such as family commitments, work responsibilities, or pre-existing differences be at play? Or, more importantly, how might institutional policies and structures that unwittingly favor and support residential students confound the results of this work?

In 1977, *Four Critical Years*, Astin’s analysis of 10 years of CIRP data, was published. Like his previous work and that of Chickering, this study outlined a gloomy picture about students who commute to campus. Using data from over 200,000 students from 300 different institutions and follow-up surveys to randomly selected participants four years later, Astin collected information on outcomes, personal characteristics, and student predictions. Like the findings in 1975, these data suggested that living off campus is detrimental to persistence. Living on campus “adds about 12 percent to the student’s chance of finishing college” (Astin, 1977, p. 109). Residential students were also more apt to aspire toward advanced graduate or professional degrees. Commuters

were less likely than their residential counterparts to achieve in extracurricular areas and had lower grade point averages. Finally, residents were more satisfied with their college experience, “particularly in the areas of student friendships, faculty-student relations, institutional reputation, and social life” (p. 221).

Like Chickering, Astin’s (1977) solution for remedying these resident/commuter discrepancies was to “simulate the residential experience so that students would spend more time on campus and interact more with faculty and fellow students” (p. 133). He challenged institutions, commuter colleges in particular, to use their “ingenuity and resourcefulness” (p. 133) to find ways to replicate residential living for commuters. Again, the residential experience is regarded as the norm and ideal to which all students must aspire.

In 1993, Astin revisited his studies of college impact in *What Matters in College*. Using CIRP data from 1985 and a follow-up questionnaire administered to those 20,000 students in 1989 and 1990, Astin collected data on almost 200 variables including environmental characteristics, behavior patterns, student development, and satisfaction. Like his findings in 1977, results from this study portray commuting as a negative factor. A thorough examination of this book yields not one positive outcome of commuting. Commuting is a negative correlate for a host of items including satisfaction with undergraduate experience, general educational development, cognitive and affective development, institutional retention, degree attainment, enrollment in graduate school, leadership skill development, and interpersonal skill development. In addition, Astin’s data suggest that commuting is just plain unhealthy:

Commuting also has negative effects on self-ratings of emotional health and positive effects on feeling depressed and feeling overwhelmed. Apparently, substantial commuting seems to raise the level of stress experienced by undergraduate students. (p. 391)

These findings, along with Astin's analysis and suggestions for change, are discouraging. He wrote:

There are also certain identifiable practices that seem to have negative impacts on students' cognitive and affective development practices: watching television, taking multiple-choice exams, working full-time, working off campus, and commuting. Discouraging or minimizing such activities will not only enhance learning but also reduce the dropout rate. (p. 424)

Encouraging students to turn off the TV is one thing; suggesting that they stop working and commuting is an unrealistic other. Full-time employment, working off campus, and commuting are realities for many of today's college students (National Center for Education Statistics, 2000). Astin's suggestion that an answer to retention problems is to encourage students to work and commute less reflects the deeply ingrained residential preference of many student affairs professionals and scholars.

Relationship of Commuting with Academic Success and Cognitive Development

An obvious outcome of interest for professionals in higher education is academic success (Pascarella & Terenzini, 1991). Are students succeeding in the cognitive, intellectual, and academic areas? In addition to Astin's (1977, 1993) work, a few other studies have examined the relationship of commuting to these variables. Interestingly,

findings from these studies almost always demonstrated that there were no significant differences between students who live on campus and those who commute in regard to academic success and related outcomes – a striking departure from Astin’s conclusions.

Using data from several years of the Cooperative Institutional Research Program, Pascarella (1985) tested a complex model of pre-enrollment characteristics, institutional characteristics, campus residence, and academic and social integration in an attempt “to explain the influence of on-campus living on intellectual and interpersonal self-concept” (p. 293). Analyzing data from almost 9,500 students from 100 different types of institutions, Pascarella found that living on campus had no direct effects on educational aspirations, satisfaction, progress to degree, and persistence. The impact of living on campus was indirect in all areas except social integration and involvement with peers and faculty. Academic integration was not affected by living situation. Pascarella summarized that “the influence of resident status was at best indirect, mediated through levels of student interaction and involvements with major agents of socialization on campus (i.e., faculty and other students)” (p. 295).

A few significant cautions are worth noting about the sample upon which Pascarella’s study was based. The entire sample was “nonminority” (Pascarella, 1985, p. 293), included only full-time students, and of the commuters, only dependent commuter students were included. How might outcomes be different for independent commuter students or for students of color who commute? Would place of residence remain a non-significant influence on the host of outcomes examined? Unfortunately, this study does not answer those intriguing questions.

In 1993, Pascarella along with several other researchers again explored the relationships between campus residence and cognitive development. Using a “pretest-posttest, quasi-experimental design” (Pascarella et al., p. 217), the authors collected data from 210 first year students as they entered a large, Research I, primarily commuter institution and again the following year. Specifically, data were collected regarding students’ reading comprehension, mathematics skills, and critical thinking using a portion of the Collegiate Assessment of Academic Proficiency. Although the sample consisted of more commuters than residents (170 commuters and 40 residents), the researchers stated that the sample “was reasonably representative of the institution’s population of freshman students” (p. 217).

Employing scaled scores in order to account for the tendency of regression toward the mean evidenced during pre- and post-testing, Pascarella et al. (1993) used analysis of covariance to examine freshman-year gains in reading comprehension, mathematics, and critical thinking. The critical thinking scale demonstrated a significant difference ($p < .01$) between residents and commuters with residents showing larger freshman-year gains. Illustrating the strength of this finding, the researchers noted,

...the larger covariate-adjusted critical-thinking gains demonstrated by residents occurred despite the fact that residents also had somewhat higher Fall, 1991 scores on the variable than commuters. This is contrary to what would be expected by regression-to-the-mean and adds further credibility to the proposition that the results represented actual net residence-status effects rather than statistical artifacts. (p. 218)

Pascarella et al. (1993) drew a strong conclusion from these findings. Given that the mathematics and reading comprehension variables were non-significant and that critical thinking was significant, they suggested that “residential living may be most influential in fostering cognitive growth in areas that are not closely linked to specific course or curricular experiences” (p. 219). They noted that this analysis is consistent with other research that suggests “growth during college is fostered not just by coursework and academic involvement, but also by social and intellectual interaction with peers and faculty” (p. 219). Oddly, in their discussion of this conclusion, they emphasized first that professionals develop more residence hall programming and, almost as an afterthought, that the “educational equivalent of the residential experience” (p. 219) be brought to commuting students. Once again, commuter students were the have nots.

Another study exploring the relationship between residence and academic achievement, conducted by Bowman and Partin (1993), also demonstrated no significant differences between commuters’ and residents’ grade point average. Using a stratified random sample of 80 first year students, evenly split between commuters and residents, the authors analyzed official university data about these students regarding their second-semester GPA and ACT scores. T-test analyses yielded no significant differences between the two groups on either GPA or ACT scores. In addition, there were no significant differences by sex. Bowman and Partin pointed out that “while the grade point average of on-campus students was higher, it was not a statistically significant difference” (p. 75). A drawback of this study, as noted by the authors, was the grouping of commuter students into one category, ignoring potential differences between

independent and dependent status. In fact, they recommended further research using these more narrow distinctions.

Wolfe (1993) also found no significant differences between residents' and commuters' GPAs. Examining the effects of a first-year intervention, The Freshmen Center, on several variables, Wolfe explored differences between commuters and residents involved in this program with a random selection of residents and commuters not involved in the intervention. She administered an instrument called the First-Year Student Questionnaire, which included items on institutional integration, peer-group interactions, academic development, and institutional commitment. A MANOVA was employed to examine the relationship between resident and commuter groups and the dependent variables of academic integration, social integration, commitment, and academic success. Only social integration emerged as statistically significant ($p < .001$) across the sample groups. Once again, the commuting variable did not arise as a significant contributor to or detractor from academic success.

Fleming's (1984) research comparing Black and White students at historically Black institutions and predominantly White institutions offered an interesting perspective on the effect of commuting. An examination of freshmen and seniors at seven historically Black institutions and 11 predominantly White institutions, Fleming's work offered new insights into the experience of Black students in college. Most relevant to this dissertation is her finding that at the University of Houston, a large urban institution with a substantial commuter population, Black students who commuted were better able to focus their attention on learning and knowledge. Fleming suggested that "if many

students are able to leave campus and return to a family atmosphere supportive of their goals, the effect of racism and isolation may be lessened.” (p. 176).

Finally, in contrast with the previously reviewed studies, Giles-Gee (1989) found that commuting “exhibited a negative relationship with GPA” (p. 199). Although the primary purpose of Giles-Gee’s study was to analyze the effectiveness of a grant-funded initiative that provided individualized academic advising for the first-time Black freshman cohort of 1986 at a state-supported predominantly White, Carnegie I institution, she also examined variables including residence status, employment, and organizational involvement. The findings for these variables were based on a survey administered to participants one month into the advising program. Unfortunately, only 33 students returned the survey, resulting in a low response rate of 26%. In addition, although Giles-Gee reported a negative correlation between GPA and commuting, she did not report the exact statistics. Thus, although these findings provide important information about the experience of Black students who commute, they should be interpreted with caution.

Relationship of Commuting with Persistence and Retention

Retention of students in college is a popular topic among many researchers. However, relatively few studies exist which examine the interplay of commuting to school on student retention. In this examination of the literature only a handful of studies emerged. These studies are reviewed here.

Perhaps the most notable retention scholar is Vincent Tinto. In both the first and second editions of *Leaving College* (1987, 1993), Tinto synthesized the literature and research on student attrition, proposed a model of student attrition, and offered a course

of action for increasing student retention in higher education. Tinto's work is unique and important for it focuses attention not on the student as the problem or weak link, but on the "role institutions play in influencing the social and intellectual development of their students" (1993, p. 4). His work on developing a "theory of individual departure" (Tinto, 1993, p. 84) is most salient for this study.

Recognizing the multiple roles and accompanying demands of commuter students, Tinto (1993) accurately described the experience of commuter students:

...going to college is but one of a number of obligations they have to meet during the course of a day. In these situations, the demands of external communities and the obligations or commitments they entail may work counter to the demands of institutional life. When the academic and social systems of the institution are weak, the countervailing external demands may seriously undermine the individual's ability to persist until degree completion. In a very real sense, students may be "pulled away" from college attendance. (p. 109)

Tinto's (1993) theory of individual departure assumed that students exist in a variety of communities and that external events and forces can be as powerful as institutional ones. Describing the institutional communities as internal ones and others as external, Tinto recognized the power of these external communities to help or hinder commuter students' success and retention in college. The force of his model, however, lies in his recognition that it is the internal or institutional community that has the most influence on students' persistence. No longer viewing commuting as a detrimental force that must be overcome, Tinto places responsibility squarely on the institution to meet the

needs of its students. He wrote, “most voluntary departures from college reflect more what goes on within college following entry than it does either what has gone on before entry or what takes place outside college” (p. 129).

Although the focus of this dissertation is not on retention, a summary of Tinto’s (1993) principles of effective retention provides a framework for understanding the role institutions play in helping students succeed. These principles mirror in many ways the concepts of mattering and are therefore pertinent to this research. His first principle, institutional commitment to students, calls for institutions to “put student welfare ahead of other institutional goals” (p. 146). This calls for a caring about students and an attention to their needs, concerns, and well-being. This “ethos of caring” (p. 146) helps students feel that they belong and are connected to their institution. This could be synonymous with mattering. Many institutions, however, can fail to attend to this first principle in a comprehensive way by intentionally or unintentionally attending to the needs of resident students over commuters. Tinto described his second principle, educational commitment, as a derivation of the first such that the institution is “committed to the education of all, not just some, of their students” (p. 146). Commitment to education occurs throughout the institution but most prominently in the classroom (Tinto). For commuter students, the classroom is particularly relevant for it may be the only place or manner in which they engage with the institution. By providing opportunities for student learning and avenues for frequent feedback, institutions demonstrate their commitment to education and consequently to students. The third principle, social and intellectual community, calls for the “development of supportive

social and educational communities in which all students are integrated as competent members” (p. 147). Ensuring that commuter students are integrated as full members of these communities is essential to their retention, success, and feelings of mattering (Jacoby, 1989). Too often, commuters are left out of the institutional communities because of other personal and community obligations (Wilmes & Quade, 1986). Tinto would suggest that an institution dedicated to effective retention would discover ways to integrate the multiple worlds of commuter students.

Pascarella and Terenzini (1991) offer another perspective on commuter student retention in their tome, *How College Affects Students*. An analysis of 20 years of research, this book is a comprehensive work read and used by many student affairs professionals. It is unfortunate, then, that there are a mere three index entries for commuter students in its over 800 pages. In these limited entries, Pascarella and Terenzini summarized the existing research as follows:

The evidence reviewed so far clearly suggests that living on or near campus (versus commuting to college) facilitates integration into the campus social network of peers, faculty, and extracurricular activities. This integration in turn has positive implications for persistence and degree completion. (p. 401)

In spite of their recognition that the commuter population is only increasing, they continued to perpetuate the residential model as the preferred college experience. In fact, they suggested “short residential periods (for example, on weekends or during vacation periods)” (p. 640) as a way to “bring the education experience of commuter college students closer to that of their residential campus peers” (p. 640). Like Chickering (1974)

and Astin (1975, 1977, 1993) before them, Pascarella and Terenzini have neglected to critically examine the role institutions play in the development and retention of their commuter students.

Finally, a study conducted at the University of Maryland in 1992 examined differences between students enrolled in “General Education 100” or “Introduction to Psychology” courses and those formally withdrawing from the University (McIntire & Smith, 1992). This research is particularly relevant to this study for it is the only available research that examines commute time as it relates to other variables. Just over 900 students completed a questionnaire with items covering topics such as place of residence, satisfaction with institutional services, employment, and educational goals. The sample was evenly divided between those withdrawing and those in the course(s).

McIntire and Smith (1992) discovered, using ANOVA, nine variables that statistically distinguished terminating students from ongoing ones. These were living arrangements, commute time, plans upon leaving the institution, place of work, commute time to work, number of hours at work, amount of educational expenses earned, amount of free time on campus, and friends on campus. Their findings indicated that “terminating students tended to be more likely to provide their own expenses, live off campus with long commutes, have a job with long hours, spend few free hours on campus, and have few friends” (McIntire & Smith, 1992, p. 5).

Of particular relevance to this study are McIntire and Smith’s (1992) findings that commuting students were more likely to drop out, students with less than an eight minute commute to school were more likely to persist, students who worked on campus were

more likely to be retained, and those students working more than 21 hours per week were more likely to terminate their education. In fact, the commute time question included on the Student Satisfaction Inventory upon which analyses for this dissertation were conducted was crafted to reflect the distinction of an eight minute or less commute. In addition, McIntire and Smith's data suggested that students who met six or more of the nine risk factors (the nine statistically significant variables) were 78% more likely to terminate from the university. Although their research report does not specify the demographic breakdown of their sample, it does offer analyses of findings related to sex and race. These findings suggested that:

Differences between ongoing and terminating students due to gender, minority group, and transfer status coincided with the work and life styles factors suggesting that males, minority groups and transfer students show greater attrition because they are more likely to provide their own expenses and have little time for campus activities and friends due to off campus living and work. (McIntire & Smith, 1992, p. 6)

McIntire and Smith acknowledged that their findings were merely correlational.

However, this study is especially important to this research project for it is the only research that discusses commute time to campus in addition to the other relevant issues of place of residence and employment and employment status.

Relationship of Commuting with Student Engagement

The most recent research regarding commuter students comes from the Indiana University Center for Postsecondary Research and Planning, which houses the National

Survey of Student Engagement (NSSE) database. The NSSE, an annual survey administered to first-year and senior students at 470 institutions of higher education, assesses “the extent to which students at four-year colleges and universities take part in educational practices that hundreds of research studies indicate are strongly associated with high levels of learning and personal development (Kuh, Gonyea, & Palmer, 2001, p.3). The concept of student engagement includes traditional learning-oriented activities such as reading and writing, preparing for class, and interacting with instructors as well as behaviors including collaborating with peers on projects, problem-solving, and community service (Kuh, 2001). Specifically, the NSSE focuses on five benchmarks of effective educational practice: level of academic challenge, active and collaborative learning, student interactions with faculty members, enriching educational experiences, and supportive campus environment (Kuh et al., 2001).

Data from the 2000-2001 administration of the NSSE were used to explore commuters’ degree of engagement in relation to that of students who live on campus. It is important to note that the NSSE’s definition of commuter student is slightly different from the one espoused by the National Clearinghouse for Commuter Programs and the one adopted for this dissertation. The NSSE study divides students into three categories: students who live on-campus, students who live off campus but within walking distance, and students live off campus but at a driving distance to their institution. This three-part distinction was based on the assumption that students who live within walking distance of campus are able to “take advantage of most of the resources and facilities without much

undue effort” (Kuh et al., 2001, p. 3) thus making their experience different enough from commuters who must make more of an effort to get to campus.

NSSE data revealed that the first-year population was more than two-thirds resident students with almost all the rest commuting from some driving distance. On the other hand, the seniors were comprised of more off-campus students (79%) most of whom commuted from driving distance (57%). Demographic differences were found between driving commuters and those who either lived on campus or within walking distance. Driving commuters were “more likely to be non-traditional age students, first-generation, and students of color... [who] spend more time caring for dependents and work more hours off campus” (Kuh et al., 2001, p. 3).

On all of the benchmark scores, commuting students’ mean scores were consistently lower than their residential counterparts. Effect sizes, which represent magnitude of difference between the three types of students, were all statistically significant. They were generally small, however, “meaning that the differences between the groups are not that great” (Kuh et al., 2001, p. 4). Two benchmarks, student interactions with faculty members and enriching educational experiences, did have larger effect sizes for driving commuters indicating that “driving commuters really do have less contact with their teachers (especially seniors) and do not take advantage of such opportunities as co-curricular activities, community service, study abroad, internships, and so forth” (p. 4). On the other hand, Kuh et al. indicated that commuter students were as engaged as residents on many learning activities including working with other students on projects during class, writing long papers, reading on their own for academic

enrichment, and discussing ideas with others outside of class. Recognizing the multiple life roles and demands on commuter students, Kuh et al. suggested that “although many commuter students may have constraints on their time associated with work, family responsibilities and other matters they put forth just as much effort as other students in areas that are primarily related to what goes on inside the classroom” (p. 5).

Perhaps the most relevant finding from the NSSE data to this dissertation is that “proximity to campus makes a difference in commuter students’ level of engagement” (Kuh et al., 2001, p. 5). This dissertation sought to examine a similar concept – is commute time a significant predictor of mattering.

Relationship of Commuting with Satisfaction with Student Services

Only one research study could be found regarding the degree of commuters’ satisfaction with various student services. Dunham (2000) studied traditional-aged commuter students at the University of Northern Colorado and Western Michigan University to assess the use and satisfaction with various student services, the relationship between developmental maturity and use of and satisfaction with services, and the relationship between various demographic and commuting-related variables and use of and satisfaction with services. To assess use and satisfaction, the ACT Student Opinion Survey was used and the Iowa Student Development Inventory for Assessing Development of Purpose was employed to examine developmental maturity. Most relevant to this dissertation are the findings regarding demographic and commuting-related variables and use and satisfaction with student services. Before summarizing the findings, however, it is important to note the very small sample size – 51 respondents.

Although Dunham (2000) stated that “for the purposes of exploratory data analysis, this response rate is within acceptable limits” (p. 72), it is questionable how generalizable these findings can be. However, because this is the only research that could be discovered about commuter student satisfaction, it is included in this literature review.

Of the 51 respondents, 76% were independent commuters, 80% were White, 23% had a commute of .5 miles or less, 50% had a commute between .5 and 5 miles, 19% traveled between 5 and 15 miles, and 8% traveled more than 15 miles. Regarding usage of campus services, Dunham (2000) discovered that students living at home and living over two miles from campus had used student services less. For satisfaction, his data suggested that students who are employed either full- or part-time are more satisfied and that students who live closer than two miles from campus are *less* satisfied than those who live farther away. This last finding is counter-intuitive, however, Dunham offered no analysis of it. No differences were found regarding gender.

Although Dunham’s (2000) study is obviously limited, its findings offer some insight into commuters’ use and satisfaction with campus services. Again, generalizations should be made with caution, even though this is the only study available which examined these concepts with a commuter population.

This review of the commuter literature has summarized the types of commuting students as well as some of their common needs and concerns. Awareness of these issues is an important aspect of this study for they offer a framework from which to understand commuters’ sense of mattering to and satisfaction with the university. This analysis of the literature about commuter students highlights the conclusions regularly drawn by

researchers that the commuting experience is less than that of the residential one. No studies could be found that examined the interplay between commuting and feelings of mattering. This research study attempted to provide knowledge about these previously untapped aspects of the commuter experience.

Mattering

In 1981, sociologists Morris Rosenberg and B. Claire McCullough embraced a series of concepts borne from the self-concept literature and called them “mattering.” Since that time, the mattering concept has taken hold in the student affairs field, with many practitioners using its common-sense notions to guide their work with college students. This portion of the literature review outlines the theoretical and empirical foundation of the mattering construct, the components of mattering, operationalization of the construct, and recent research on the subject.

Theoretical and Empirical Foundation of Mattering

Mattering has its roots in the literature of self-concept which describes the inseparable connection between self and other (Whiting, 1982). In most basic terms, the notion of self-concept suggests that one’s notion of self (I) does not exist without a corresponding sense of other (You). Humans do not create their sense of self in isolation, rather they construct it through interactions with others and the complex psychological meaning made from these interactions. It is this body of literature that has offered student affairs some of its most common expressions. These include Sullivan’s (1953) notion of “significant others” and Merton and Kitt’s (1950) concept of the “reference

group.” Mattering, too, has found its way into the vernacular of today’s student affairs professionals.

Birth of the mattering concept. Examining Sullivan’s (1953) “significant other” concept, Rosenberg and McCullough (1981) recognized that although much research explored how others matter to us, little work had been done on how “we feel we matter to others” (p. 163). Rosenberg and McCullough suggested a flip side to the “significant other” coin – mattering. As the “direct reciprocal of significance” (p. 163), mattering explores how the self (I) perceives his or her importance to the other (You.) That is, how important do I feel I am to you?

To explore their mattering idea, Rosenberg and McCullough (1981) conducted a large study consisting of four large-scale surveys. Termed a “theoretical replication,” their study employed various samples and measures in order “to examine the same propositions across diverse samples using diverse indicators of the same concepts” (p. 167). Focusing on how adolescents felt that they mattered to their parents, Rosenberg and McCullough surveyed over 6,500 boys and girls across the United States over an eight-year period. Unfortunately, no demographic breakdown of the sample is reported. To operationalize their mattering concept, Rosenberg and McCullough created items that:

...captured diverse expressions of mattering: the feeling that one is an object of interest to parents, that one is important to parents, and that one is an object of concern, that one’s opinions count, and that one is wanted. (p. 166)

Different items were used to create a separate “parental mattering index” (p. 166) for the four survey locations: Baltimore, East Chicago, New York, and nationwide. For

example, the New York index consisted of the single indicator of how interested parents were in what their children had to say at mealtimes while the nationwide index was based on several items including how often parents ignored children when they did something wrong and how often parents discussed important decisions with them. In addition, items designed to measure self-esteem were included in each survey.

Results from all four of their surveys showed that students who felt that they mattered to their parents were more likely to have higher feelings of self-worth and self-esteem. Exploring this finding further, Rosenberg and McCullough (1981) attempted to ascertain whether it was solely a sense of mattering that affected one's self-worth or if it was a sense of approval from one's parents that boosted self-esteem. As they pointed out, "...The distinction is crucial. To feel that we matter to others is conceptually distinct from feeling that they think well of us" (p. 168). Noting that their data did not provide a "completely adequate test of this issue" (p. 169), Rosenberg and McCullough offered findings that demonstrated that one's global self-esteem was higher among those students who felt that they mattered to their parents, regardless of whether they perceived their parents as approving of them.

Delving further, Rosenberg and McCullough (1981) presented data suggesting that those students who felt that they did not matter to their parents were more likely to experience depression, negative affect, and anxiety. They proposed that "the feeling that one matters to one's parents is thus associated with a number of fundamental dimensions of mental health independent of the adolescent's global self-esteem" (p.171).

Rosenberg and McCullough (1981) also explored three social and cultural factors -- socioeconomic factors, sibling structure, and religious affiliation -- that might influence a child's sense of mattering to his or her parents. They cautioned, however, that because of a limited number of cases within each condition, these results should be viewed as tentative. Their data suggested that there was a weak ordinal association between socioeconomic status and mattering. Broadly stated, adolescents of higher socioeconomic status tended to rank higher on the mattering indices than did those of middle and lower socioeconomic statuses. In regard to sibling structure, no consistent pattern was found with the exception of only children. In all studies, only children tended to rank higher on the mattering indices than did adolescents with siblings. Finally, in reviewing religious affiliation and mattering, Rosenberg and McCullough found that the students who were Jewish ranked higher on the mattering indices. Again, the authors recognized that these findings were to be interpreted with caution due to the fact they may be "consequences of statistical chance" (p. 178).

Rosenberg and McCullough's (1981) study provides the first empirical research on the mattering concept. Rosenberg and McCullough offer mattering, the concept of one's *perception* of importance and significance to others, as an important component of the concept of "self."

Expansion of the mattering concept. In 1982, under the direction of Morris Rosenberg, Brooke Whiting began to expand on the mattering concept by exploring some of its determinants and consequences. Hypothesizing that "mattering operates independently for specific others" (Whiting, 1982, p. 29), Whiting extended the focus of

her study beyond parents as had been done in Rosenberg and McCullough's work. She added siblings, friends, and teachers as possible sources of mattering. Based on the common sense as well as sociologically sound notion that different people matter for different reasons, Whiting's hypotheses examined the idea that "various individuals are more salient with reference to particular aspects of Self" (1982, p. 30). That is, teachers would matter more to the student aspect of one's self while family members would matter more to one's overall sense of self. Her study also examined the interplay between these different sources of mattering on one's global sense of mattering.

Whiting's (1982) study used data from a large national study, the 1966 Youth in Transition survey which was sponsored by the United States Office of Education and directed by the University of Michigan's Institute of Social Research. The Youth in Transition study collected data from over 2,200 boys at 87 high schools across the United States. Data on these participants included information from performance and ability tests, attitudes and values questionnaires, and personal interviews.

In order to ferret out the notion of mattering, Whiting (1982) selected various items from the original data set that she believed best created an "operationalization of the mattering variables" (p. 53). Using both Cronbach's alpha and Kuder-Richardson's coefficients to test for reliability, Whiting established eight scales, five of which related directly to mattering. These were: parental mattering, sibling mattering, teacher mattering, friends mattering, and global mattering. By reducing the data set in this way, Whiting's sample dropped to just over 800 cases. Her final sample was similar in many ways to the original sample including the racial breakdown. Over 85% of both the

original and reduced sample was White students. Whiting acknowledged this problem as well as the limited response options for race: Black, White, and other.

In reviewing Whiting's (1982) findings, it is important to note that she set a very stringent significance level for all of her null hypotheses ($p < .001$) because of the large number of hypotheses (over 30) tested in path analysis model. She also employed standardized partial regression coefficients in order to standardize variability and allow for comparison of magnitude of change. Some of her findings however, were significant at the $p < .01$ and $p < .05$ levels and, where relevant to this dissertation, I offer a review of these results. General findings from Whiting's study confirmed some of the same findings of Rosenberg and McCullough (1981). Mattering had a positive relationship to the outcome variables of self-esteem and self-concept of ability in school and a negative relationship to depression and rebellious behavior. Of the five types of mattering that Whiting explored – sibling, parental, teacher, friends, and global – parental mattering had the strongest relationship to self-esteem and self concept of school ability. This is congruent with Rosenberg and McCullough's finding that self-esteem was higher among students who felt that they mattered to their parents. In addition, like her predecessors, Whiting found that students of higher socioeconomic status were more likely to have higher feelings of mattering than those of lower statuses.

Whiting's (1982) refinement of mattering into five scales provided a more in-depth look at the types of mattering. As stated previously, parental mattering emerged in Whiting's study as the only scale that had a significant relationship to global mattering. Although none of the other scales were significant at $p < .001$, she pointed out that the

teacher variable had the next strongest beta coefficient ($\beta = .03731$). Although a very low coefficient, it was significant at $p < .05$. Whiting suggested that "the more the students feel that they matter to their teachers, the more they seem to feel that they matter globally" (p. 89). This finding also suggested that there is some positive increase in self-concept of school ability when a sense of mattering to one's teacher is present. Neither the sibling nor friends scales had any relationship to the global mattering outcome. The outcomes from Whiting's study also failed to prove her hypothesis that particular people matter in regard to particular situations.

In regard to the consequences of mattering, Whiting found that both global and parental mattering were strongest with "parental mattering emerg[ing] as dominant" (p. 117). She wrote:

Its effect on self-esteem and rebellious behavior in school were strong in magnitude and reached the appointed level of significance ($p < .001$). Its effects on depression and self-concept of school ability were also relatively strong in magnitude and reached significance at the lower ($p < .01$) level. (p. 117)

Global mattering was also powerful. It was significant ($p < .001$) for both self-esteem and depression and had a moderate relationship with rebellious behavior in school. Thus, self-esteem was higher and depression and rebelliousness were lower when global mattering scores rose.

Whiting's sample population was predominantly White ($n=733$) – over seven times as large as the black population [$n=92$] – thus one can understand her results as reflecting not a heterogeneous sample but a sample of White students. Even so, Whiting

attempted to understand racial differences by analyzing her models with just the Black portion of the sample. She adequately noted the dangers in these analyses and their subsequent discussions, but she should be commended for at least recognizing the possibility of differences by race. Once again, Whiting's stringent significance level must be mentioned. Many of the results for Blacks only were not significant at $p < .001$ but were at the more lenient levels of $p < .01$ and $p < .05$.

For Black students, parental mattering had a strong positive relationship to self-esteem ($p < .01$) and a strong negative relationship to depression ($p < .05$). Global mattering, too, had a powerful relationship to self-esteem ($p < .001$). One finding that Whiting (1982) found interesting was that depression had virtually no relationship with rebellious behavior for Black students as it did for White students. She suggested that further analysis of the effects of depression on Blacks “would represent a significant contribution to the field of mental health” (p. 164).

Whiting's study provides important verification as well as expansion of Rosenberg and McCullough's (1981) first work with the mattering concept. Her work supports their findings that indeed "mattering matters" (Whiting, 1982, p. 154) and that it has consequences and outcomes on human behavior and self-concept. Like Rosenberg and McCullough, Whiting did not reveal any conclusive evidence on proposed determinants of mattering (e.g., race, socioeconomic standing, and religion). Her data also confirmed Rosenberg and McCullough's suggestion that parents are a significant factor in a child's sense of mattering. Although not significant at her most stringent level of significance, her data do demonstrate that teachers are an important contributor to a

student's sense of global mattering. This particular finding is an important contribution to the student affairs field because it suggests that faculty, like teachers, can play a role in students' feelings of mattering.

Emergence of mattering in student affairs. In 1989, Nancy Schlossberg brought the notion of mattering into the field of student affairs with her article, "Marginality and Mattering: Key Issues in Building Community." Stating that "one of the deepest current concerns in higher education is to find ways to more fully involve students in learning" (p. 5), Schlossberg (1989) suggested that a strong connection exists between typical areas of concern in student affairs – involvement, community, satisfaction, retention – and mattering. In fact, she implied that mattering is almost elemental in nature: "...for whether they [students] are traditional or nontraditional, gifted or average, male or female, all students are concerned about belonging and mattering" (p. 14).

One of the foci of Schlossberg's article is using mattering to understand students' patterns of involvement or non-involvement. This is especially relevant in regard to commuter students who are regularly described (accurately or not) as less involved in their college experience than residential students (Likins, 1991). Schlossberg's introduction of mattering as a key variable in the involvement equation provides a new perspective in understanding commuter student behavior. Perhaps it is not that commuter students are uninvolved simply because they commute to campus, but because they feel that they do not matter enough to their institution to get involved. Schlossberg's work is a significant contribution for it shifts the emphasis from blaming commuter students as

the problem to analyzing the environment or institution as a possible source of trouble.

As her conclusion, Schlossberg wrote:

...institutions that focus on mattering and greater student involvement will be more successful in creating campuses where students are motivated to learn, where their retention is high, and ultimately, where their institutional loyalty for the short- and long-term is ensured. (p. 14)

Components of Mattering

Rosenberg and McCullough (1981) described the general concept of mattering to be the “direct reciprocal of significance” (p. 163). As they developed this concept they offered three components of mattering that form a set of building blocks for this counterpart of significance – attention, importance, dependence. Expanding on their initial definition, they described mattering as “a motive; the feeling that others depend on us, are interested in us, are concerned with our fate, or experience us as an ego-extension...” (p. 165). Although they stated ego-extension as an aspect of mattering in their definition, they embedded it in the idea of importance. Later, Schlossberg (1989) pulled ego-extension out to become a separate aspect and added the notion of appreciation. These collective notions of attention, importance, dependence, ego-extension, and appreciation are explored below.

Attention. “Pay attention to me,” cries the older sibling jealous of the parents' focus on the newborn. “We're here; we're queer,” reads the banner outside the lesbian, gay, bisexual, transgender student organization office. These two expressions portray the most basic aspect of the mattering concept – attention. Described as “the feeling that one

commands the interest or notice of another person" (Rosenberg & McCullough, 1981, p. 164), attention reflects the basic human need to be visible, literally or figuratively, to others in society. Rosenberg and McCullough's depiction of attention is quite elemental. That is, whether one receives positive or negative attention is irrelevant; it is the attention itself that makes one feel that he or she matters. This plays out in attention received for negative behavior. Their data suggest that delinquent behavior among their participants (adolescent boys) was significantly related to mattering. Those boys who had lower parental mattering scores also had higher scores on the delinquency measures. As they suggest, "the delinquent may then be deplored, but he cannot be ignored" (1981, p. 173). The inability to command the attention of others is "painful" (p. 173) and leads to feelings that one does not matter.

Lack of attention to commuters and their concerns informs commuters that they do not matter. Publications that omit images of and references to commuters marginalize these students by suggesting that their presence is not worthy of mention or attention. On the contrary, faculty, staff, and peers who, for example, regularly acknowledge commuters' struggles with fighting traffic to get to campus on time for class or meetings send the message that these students are present and worthy of attention. For commuter students, this most basic type of mattering is often the most needed and the most neglected (Hamcke, 1992).

Importance. Next is importance, the belief that another "cares about what we want, think, and do, or is concerned with our fate" (Rosenberg & McCullough, 1981, p. 164). Parents, siblings, teachers, friends, partners, and even institutions of higher

education all contribute to one's sense of feeling important. The student who does not arrive for work on time and claims "I didn't think anyone would care" illustrates the outcome of not feeling that his or her contribution to the organization was important. An important distinction that Rosenberg and McCullough (1981) make in regard to importance is its independence from approval. The parent who continually nags his or her child to complete homework is demonstrating disapproval of a particular behavior but is also in turn indicating to the child that his or her success is important.

One of the most pervasive but perhaps covert examples of commuter unimportance is the lack of research about this population. Research carried out with captive resident populations with no effort to reach commuters as well as studies that fail to probe for differences by residence suggest that commuters' experiences are unimportant. Indeed, it is more time-consuming and potentially more expensive to assess the mobile commuter population, however, spending this time indicates that commuters and their opinions matter and are important. This research study itself is an expression of mattering since it focused directly on the experiences of commuters.

Ego-extension. Rosenberg and McCullough (1981) embed ego-extension in the concept of importance. One of Schlossberg's (1989) contributions was to pull this element out from the umbrella of importance and make it a cornerstone of the mattering concept. Both Schlossberg and Rosenberg and McCullough define ego-extension as the feeling that others empathize with the successes and failures in our life. Mattering is felt when "we feel that our success will be the success of another and our failure, the others'

failure" (Schlossberg, p. 10). Ceremonies such as graduations and weddings are visible symbols of this ego-extension construct.

This concept may be especially relevant for commuters whose primary reference point for ego-extension often exists beyond the campus. Family, friends, and co-workers external to the campus are often the individuals who know most about commuters' experiences, successes, and failures. Finding ways to involve these external sources in the campus experiences of commuters is an important way to demonstrate mattering. Parent newsletters, access to campus athletic facilities, and event discounts for family and friends are examples of practices that validate the experience of commuter students.

Dependence. Taking mattering one step further, Rosenberg and McCullough (1981) suggested that "mattering represents a compelling social obligation and a powerful source of social integration: we are bonded to society not only by virtue of our dependence on others but by their dependence on us" (p. 165). It is this notion that *others depend on us* that is special about mattering (Schlossberg, Lynch, & Chickering, 1989). Students who feel that they are necessary in some way are students who matter.

Commuter students can experience this mattering component by working on campus or being involved with student organizations or faculty research projects. Knowing that one is needed at a group study session or campus meeting can increase feelings of mattering both to the institution and to faculty, staff, or peers. Encouraging this kind of involvement is critical to building commuters' feelings of dependence.

Schlossberg (1989) cautioned, however, of the "dark side of dependence" (p. 10). It is possible to be depended on too much, to matter too much. For example, students

who manage multiple life roles such as student, parent, caregiver, employee, and partner can run the risk of being depended on by too many forces. For them, dependence may become a negative rather than positive influence on mattering.

Appreciation. Finally, Schlossberg (1989) extended Rosenberg and McCullough's (1981) components by adding the dimension of appreciation. She suggested that mattering also includes an aspect of feeling acknowledged and valued. When others are "thankful for what we are and what we do" (Schlossberg, Lynch, & Chickering, 1989, p. 22), mattering is experienced. "Appreciation Day" events, salary raises, and letters of recognition are just a few examples of how appreciation can be demonstrated.

Demonstrating appreciation of commuters and their work is an acknowledgment not only of their presence but also of their unique needs and concerns. Appreciating the extra effort it often takes commuter students to learn of campus events and to take part in them is a good mattering practice. Like the mattering component of attention, appreciation suggests an awareness of the significance of commuter students and their contributions.

Operationalization of Mattering

Just as Schlossberg (1989) helped to bring the construct of mattering into the student affairs vernacular, so too did she help to operationalize the model by creating an instrument called the Mattering Scales for Adult Students in Higher Education (MHE). The MHE consists of five scales designed to assess the "perceptions of adult learners about their educational environment" (Schlossberg, Lassalle, & Golec, 1990, p. 4). Each

of these scales – administration, advising, interaction with peers, multiple roles, and interaction with faculty -- is designed to examine adult students' perceptions of the environment rather than their individual levels of satisfaction. The authors noted that the MHE is specifically designed for undergraduate students 23 years of age or older and that “although some items apply to traditional aged students, most items are specific to adult students and consequently responses of younger students are not relevant” (Schlossberg et al., 1990, p. 12). Unfortunately, no instrument exists to measure the mattering perceptions of traditional-age undergraduate students.

Recent Research on Mattering

Relatively little empirical research about the mattering construct exists. Most of this limited research is in the form of dissertations examining various populations including at-risk adolescents (Dixon, 2002; Richardson, 1998), students in nursing programs (Klainberg, 1994; Kuhrik, 1996), community college students (Hillard, 1996; Vampatella, 2000) and, most relevant to this study, adult students. These adult-student focused dissertations as well as other pertinent individual studies will be highlighted in this section.

Diamond (1995) explored the degree to which adult students' sense of mattering and involvement in their learning environment had an impact on their institutional commitment and academic success. This study, which used both qualitative and quantitative measures, assumed an ecological perspective such that “involvement and mattering are a function of both individual and organizational characteristics” (Diamond, 1995, p. 9). From the institutional perspective, Diamond predicted that institutions that

offer more opportunities for student involvement will have students who are more committed to the institution and feel a greater sense of mattering. From the perspective of the individual student, she hypothesized that students with fewer outside obligations were more apt to be involved and feel that they mattered. Finally, she predicted that institutional commitment would be greater for students who are involved and feel that they matter.

Diamond (1995) collected data from about 100 participants at three institutions that served adult undergraduate students. The overall sample was primarily White (61%), female (51%), and in their mid thirties. The researcher created a questionnaire based on Pascarella's Student Involvement Questionnaire and Schlossberg, Lassalle, and Golec's Mattering Scales for Adults in Higher Education and conducted a series of regression analyses in order to examine what might predict involvement and mattering. Of particular relevance to this study are Diamond's findings that longer commutes led to lower mattering scores and that mattering led to greater institutional commitment. Using regression, Diamond found that when type of school was held constant, length of commute was a significant negative predictor ($p < .05$) of mattering. Similar regression results demonstrated that mattering did predict student commitment to the institution and the effect became stronger when controlling for type of institution ($p < .001$). This last finding was also supported by the qualitative essays she received as part of her study.

Moody (1996) examined the relationship between academic advising philosophy and mattering for adult students. Using the Academic Advising Inventory and the Mattering Scales for Adult Students in Higher Education, Moody surveyed 137 adult

undergraduates at Georgia College and Georgia State University. In addition to examining the interplay of advising philosophy and mattering, this study explored “the effect of the advisor’s academic discipline, age and gender on the relationship of academic advising philosophy and mattering” (p. 11), perceived age difference and advising philosophy, and intent to persist and advising philosophy.

Moody’s (1996) sample of adult students were primarily juniors and seniors (66%), full-time (69%), enrolled in a degree program (98%), female (69%), White (83%), and 25 years or older (87%). Moody discovered through multiple regression analyses that students’ perception of advising philosophy did have a relationship to their feeling of mattering. As students evolved into a developmental rather than prescriptive approach to advising, their sense of mattering in the advising relationship increased. Differences also emerged by college. Students in the Schools of Business and Arts and Sciences demonstrated a statistically significant relationship ($p < .05$) between advising philosophy and sense of mattering while those in the School of Education did not. Age variables also bore significant results. Students’ feelings of mattering increased as the perceived age of their advisor increased. Correlation coefficients for perceived age of advisors were all significant at $p < .05$ and grew stronger as the perceived age increased. In addition, when advisors were perceived to be older than advisee, students’ mattering scores increased. Finally, Moody’s data demonstrated that when advisors were available for unscheduled visits, students’ feelings of mattering increased. Moody discovered no significant relationships between gender, intent to persist, and length of the advising relationship on students’ feelings of mattering.

Shibinski (1988) explored the perceptions of mattering among female adult students in two single sex and one coed private, liberal arts institutions in South Carolina. Specifically, she sought to determine “whether different kinds of institutions are perceived by nontraditional female students as more attentive to their needs, that is, whether the institutions treat the students as though they matter” (p. 10). Employing both a quantitative and qualitative approach, the researcher obtained information from adult female students in a day program, an evening program, and graduates of these programs. Schlossberg et al.’s Mattering Scales for Adult Students in Higher Education instrument was administered to 227 participants who were also asked if they would be willing to participate in an interview, 34 of whom did. Interview questions explored participants’ institutional choice, opinions of available resources, and perceptions of educational environment. Results from ANOVAs revealed that there were no significant differences by type of institution. In relation to the concepts of administration, advising, peers, multiple roles, and faculty that the MHE measures, the two types of institutions appeared to treat the students similarly in regard to mattering.

Gossett, Cuyjet, and Cockriel (1996) explored perceptions of mattering and marginality of African American and non-African American students at public, predominantly White institutions. Using a 60-item instrument designed by Cuyjet, Gosset et al. surveyed 1,129 students at four large, public predominantly White institutions. African American students represented 29% of the respondents while non-African American students represented 71%. With a four-choice Likert scale of strongly agree to strongly disagree, items assessed students’ perceptions of six general areas:

academic and personal advising, interaction with members of the administration, classroom climate, interactions with faculty, interactions with peers, and delivery of campus services.

Using chi-square, Gosset et al. (1996) found significant differences ($p < .05$) on 49 of the 60 items. Their research suggested that African American students felt that University administration did not meet their needs; experienced their interactions with peers as less favorable than non-African American students; felt less comfortable with their academic advisors; felt marginal in classroom environments; perceived faculty as creating a more positive environment for non-African American students; and, were less satisfied with student services. Although these findings are useful, it is important to note the possibility of Type I error, “finding things that are not there” (Licht, 1995, p. 54) resulting from the numerous analyses completed. In addition, no data regarding the reliability and validity of the instrument were reported.

Finally, Kodama (2002) explored the other end of the mattering spectrum, marginality, in her analysis of transfer students at the University of Maryland. Using data from the Commuter Student Experience Survey (CSES), a local instrument created by the office of Commuter Affairs and Community Service, she compared transfer students with native sophomores, juniors, and seniors to determine any predictors of marginality. Her sample was non-residential, thus her findings are particularly relevant to this study.

Kodama's (2002) sample consisted of 168 transfer students and 141 native students. Of the native students, 42% were male and 58% were female; 47% were White; 16% Asian American; 20% other; 7% Black; 66% were 21 years and under. The

transfer group differed in that there were slightly more men (52%); slightly fewer students of color (46%) and were older (56% between 22 and 29 years and 15% over 30).

Using expert raters familiar with mattering and marginality, Kodama (2002) created a marginality scale from items on the CSES. The resulting nine-item scale had an adequate degree of reliability with a Cronbach's alpha of .69. Using ANOVA, no significant differences were found between native and transfer students on this marginality scale. However, stepwise multiple regression analyses suggested that perceived low levels of on-campus support and being Asian American were predictors of marginality for the overall commuter sample with these two factors contributing 17% of the variance in marginality. In addition, low levels of on-campus support ($\beta=-.28$) and being female ($\beta=.32$) were predictors of marginality for the transfer sample.

Kodama performed several post hoc analyses. An analysis of variance test using gender was performed since gender was a significant predictor in the multiple regression analyses. Females expressed more marginality with a mean of 1.28 than males with a mean of -.67. This result was significant at $p<.01$. Other variables that showed significant correlations in the regression but were not significant contributors to variance were explored with several post hoc ANOVAs. Kodama found that nonemployed students felt most marginal ($M=1.71$) while those who worked on campus felt least marginal ($M=-1.77$).

Although the results from Kodama's (2002) study should be reviewed with some caution since they were derived from a non-standardized instrument and the internal consistency of the mattering scale was not strong, they do inform the current research by

highlighting characteristics that predict marginality among a completely commuter sample. In particular, her significant findings relating to race and employment are especially salient to this study.

This portion of the literature review outlined the concept of mattering including its components of attention, importance, ego-extension, dependence, and appreciation. Various research studies have explored factors that contribute to a sense of mattering while others have examined the relevance of mattering to a host of variables including self-esteem and institutional commitment. Of most relevance to this dissertation are Diamond's (1995) findings that longer commutes led to lower mattering scores, and Kodama's (1999) findings that low levels of on-campus support and being Asian American were predictors of marginality for both native and transfer commuters, and that on-campus employment helped to ease feelings of marginality for transfer commuters. In addition, the lack of use of a consistent measure of mattering in these studies suggests the need for a common way to measure the mattering construct. This dissertation sought to address this concern through the creation of mattering scales from the Student Satisfaction Inventory (Schreiner & Juillerat, 1994), a widely-used assessment tool. Moreover, no studies have directly examined the relationship of commuting and mattering. (Although Kodama's (2002) study explored the reverse of mattering, marginality.) This study explored this relationship between mattering and commuting in order to learn more about commuter students' experience in college.

Employment

More and more, students are working while they attend college. In fact, 79% of college students nationwide report working while enrolled in a postsecondary institution (National Center for Education Statistics, 1998). In “Undergraduates Who Work,” the National Center for Education Statistics suggests a distinction within this almost 80%. Termed “Students Who Work” are those undergraduates who report working to pay for their education while those called “Employees Who Study” represent those who primarily consider themselves employees who happen to be taking classes. One half of the working students in the NCES study were “Students Who Work” and slightly less than one third were “Employees Who Study.”

Of the “Students Who Work” group, 25% worked 15 or fewer hours per week, 26% reported working 36 or more hours, with an average of 25 hours per week. Conversely, in the “Employees Who Study” group, 79% worked 36 or more hours and the average hours per week of employment was 39. Additionally, more “Students Who Work” attended school full-time (55%) than “Employees Who Study” (32%). Finally, “Students Who Work” were more likely to be financially dependent on their parents than their “Employees Who Study” counterparts.

Most of the “Undergraduates Who Work” essay focuses on “Students Who Work.” The authors suggested:

the primary reason these students work is to help them achieve their educational goals. If the amount they work has an adverse effect on their academic performance or impedes their progress toward attaining a degree, then the primary

reason for working has been undermined.(National Center for Education Statistics, 1998, p. iii)

Of particular importance to this study is the breakdown of students who do and do not work on campus. Overwhelmingly, “Students Who Work” did *not* work on campus (National Center for Education Statistics, 1998). Almost 85% of this group worked off-campus leaving a small 15% who remained on-campus to work. Students who worked fewer hours per week were more likely to work on campus; over half of this group worked 20 hours or less. Unfortunately, the National Center for Education Statistics did not report any data regarding employment and resident/commuter status, which would further understanding about the work patterns of students who commute. These statistics form a backdrop for the employment-related findings of this study.

Several studies examined the reasons students work as well as the outcomes of on-campus employment. Pascarella and Terenzini’s (1991) review of the literature of the 1960s, 1970s, and 1980s provides analysis of the outcomes of working while attending school. Part-time, on-campus employment had a positive influence on degree completion and involvement and integration in institutional life while off-campus employment had negative impacts on persistence and degree attainment. Astin (1993) discovered similar findings about part-time campus employment. Working part-time on campus was positively associated with a host of outcomes including degree attainment and satisfaction. Moreover, working full-time off-campus was associated with a “pattern of outcomes that is uniformly negative” (p. 387) including GPA, interpersonal skills, and satisfaction. Astin suggested that:

the key to understanding this difference lies in the concept of involvement: compared to students who spend an equivalent amount of time working off campus, students who are employed on campus are, almost by definition, in more frequent contact with other students and possibly with faculty. (p. 388)

Mulugetta and Chavez (1996) in conjunction with the National Association of Student Employment Administrators collected data from a diverse sample of 2,575 working and 1,937 non-working college students. A block of questions in this study asked students why they chose to work or not work. In addition to earning money, the other most common reason for students to work while in college was “personal fulfillment” (p. 44). Students also saw employment as a way to gain job experience and establish referral contacts for later employment. Additionally, these students viewed employment as a positive contribution to their educational experience. Those students who did not work indicated that sufficient savings from summer employment, class conflicts with work schedules, and a desire to devote more time to studying were reasons for their decision. Like Pascarella and Terenzini (1991) and Astin (1993), Mulugetta’s and Chavez’s findings suggested that off-campus employment has more negative correlates than on-campus work. Off-campus employees most often agreed with the statement that work negatively affected their academic and/or social lives (Mulugetta & Chavez).

Although there are no studies linking student employment and maturing, the studies reviewed here suggest that on-campus employment has overall positive effects on students’ lives including greater involvement and satisfaction with their experience.

Kodama's (2002) research on marginality also suggests that on campus employment may decrease one's sense of marginality. As Kincaid (1991) suggested, "employment is involvement, encouraging integration with the university" (p. 6). These notions provide support for the assumption of this study that on-campus employment can increase students' sense of mattering.

Summary

This review of the literature has provided the necessary grounding for this study. A detailed explanation of the types, needs, and concerns of commuter students coupled with a review of various and differing perspectives on the effects of commuting provide a framework for understanding the results of this study. In addition, the exploration of the construct of mattering and relevant studies of this concept suggest that this is an important and indeed relevant model for understanding the experiences of commuting students.

CHAPTER III

METHODOLOGY

This chapter presents a detailed description of the methodology used in this study. In particular, the purpose, research questions and hypotheses, study design, institutional context, measures, sample, data collection and preparation procedures, and analyses are reviewed.

Purpose

The purpose of this study was to expand the research base about commuter students and mattering by exploring the relationship and predictive capacity of certain variables to commuters' feelings of mattering to the institution and the relationship of these variables to GPA and overall satisfaction. In addition, this research attempted to develop a set of scales as a way to operationalize the mattering concept.

The framework used to guide the selection and grouping of variables for this study was Astin's I-E-O model of assessment (1991). This model posits that "any educational assessment project is incomplete unless it includes data on student inputs, student outcomes, and the educational environment to which the student is exposed" (p. 18). Inputs describe characteristics students bring to the institution. Environmental influences refer to the breadth of experiences that occur at the institution. And outcomes describe student characteristics after exposure to the environment. A focus on one or two of these dimensions does not adequately explain a phenomenon for it ignores the contribution of the other. For example, understanding an outcome such as graduation rate based solely on input characteristics such as SAT scores or socioeconomic status

ignores the role the institutional environment has on the desired outcome. In this study, input data included variables assessing commuter students' demographic characteristics and aspirations regarding educational goal and institutional choice. Environmental data included the situational variables of class load, class level, college, resident life experience as well variables about employment and commuting. Finally, mattering operated as both an outcome and an environmental variable. First, it was treated as an outcome variable assessing the degree to which commuter students experienced feelings of mattering to the institution. Then, in secondary research questions it was treated as an environmental variable in addition to the others to determine its relationship to the outcome variables of GPA and overall satisfaction. More specifically, mattering in the context of GPA and overall satisfaction acted as an "intermediate outcome" variable, one that "occurs somewhere between initial entry to college and assessment of outcome performance" (Astin, 1991, p. 304).

Two particular aspects of the commuting experience were examined. These were commute time and type of commuter (dependent or independent). Finally, as secondary analyses, the predictive capacity of mattering over and above the demographic, aspirational, situational, employment, and commuting variables to grade point average and overall satisfaction was explored. This study is significant for it answers the ever-present call to increase understanding of commuter students' needs and concerns via research (Jacoby, 1989).

Hypotheses

To investigate the relationships among the aforementioned variables, the following hypotheses guided this research. Because of the exploratory nature of this research, hypotheses two, three, and four are written in the null form.

Hypothesis 1: The mattering concept can be operationalized by the development of psychometrically-supported mattering scales from items on the Student Satisfaction Inventory.

Hypothesis 2. The combination of demographic, aspirational, situational, employment, and commuting predictor/independent variables does not explain a significant amount of the variance in students' sense of mattering to the institution.

Hypothesis 2a. The demographic variables, race/ethnicity and gender, do not explain a significant amount of the variance in mattering.

Hypothesis 2b. The aspirational variables, educational goal and institutional choice, do not explain a significant amount of the variance in mattering above and beyond the demographic variables.

Hypothesis 2c. The situational variables, class load [full- or part-time status], class level, resident life experience, and college, do not explain a significant amount of the variance in mattering above and beyond the demographic and aspirational variables.

Hypothesis 2d. The employment variable, employment status and location, does not explain a significant amount of the variance in mattering above and beyond the demographic, aspirational, and situational variables.

Hypothesis 2e. The commuting variables, commute status and distance, do not explain a significant amount of the variance in mattering over and above the demographic, aspirational, situational, and employment variables.

Attention to dimensions that help explain students' feelings of mattering was the focus of this dissertation; however, two secondary analyses were performed to explore some possible outcomes of mattering. Two typical outcome measures, academic performance (as measured by GPA) and overall satisfaction, were examined for their relationship to mattering. The following hypotheses guided these secondary analyses:

Hypothesis 3: Mattering does not explain a significant amount of the variance in GPA over and above the demographic, aspirational, situational, employment, and commuting variables.

Hypothesis 4: Mattering does not explain a significant amount of the variance in overall satisfaction over and above the demographic, aspirational, situational, employment, and commuting variables.

Study Design

This study was a nonexperimental, ex post facto, correlational design (Gall, Gall, & Borg, 2003). This type of research is designed to “discover relationships between variables” (p. 320). In addition, the correlational method allows for prediction of scores on a variable from scores on other variables. This research examined the relationships of: residence type with mattering; commute time with mattering; demographic variables (i.e., race, sex) with mattering; aspirational variables (i.e., educational goal and institutional choice) with mattering; situational variables (i.e., class load [full- or part-

time status], class level, resident life experience, and college) with mattering; employment location and status with mattering; and mattering with grade point average and satisfaction. This study also created scales for assessing the concept of mattering. The data used in this study were made available by the University of Maryland's Campus Assessment Working Group, of which this researcher is a member.

Independent variables for this study included commute status (dependent or independent) (Item 111), race/ethnicity (University data), gender (University data), place and amount of employment (full- or part-time on- or off-campus) (Item 110); commute distance (Item 116); class load (University data); class level (University data); educational goal (Item 109); institutional choice (Item 114); resident life experience (University data) and college (University data). The dependent variables for this study were the mattering factors derived through exploratory factor analysis (described later in this chapter). For the secondary analyses, grade point average (University data) and overall satisfaction with the college experience (Items 99, 100, 101) were the dependent variables with mattering and the other variables described above as the independent variables. See Table 1 for a complete description of these variables.

Table 1
Items Selected from Student Satisfaction Inventory

Item #	Item	Response Options
99	So far, how has your college experience met your expectations?	7 point Likert scale from “much worse than I expected” to “much better than I expected”
100	Rate your overall satisfaction with your experience here thus far.	7 point Likert scale from “not satisfied at all” to “very satisfied”
101	All in all, if you had it to do over again, would you enroll here?	7 point Likert scale from “definitely not” to “definitely yes”
109	Education Goal	Associate degree; Bachelor’s degree; Master’s degree; Doctorate or professional degree; Certification (initial or renewal); Self-improvement/pleasure; Job-related training; Other
110	Employment	Full-time off campus; Part-time off campus; Full-time on campus; Part-time on campus; Not employed
111	Current Residence	Residence hall; Fraternity/Sorority; Own house; Rent room or apartment off campus; Parent’s home; Other
114	When I entered this institution, it was my	1 st choice; 2 nd choice; 3 rd choice lower.
116	From where you live, about how many minutes does it generally take you to get to your typical (first) campus destination? (Please answer – minutes per typical ONE-WAY trip).	1-8 minutes; 9-15 minutes; 16-30 minutes; 31-45 minutes; 46-60 minutes; more than 1 hour.

Institutional Context

The University of Maryland, where the data for this study were collected, is a public, four-year, Research I university in the mid-Atlantic region. The almost 25,000 undergraduates are able to major in over 150 disciplines ranging from arts and humanities to physical and biological sciences to computer science. Data from the Office of Institutional Research and Planning indicate that the undergraduate population at the time this survey was administered in 1999 was fairly evenly distributed by sex (51% male; 49% female) and attended predominantly full-time (80%). Two out of three undergraduates (67%) commuted to campus. About 62% were White, 12% African American, 14% Asian American, 5% Hispanic, 0.2% Native American, 3% International, and 4% unknown. The average age for full-time students (12 credits and above) was 20.6 and 27.8 for part-time students.

Original Sample

The data for this study came from an administration of the Student Satisfaction Inventory (SSI) (Schreiner & Juillerat, 1994) directed by the Campus Assessment Working Group in Spring 1999. The original sample of 1,433 participants was almost evenly split between men (51%) and women (49%). Almost all (89%) were 19-24 years old. About two-thirds (69%) were juniors and 28% were seniors. More than half (59%) were Caucasian/White; 14% Asian American or Pacific Islander; 11% African American; 4% Hispanic; 5% other; and 7% preferring not to respond. Two out of three (61%) were commuters, with 37% renting a room or apartment off campus (independent commuters) and 24% living in a parent's home (dependent commuters). To test the

representativeness of the original sample, a chi-square test was used to compare the original sample to the University population on the variables of gender, race, class level, and class load. Results indicate that there were no significant differences in regard to race and gender, however, the original sample over represented full-time students and juniors (see Table 2). The over representation of juniors is expected since the survey was administered in Professional Writing classes which most students take when they are juniors.

Study Sample

Not all cases from the original sample were used in this study. Because this study was concerned with the experience of commuter students, only students who indicated that they did not live on campus were included in analyses. Furthermore, only the choices “rent room/apartment off campus” and “parent’s home” were used in the study. The categories “own house” and “fraternity/sorority” were eliminated because the experience of students in those settings is most likely markedly different than students who live at home or rent. Thus, the commuter-only sample consisted of 867 participants. Through elimination of participants who did not include a social security number (used for obtaining data on race/ethnicity, gender, class load, class level, college, resident life experience, and GPA) and those with incomplete data ($n=21$), the sample size was reduced to 646 participants. The factor analyses to create the mattering scales were conducted on this sample. Finally, the sample size for the regression analyses was 524, resulting from missing case deletion, reconstruction of variables, and elimination of some categories within the race/ethnicity variable. Details about these procedures are

described in the data preparation section of this chapter. Table 2 summarizes the demographic information for students in the population, original sample, factor analytic sample, and regression sample.

Table 2

Demographic Information for Students in Study Sample

	Population (N=24717)		Original Sample (N=1433)		Factor Analysis Sample (N=646)		Regression Sample (N=524)	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Sex								
Female	12013	49	709	49	342	53	286	55
Male	12704	51	724	51	304	47	238	45
Race/Ethnicity								
White	14727	62	841	59	390	60	362	69
Asian American/ Pacific Islander	3356	14	193	14	106	16	96	18
African American	3509	12	161	11	70	11	66	13
Hispanic	1251	5	61	4	27	4		
Native American	69	<1	5	<1	2	<1		
International	716	3	32	3	26	4		
Other or Unknown	1089	4	70	5	25	4		
Current Residence								
Residence Hall	--	--	298	21				
Fraternity/Sorority	--	--	109	8				
Own house	--	--	116	8				
Rent room/apt off campus	--	--	528	37	382	59	313	60
Parent's home	--	--	339	24	264	41	211	40
Other	--	--	37	3				
Class Level								
Junior	6033	25	981*	69	450	70	372	71
Senior	6725	28	402	28	196	30	152	29
Other			49	3				
Class Load								
Full-Time	21845	88	1341*	94	601	93	486	93
Part-Time	2872	12	84	6	45	7	35	7

*Significant difference between population and original sample $p < .05$.

Class level χ^2 (df=1, N= 24716) = 347.91; Class load χ^2 (df=1, N=12758) = 48.16

Note. Dashes indicate data not collected by university.

Measures

Student Satisfaction Inventory

The Student Satisfaction Inventory (SSI) (Schreiner & Juillerat, 1994), a “nationally standardized and recognized instrument” (Upcraft & Schuh, 1996, p. 162), was the instrument used in this study. The SSI (Appendix A), rooted in the principles of consumer satisfaction, offers a two-dimensional perspective on student satisfaction that examines both expectations of and satisfaction with various campus services and functions. This two-dimensional view offers a third perspective – the “performance gap” – which assesses the difference between students’ expectations of and satisfaction with their campus experiences.

Schreiner and Juillerat created the Student Satisfaction Inventory in 1993 to meet the need for a theoretically sound instrument that reflected “the current need to assess and then meet students’ expectations” (Juillerat, 1995, p. 9). Initial phase of instrument design included interviews with students and educational experts to assess what was important to students’ sense of satisfaction with their entire educational experience. From these interviews, an instrument with 248 items was created and piloted on a random sample of 100 students. Schreiner and Juillerat reviewed the instrument with an eye to item reduction by analyzing means and standard deviations, item-total correlations, inter-item correlations, and correlations with criterion variables. Highly inter-correlated items and ones without sufficient item-total correlations were removed from the instrument. In addition, a panel of three higher education experts reviewed the instrument and suggested items for removal. A shorter, 167-item instrument was produced which was then piloted

on a large sample of just under 5,000 students from 27 institutions. Again, analyses of means, standard deviations, item-total correlations, and inter-item correlations were conducted which resulted in the current 116-item instrument (Juillerat, 1995).

The SSI consists of 116 items, 11 of which can be customized by the institution administering the instrument to address concerns, services, or programs specific to that institution (e.g., “My UM CORE courses actively involved me in the learning process”). Of the 116 items, 73 require participants to assess both the importance of and satisfaction with the item (e.g., “Tutoring services are readily available). This dual rating and the subsequent gap score that can be obtained are unique aspects of the SSI. On the items that evaluate both importance and satisfaction, participants use a 7-point Likert scale for both Importance (1=not important at all; 7=very important) and Satisfaction (1=not satisfied at all; 7=very satisfied). “Does not apply” and “not available/not used” options are also offered. Of the remaining items, six pose questions about satisfaction with the campuses’ demonstration of meeting the needs of particular populations (e.g., “How satisfied are you that this campus demonstrates a commitment to meeting the needs of commuters?”); nine ask participants to rate the importance of particular factors in their decision to enroll at the institution (e.g., cost, academic reputation, size of institution); three provide a global perspective on participants’ expectations and satisfaction; and, 14 are demographic-type questions. These items (except for the demographic ones) also employ a 7-point Likert scale. Of the 11 customizable items, one is of particular relevance to this study. Question 116 asked students to indicate the number of minutes it generally took them to get to from where they live to their first campus destination. The

Campus Assessment Working Group created this question, and its response pattern was derived from the McIntire and Smith (1992) study findings that suggested an eight-minute commute or less was positively correlated with persistence.

Items from the SSI can be grouped into the following factorially derived scales created by Schreiner and Juillerat (1994): instructional effectiveness (14 items), academic advising (5 items), safety and security (4 items), student centeredness of the institution (6 items), campus climate (17 items), concern for the individual (6 items), recruitment and financial aid (6 items), registration effectiveness (5 items), service excellence (8 items), campus support services (7 items), campus life (15 items), and responsiveness to diverse populations (6 items). Although some of these scales incorporate elements of the mattering construct, this study employed a separate factor analysis using items particularly germane to mattering in order to establish a set of mattering scales.

In her dissertation, Juillerat (1995) conducted research to test the reliability and validity of the SSI. Cronbach's coefficient alpha was used to assess the internal consistency of both the importance and satisfaction scores. Cronbach alphas for importance (.97) and satisfaction (.98) indicate a highly reliable instrument (Juillerat, 1995). Moreover, to test for stability over time, Juillerat (1995) produced test-retest reliability coefficients for a three-week period. These were .85 for importance and .84 for satisfaction. To assess the construct validity of the instrument, Juillerat (1995) compared the SSI with the College Student Satisfaction Questionnaire (CSSQ). The resulting Pearson correlation coefficient ($r=.71, p<.00001$) suggests that the SSI measures

similar constructs as those on the CSSQ but with unique information not provided by the CSSQ.

Items from the SSI used in this study are summarized in Table 1. These were: Items 99, 100, and 101 (satisfaction variable); Item 109 (educational goal variable); Item 110 (employment variable); Item 111 (commute status variable); Item 114 (institutional choice variable); Item 116 (commute minutes variable). Commute status was derived from Item 111 such that the response “rent room/apartment off campus” represented the “independent commuter” variable and “parent’s home” represented the “dependent commuter” variable. Although the SSI offers ratings of both importance and satisfaction, only the satisfaction scores were used in this study. This is because a measure of students’ experience rather than their expectations was more relevant to the research questions.

Derived Scales

Four scales, three measuring mattering and one measuring overall satisfaction, were created from items on the Student Satisfaction Inventory to measure concepts germane to this study. Using exploratory factor analysis, three scales that assessed students’ feelings of mattering to the institution were established. These were: Positive Attention, Institutional Commitment to Diverse Populations, and Personalized Academic Advising. Analyses were conducted on each mattering scale to determine reliability.

An overall satisfaction scale was created by combining scores from Items 99, 100, and 101 which asked students to rate their feelings about expectations being met, overall satisfaction, and desire to enroll again at the institution (see Table 1). The Cronbach

alpha coefficient for this scale was .830. In addition, when alpha coefficients were calculated with each item deleted, the strongest coefficient was for the overall scale suggesting that the scale was a reliable measure with all three items. In addition, correlations of the satisfaction scale with each mattering scale ranged from .330 to .591 indicating that the satisfaction scale was measuring a different construct.

Procedure

The data used in this study were collected by the University of Maryland's Campus Assessment Working Group (CAWG). This group was established in 1996 by the Continuous Quality Improvement Council to create a "culture of evidence" at the University through assessment planning, design, and implementation, collaboration, consultation, and data dissemination (CAWG Charter, 1998). One subgroup of CAWG is charged with administering annual large-scale surveys to cross-sections of undergraduates. This group administered the Student Satisfaction Inventory in Spring 1999 through the University's Professional Writing Program which offered access to a diverse cohort of undergraduates who closely mirrored the demographics of the overall University population. This program enrolls upper class students who have earned at least 56 credits and who must fulfill a writing course requirement for their college or major. Surveys were distributed in all sections of English 391, 392, 393, 393X, 394, and 395.

Surveys were administered during class time the week before spring break by course instructors who were not associated with the study or CAWG. Instructors were given a list of instructions to read to the students, copies of the Student Satisfaction

Inventory for distribution, and pencils. Students were given a University of Maryland window decal for their participation. Incentives for the Professional Writing Program included \$.50 per returned survey with a bonus for 50% return rate and further bonuses for every 10% over 50%. The overall response rate was 70% with 1,472 completed surveys.

Data Preparation

Not all cases from the original sample were used in this study. Because this study was concerned with the experience of commuter students, only students who indicated that they did not live on campus were included in analyses. Furthermore, only the choices “rent room/apartment off campus” and “parent’s home” were used in the study. The categories “own house” and “fraternity/sorority” were eliminated because the experience of students in those settings is most likely markedly different than students who live at home or rent. Thus, the commuter-only sample consisted of 867 participants.

Wherever possible, data from University records were obtained from the Office of Institutional Research and Planning and used instead of self-report data from the instrument. As such, the following variables were obtained from University records: race/ethnicity, gender, class load, class level, college, resident life experience, and GPA. The following variables were obtained from the Student Satisfaction Inventory: educational goal, institutional choice, place and amount of employment, commute status, commute time, and satisfaction. Students who did not report a social security number were eliminated from the commuter-only sample because data for several of the variables would be unavailable since University records could not be obtained for them. This

resulted in the elimination of an additional 200 participants. From this remaining pool of 667, 21 cases were deleted for incomplete data. This sample of 646 cases was used for the factor analyses which produced the mattering scales. Missing case deletion, reconstruction of some variables, and elimination of categories within the race/ethnicity variable (described below) resulted in a sample of 524 for the regression analyses.

In this study, missing cases were dealt with in the following manner. For the factor analysis, mean substitution was used for the 18 items submitted to the factor analysis procedure. The proportion of missing data for these items ranged from 6% to 13% of the total cases. Imputation of means allows for adequate sample sizes for data analyses. For the regression analyses, missing data was handled by deletion since there were relatively few cases. Missing cases were deleted as follows: two were deleted from Item 109 (educational goal); three were deleted from Item 114 (institutional choice); four were deleted from Item 110 (employment); and 25 were deleted from Item 116 (commute time).

Reconstruction of Variables

In some cases, new variables were created from modifications of existing ones in order to create variables that could be used succinctly in the regression analyses. These original variables were educational goal, institutional choice, and college. In addition, some categories of the race/ethnicity variable were omitted from the analyses. These modifications and omissions are described below.

Educational goal was originally an item comprised of eight responses: associate degree, bachelor's degree, master's degree, doctorate or professional degree, certification,

self-improvement/pleasure, job-related training, and other. Since the focus of this study was on degree-seeking students, only bachelor's degree, master's degree, and doctorate or professional degree were used. Moreover, master's degree and doctorate/professional degree were combined into a single category called "advanced degree" because previous literature reported findings in this manner (Pascarella & Terenzini, 1991). Thus, the final educational goal variable was comprised of two levels: bachelor's degree and advanced degree.

Institutional choice was originally a three-response item composed of first choice, second choice, and third choice or lower. Second choice and third choice or lower were combined because the researcher did not feel the distinction between second and third choice or lower was as meaningful as a more comprehensive "first choice or not" perspective. Thus, the final institutional choice variable was comprised of two levels, first choice or not first choice.

Finally, college was originally composed of the 12 undergraduate colleges at the University of Maryland. Since several of the cell sizes for individual colleges were too small for individual analyses, a way to combine the colleges into meaningful groups was sought. A review of the entries about academic college and major in *How College Affects Students* (Pascarella & Terenzini, 1991) suggested that colleges could be grouped into two categories: "arts, humanities, social sciences," and "business, engineering, professional preparation programs." Although this model fit adequately, two colleges focusing on sciences did not seem to logically fit into either of these categories. Therefore, a third college category, "sciences," was created. Thus, the final college

variable consisted of three categories: “arts, humanities, social sciences;” “business, engineering, professional preparation programs;” and “sciences.” “Arts, humanities, and social sciences” included the colleges of Arts and Humanities; Behavioral and Social Sciences; and Undergraduate Studies. “Business, engineering, professional preparation programs” included the colleges of Architecture; Business and Management; Education; Engineering; Health and Human Performance; and Journalism. “Sciences” included the colleges of Agriculture and Natural Resources; Computer, Math and Physical Sciences; and Life Sciences.

Because small cell sizes would inhibit adequate analysis, race/ethnicity categories with 5% or fewer respondents were omitted from the analysis. These were: Other or Unknown ($n=25$); Native American ($n=2$), Hispanic ($n=26$), and International ($n=26$). Thus, the students with race/ethnicities of Black/African American, Asian American/Pacific Islander, and White were kept in the study.

The final sample used for the regression analyses, therefore, included Black/African American, Asian American/Pacific Islander, and White degree-seeking commuter students. The total sample size for this analytic sample was 524. T-test analyses and Chi-square tests comparing those omitted from the analytic sample and those in the sample revealed that there were significant differences between these groups on the variables of race/ethnicity (see Appendix B). There were more Black/African American and Asian American students in the analytic sample. All other variables showed no significant differences.

Development of Mattering Scales

For this study, a mattering construct was derived from the Student Satisfaction Inventory. A construct is an “unobservable, constructed variable that is used to label a consistent set of behaviors or observable variables” (Jaeger, 1990, p. 368). This process occurred in three steps.

First, items from the SSI were reviewed by people with expertise in mattering and theory through writing, research, and practice. These experts were faculty members or student affairs professionals from institutions of varying sizes in different parts of the United States. Reviewers were first contacted through an email message which described the nature of this research and requested their participation in evaluation of items from the Student Satisfaction Inventory in order to construct a mattering scale. They were then sent a copy of the Student Satisfaction Inventory, the mattering portion of Chapter II, a one-page summary of the mattering concept (Appendix C), and a grid consisting of items from the SSI and dimensions of mattering (attention, importance, ego-extension, dependence, appreciation). The reviewers were asked to assess each item from the SSI and indicate which dimensions of mattering the item did or did not reflect. Eighteen items that were endorsed by all four reviewers were selected for inclusion in the exploratory factor analysis. Endorsement by three of four reviewers was considered, however, this was decided against because too many items emerged (33) to be of value in the pursuit of reducing data to succinct scales. Table 3 summarizes the items selected by all four reviewers as relevant to mattering.

Table 3

Items Selected from Student Satisfaction Inventory by Reviewers as Relevant to Mattering

Item #	Item
1	Most students feel a sense of belonging here.
3	Faculty care about me as an individual.
14	My academic advisor is concerned about my success as an individual.
19	My academic advisor helps me set goals to work toward.
22	Counseling staff care about students as individuals.
45	Students are made to feel welcome on this campus.
46	I can easily get involved in campus organizations.
47	Faculty provide timely feedback about student progress in a course.
53	Faculty take into consideration student differences as they teach a course.
57	I seldom get the “run-around” when seeking information on this campus.
62	There is a strong commitment to racial harmony on this campus.
71	Channels for expressing student complaints are readily available.
84	How satisfied are you that this campus demonstrates a commitment to meeting the needs of part-time students?
85	How satisfied are you that this campus demonstrates a commitment to meeting the needs of evening students?
86	How satisfied are you that this campus demonstrates a commitment to meeting the needs of older, returning adults?
87	How satisfied are you that this campus demonstrates a commitment to meeting the needs of under-represented populations?
88	How satisfied are you that this campus demonstrates a commitment to meeting the needs of commuters?
89	How satisfied are you that this campus demonstrates a commitment to meeting the needs of students with disabilities?

The second stage used exploratory factor analysis to determine if the set of items could be a statistically supported measure of mattering. Exploratory factor analysis is a way of understanding patterns or dimensions in data by bringing forth correlated variables that are assumed to have some underlying causes or factors (Brannick, 2002). By combining items that are moderately or highly correlated with one another, factors are derived which express the common element among the items (Gall, Gall, & Borg, 2003). In other words, factor analysis is a means of understanding the pattern of variation among a set of variables.

The first step in this stage of development of the mattering scale was to split the sample randomly in half. Exploratory factor analysis was conducted first on one half and then on the other as a means to cross-validate the factor loadings in different samples. Finally, a third factor analysis was conducted on the entire sample to determine the factor loadings for each item of each scale. Each response was multiplied by its factor loading creating to create a weighted score.

In both factor analysis procedures a correlation matrix for the set of items selected for the analysis was generated. From this correlation matrix an initial factor solution was generated such that the correlation coefficients between the rows and columns were the factor loadings or “dimensions or sources of influence” (Bryant & Yarnold, 1995, p. 107). In order to maximize common variance, the communality of the variables was placed in the diagonal of the matrix. Communality is the squared multiple correlation for each variable and can be considered the reliability of the indicator. Next, eigenvalues

were computed for each factor. While communality measured the percent of variance in each variable that was explained by all the factors, each factor's eigenvalue is a measure of the variance in the total sample that is accounted for by that factor. Eigenvalues help to demonstrate the strength of each factor such that the first factor has the largest possible eigenvalue or composite variance and so on. To determine the number of factors for selection, eigenvalues were plotted on a scree plot and only those which plotted above the sharp elbow drop and had a value of 1.0 or greater were included. Since the factors were believed to be correlated with one another, that is, measuring particular dimensions of the overall mattering construct, oblique rotation was used. Output from both factor analysis procedures was evaluated to determine a final mattering construct consisting of three scales. These scales were named based on the items comprising each factor.

Data Analysis

In order to examine the degree of relationship between the independent variables and mattering, blocked hierarchical multiple regression was employed. This statistical technique, used with a singular dependent variable but multiple independent ones, provides a measure of "applied prediction" (Licht, 1995, p. 21) between a set of predictor variables on an outcome or criterion variable. Although multiple regression allows a researcher to determine which independent variables best predict the dependent variable (Jaeger, 1983), blocked multiple regression allows a researcher to group the predictor variables "on the basis of theoretical and psychometric" reasons (Pedhazur, 1982, p. 164).

In this study, the blocked multiple regression sought to determine how well mattering in college (dependent variable) could be predicted by the demographic,

aspirational, situational, employment, and commuting blocks of variables. Through blocked hierarchical regression, variables are entered in the analysis in blocks or groups that the researcher wishes to control such that the first variables “explain as much variability in the dependent variable...then the other variables are entered to see if they can contribute above and beyond the independent variables that went in first “ (Huck, 2000, p. 585). As previously mentioned, Astin’s (1991) input-environment-outcome model provided a basic framework for the decisions regarding ordering of the blocks such that variables relating to personal demographics and qualities of students (inputs) were entered first followed by ones relating to situational and environmental factors. The demographic variables of race/ethnicity and gender were entered in the first block since these are characteristics that are stable and not changed by college experience. Next, educational goal and institutional choice were entered since they represent a type of input or perspective that can shape a student’s experience. Next, the situational variables of class load [full- or part-time status], class level, resident life experience, and academic college were added representing a type of environmental influence. This block was followed by one comprised of location and status of employment. Finally commute status and distance were entered as the last block. This ordering allowed the researcher to control for the effects of race/ethnicity, gender, educational goal and choice, class load [full- or part-time status], class level, resident life experience, college, and employment so that the magnitude of the relationship of the commuting variables to mattering could be ascertained. By entering the commuting variables last, one is able to determine their predictive utility after the effects of the previous blocks have been accounted for.

Finally, two secondary analyses were conducted to examine the relationship of mattering to the outcome variables grade point average and overall satisfaction with college experience. A second blocked hierarchical regression was employed with grade point average as the dependent variable followed by a third blocked hierarchical regression with satisfaction as the dependent variable. Items were entered in the same blocks as the first regression however mattering was entered last as an intermediate outcome to examine how much variance it could explain “after controlling for [the] input and earlier environmental variables” (Astin, 1991, p. 305) contained in the demographic, aspirational, situational, employment, and commuting blocks.

For all blocked hierarchical regressions, regression coefficients were converted to beta weights and standardized. Standardization allowed for comparison among the independent variables. Multiple correlation coefficients (R) and the square of multicorrelation coefficients (R^2) were calculated to determine the relationships of the independent variables with mattering (dependent variable). The R^2 increment was used to determine the amount of variance exclusive to each block of variables entered into the equation. Because this was exploratory research, significance levels were set at .05.

A summary of variables used in the regression procedures is available in Table 4.

Table 4
Summary of Variables Used in Regressions

Variable	Response Options	Data Source
Gender	Male	University data
	Female	
Race	Black/African-American Asian American/Pacific Islander Caucasian	University data
Institutional Choice	First choice Not first choice	Student Satisfaction Inventory
Educational Goal	Bachelor's degree Advanced degree	Student Satisfaction Inventory
Class Load	Full-time Part-time	University data
Class Level	Junior Senior	University data
College	Arts/Humanities/Social Sciences Business/Engineering/Professional Preparation Programs Sciences	University data
Resident Life Experience	Yes No	University data
Employment	Full-time off-campus Part-time on-campus Full-time off-campus Part-time on-campus Not employed	Student Satisfaction Inventory
Commute Status	Dependent Independent	Student Satisfaction Inventory
Commute Time	1-8 minutes 9-15 minutes 16-30 minutes 31-45 minutes 46-60 minutes More than 1 hour	Student Satisfaction Inventory
Mattering Scales	Positive Attention Institutional Commitment to Diverse Populations Personalized Academic Advising	Student Satisfaction Inventory
Cumulative GPA		University Data
Overall Satisfaction Scale	Composed of items 99, 100, 101	Student Satisfaction Inventory

Summary

This chapter outlined the methodology for this research project. First, the researcher and expert reviewers identified a set of items germane to mattering. Next, exploratory factor analysis was employed to determine the underlying dimensions of the mattering items in order to create psychometrically-sounds scales. Blocked hierarchical regression was employed to determine the predictive capacity of the demographic, situational, aspirational, commuting-related, and work-related variables with mattering. Finally, secondary analyses explored the predictive capacity of mattering to grade point average and overall satisfaction with the university. Chapter IV presents the results of the analyses. Chapter V offers interpretation of the findings, limitations of the study, implications of these findings in the context of higher education, and suggestions for future research.

CHAPTER IV

RESULTS

This chapter presents the findings of this study. The purpose of this research was to operationalize the mattering concept through the creation of psychometrically sound scales, to explore the relationship and predictive capacity of certain variables to commuters' feelings of mattering to the institution, and to explore the relationship and predictive capacity of mattering to cumulative GPA and overall satisfaction. Results of the exploratory factor analysis to develop measures of mattering are presented followed by the results of the multiple regression analyses of the hypotheses.

Exploratory Factor Analysis: Development of Mattering Scales

Hypothesis 1: Operationalization of the Mattering Concept

Hypothesis one stated that the mattering concept could be operationalized by the development of psychometrically-supported scales from items on the Student Satisfaction Inventory. In order to create a scale or scales to measure the mattering construct, exploratory factor analyses were conducted on the 18 items from the Student Satisfaction Inventory identified by the expert reviewers as relating to one or more of the five dimensions of mattering. The study sample was randomly split in half to create two sub-samples such that factor analysis was conducted on one half to create an initial solution and then conducted on the second half to test the replicability of the initial solution. These two solutions were then compared with one another to create the final factor solution. Finally, a third factor analysis was performed on the entire sample in order to obtain the factor loadings for use in creating the mattering scales. Factors were

hypothesized to be correlated with one another. That is, instead of measuring unrelated concepts, the factors were believed to measure aspects of the overall mattering construct. Thus, each factor analysis was performed using an oblique rotation. The results of each factor analysis, summarized below, suggest that the hypothesis could be accepted.

Sample A

The exploratory factor analysis on sample A resulted in three factors with eigenvalues greater than 1.0. These three factors accounted for 56% of the variance in the total sample. An examination of the scree plot also suggested a three factor solution. See Table 5 for factor loadings.

Table 5

Exploratory Factor Analysis and Factor Loadings on Sample A

Item #	Item	Factor		
		1	2	3
53	Faculty take into consideration student differences as they teach a course.	.688	.024	-.003
45	Students are made to feel welcome on this campus.	.646	.000	.108
1	Most students feel a sense of belonging here.	.628	-.068	-.015
57	I seldom get the “run-around” when seeking information on this campus.	.624	.007	-.061
46	I can easily get involved in campus organizations.	.569	-.100	.092
3	Faculty care about me as an individual.	.551	.283	-.125
71	Channels for expressing student complaints are readily available.	.549	-.017	.147
62	There is a strong commitment to racial harmony on this campus.	.483	.031	.121
22	Counseling staff care about students as individuals.	.467	.179	.108
47	Faculty provide timely feedback about student progress in a course.	.439	.185	.071
14	My academic advisor is concerned about my success as an individual.	-.083	.962	.093
19	My academic advisor helps me set goals to work toward.	.174	.659	.002
86	How satisfied are you that this campus demonstrates a commitment to meeting the needs of <i>older, returning adults</i> ?	-.110	.055	.866
87	How satisfied are you that this campus demonstrates a commitment to meeting the needs of <i>under-represented populations</i> ?	.023	.035	.726
84	How satisfied are you that this campus demonstrates a commitment to meeting the needs of <i>part-time students</i> ?	.098	.050	.718
85	How satisfied are you that this campus demonstrates a commitment to meeting the needs of <i>evening students</i> ?	.069	-.068	.686
89	How satisfied are you that this campus demonstrates a commitment to meeting the needs of <i>students with disabilities</i> ?	.020	.015	.615
88	How satisfied are you that this campus demonstrates a commitment to meeting the needs of <i>commuters</i> ?	.282	-.035	.473

Sample B

A three factor solution was conducted on Sample B to verify the replicability of the factor loadings suggested by Sample A. Results from this analysis (Table 6) suggested that the three factor solution was appropriate for these data.

Table 6

Exploratory Factor Analysis and Factor Loadings on Sample B

Item #	Item	Factor		
		1	2	3
45	Students are made to feel welcome on this campus.	.772	.033	.147
53	Faculty take into consideration student differences as they teach a course.	.628	-.138	-.153
47	Faculty provide timely feedback about student progress in a course.	.600	.041	-.052
62	There is a strong commitment to racial harmony on this campus.	.564	-.006	.076
46	I can easily get involved in campus organizations.	.538	-.007	.015
71	Channels for expressing student complaints are readily available.	.484	.102	-.170
3	Faculty care about me as an individual.	.421	.025	-.229
57	I seldom get the “run-around” when seeking information on this campus.	.414	.006	-.198
1	Most students feel a sense of belonging here.	.392	.112	-.031
86	How satisfied are you that this campus demonstrates a commitment to meeting the needs of <i>older, returning adults</i> ?	-.063	.861	.039
85	How satisfied are you that this campus demonstrates a commitment to meeting the needs of <i>evening students</i> ?	-.096	.829	-.074
84	How satisfied are you that this campus demonstrates a commitment to meeting the needs of <i>part-time students</i> ?	-.062	.752	-.163
87	How satisfied are you that this campus demonstrates a commitment to meeting the needs of <i>under-represented populations</i> ?	.098	.686	.150
89	How satisfied are you that this campus demonstrates a commitment to meeting the needs of <i>students with disabilities</i> ?	.118	.531	.039
88	How satisfied are you that this campus demonstrates a commitment to meeting the needs of <i>commuters</i> ?	.305	.384	-.026
14	My academic advisor is concerned about my success as an individual.	.002	-.019	-.887
19	My academic advisor helps me set goals to work toward.	.059	.023	-.835
22	Counseling staff care about students as individuals.	.253	.096	-.369

Examination of the factor solutions from the two random samples suggested adequate similarity such that mattering scales could be developed with confidence. One item, “Counseling staff care about students as individuals” (Item 22), loaded differently in the two sub-samples.

To maximize predictability in this sample, a factor score approach was used in creating each scale. That is, each response was multiplied by its factor loading creating a weighted score. To determine the final factor scores, factor analysis was run once more on the total sample. Table 7 summarizes these final factor scores. In this final analysis, item 22 loaded on the first factor as in Sample A. The factors were named based on the composition of items in order to create three mattering scales. The first factor was comprised of ten items which clustered around the mattering dimension of attention, the notion that one is of interest to others and was therefore named “Positive Attention.” The second factor was comprised of six items all pertaining to campus commitment to meeting the needs of particular populations. These items addressed the mattering concept of importance in the context of an institution’s demonstration of a commitment to meeting the needs and concerns of diverse populations. It was named “Institutional Commitment to Diverse Populations.” Items in this scale had negative factor loadings. To create a positively-directed scale, factor loadings were multiplied by -1. Finally, the third factor was named “Personalized Academic Advising” since both its items were about academic advisors’ individual attention and support. Items in this scale also had negative factor loadings and were therefore multiplied by -1 to create a positively-directed scale.

Cronbach alpha reliability coefficients were computed for each scale. Litwin (2003) suggested that coefficients of .7 or better are considered acceptable measures of reliability. Each mattering scale had alpha coefficients greater than .8. The “Positive Attention” scale alpha was .843; the “Institutional Commitment to Diverse Populations” scale alpha was .848; and the “Personalized Academic Advising” scale alpha was .857. In addition, when each scale’s alpha coefficient was calculated with each item deleted, all alpha coefficients remained high (greater than .8) suggesting that no scale would be improved by deleting any items. In addition, the correlations among each scale were low to moderate (see Table 9). “Positive Attention” had a correlation of -.623 with “Institutional Commitment to Diverse Populations” and -.566 with “Personalized Academic Advising, and “Institutional Commitment to Diverse Populations had a correlation of .214 with “Personalized Academic Advising.” The strong alpha coefficients for each of the mattering scales and their moderate correlations with one another suggested that each scale was measuring a different dimension of mattering but was also related to the overall mattering construct. The mattering scales, the items that compose them, scale and item means and standard deviations, and Cronbach alpha coefficients are detailed in Table 8.

Table 7

Exploratory Factor Analysis and Factor Loadings on Total Sample

Item #	Item	Factor		
		1	2	3
45	Students are made to feel welcome on this campus.	.732	-.044	-.093
53	Faculty take into consideration student differences as they teach a course.	.697	.099	.062
46	I can easily get involved in campus organizations.	.580	-.010	-.071
62	There is a strong commitment to racial harmony on this campus.	.560	-.032	-.049
71	Channels for expressing student complaints are readily available.	.540	-.113	.054
47	Faculty provide timely feedback about student progress in a course.	.533	-.031	.102
57	I seldom get the “run-around” when seeking information on this campus.	.528	.022	.081
1	Most students feel a sense of belonging here.	.504	-.048	-.022
3	Faculty care about me as an individual.	.476	.048	.247
22	Counseling staff care about students as individuals.	.372	-.104	.261
86	How satisfied are you that this campus demonstrates a commitment to meeting the needs of <i>older, returning adults</i> ?	-.103	-.874	.021
85	How satisfied are you that this campus demonstrates a commitment to meeting the needs of <i>evening students</i> ?	-.039	-.780	.015
84	How satisfied are you that this campus demonstrates a commitment to meeting the needs of <i>part-time students</i> ?	.000	-.760	.115
87	How satisfied are you that this campus demonstrates a commitment to meeting the needs of <i>under-represented populations</i> ?	.077	-.691	-.066
89	How satisfied are you that this campus demonstrates a commitment to meeting the needs of <i>students with disabilities</i> ?	.083	-.565	-.024
88	How satisfied are you that this campus demonstrates a commitment to meeting the needs of <i>commuters</i> ?	.324	-.410	-.029
14	My academic advisor is concerned about my success as an individual.	-.028	-.031	-.907
19	My academic advisor helps me set goals to work toward.	.102	-.027	-.757

Table 8

Means and Standard Deviations of Items in Mattering Scales

Item	Mean	SD
Positive Attention (Cronbach $\alpha = .843$)	4.40	.958
Students are made to feel welcome on this campus.	4.85	1.45
Faculty take into consideration student differences as they teach a course.	4.37	1.59
Channels for expressing student complaints are readily available.	4.05	1.48
Counseling staff care about students as individuals.	4.32	1.22
Faculty care about me as an individual.	4.24	1.53
I seldom get the “run-around” when seeking information on this campus.	3.62	1.82
Most students feel a sense of belonging here.	4.64	1.42
I can easily get involved in campus organizations.	4.81	1.34
There is a strong commitment to racial harmony on this campus.	4.60	1.49
Faculty provide timely feedback about student progress in a course.	4.53	1.50
Institutional Commitment to Diverse Populations (Cronbach $\alpha = .848$)	4.60	.967
How satisfied are you that this campus demonstrates a commitment to meeting the needs of <i>older, returning adults</i> ?	4.70	1.06
How satisfied are you that this campus demonstrates a commitment to meeting the needs of <i>part-time students</i> ?	4.58	1.20
How satisfied are you that this campus demonstrates a commitment to meeting the needs of <i>under-represented populations</i> ?	4.78	1.23
How satisfied are you that this campus demonstrates a commitment to meeting the needs of <i>evening students</i> ?	4.37	1.19
How satisfied are you that this campus demonstrates a commitment to meeting the needs of <i>commuters</i> ?	4.46	1.71
How satisfied are you that this campus demonstrates a commitment to meeting the needs of <i>students with disabilities</i> ?	4.73	1.21
Personalized Academic Advising (Cronbach $\alpha = .857$)	4.23	1.60
My academic advisor is concerned about my success as an individual.	4.45	1.72
My academic advisor helps me set goals to work toward.	4.13	1.70

Note. Range of scale is 1 (not satisfied at all) to 7 (very satisfied).

Multiple Regression Analyses: Exploration of Relationships Between Independent Variables and Mattering, GPA, and Satisfaction

Blocked hierarchical multiple regression was used to test the hypotheses regarding prediction of mattering, cumulative GPA, and satisfaction (hypotheses two through four). The independent/predictor variables are summarized first followed by the results of the regression analyses. For descriptive purposes, the means and standard deviations of the mattering scales, GPA, and satisfaction for selected independent variables are summarized in Table 9. The mattering scales and satisfaction scale were standardized to z scores for ease of comparison. Cumulative GPA was kept in its original form. Table 10 presents the correlation matrix for the dependent and independent variables used in the regression analyses; Pearson correlation coefficients show the degree of statistically significant linear relationships between pairs of variables.

Table 9

Means and Standard Deviations of Independent Variables with Matterring, GPA and Overall Satisfaction

Variable	n	Positive Attention ¹		Institutional Commitment to Diverse Populations ¹		Personalized Academic Advising ¹		Cumulative GPA		Overall Satisfaction ¹	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Race/Ethnicity											
White	362	.006	.986	.045	.922	-.009	1.01	2.94	.573	.054	1.01
Black/African American	66	.028	1.09	-.010	1.28	.090	1.11	2.55	.618	.043	1.03
Asian American/Pacific Islander	96	-.117	.971	-.285	.993	.074	.917	2.82	.552	-.171	.908
Sex											
Female	286	.032	.967	.044	.947	.050	1.03	2.94	.593	.084	.948
Male	238	-.069	1.03	-.103	1.04	-.018	.990	2.78	.572	-.077	1.05
Educational Goal											
Bachelor's Degree	372	-.011	1.00	-.008	1.02	.021	1.02	2.81	.580	-.018	.981
Advanced Degree	152	-.019	.991	-.060	.937	.014	.980	3.02	.582	-.083	1.04
Institutional Choice											
First Choice	334	.069	1.00	.021	1.00	.101	1.00	2.87	.591	.187	.908
Not First Choice	190	-.158	.969	-.100	.978	-.125	1.01	2.86	.585	-.299	1.07
Class Load											
Full-Time	489	-.032	.994	-.025	.970	-.024	1.01	2.87	.581	.024	1.00
Part-Time	35	.242	1.02	.017	1.29	.627	.828	2.78	.681	-.165	.918
Class Level											
Junior	372	.017	.982	.005	1.01	.050	1.02	2.80	.598	.027	.970
Senior	152	-.093	1.03	-.092	.957	-.058	.981	3.04	.527	-.028	1.07
College											
Arts/Humanities/Social Sciences	224	-.121	1.02	-.059	1.02	-.025	1.02	2.81	.610	-.064	1.06
Business/Engineering/Professional Preparation	189	.138	.933	.070	.935	.077	1.01	2.89	.549	.128	.920
Sciences	111	-.056	1.04	-.108	1.03	.008	.992	2.96	.602	-.036	.991
Resident Life Experience											
Yes	208	-.122	1.01	-.084	1.05	-.086	1.01	2.92	.515	.014	1.06
No	316	.058	.984	.017	.956	.087	1.00	2.84	.630	.009	.959

Table 9 (continued)

Means and Standard Deviations of Independent Variables with Mattering, GPA and Satisfaction

Variable	n	Positive Attention ¹		Institutional Commitment to Diverse Populations ¹		Personalized Academic Advising ¹		Cumulative GPA		Overall Satisfaction ¹	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Employment											
Full-Time	63	-.020	1.17	-.086	1.23	.227	1.05	2.62	.534	-.073	1.02
Off-Campus											
Part-Time	252	-.039	.992	-.056	.961	-.031	.994	2.82	.590	.054	.917
Off-Campus											
Full-Time	3	-.538	.653	-.194	.447	-.205	1.65	3.09	.560	-.633	.408
On-Campus											
Part-Time	70	.017	.926	.068	.865	.092	1.03	3.08	.591	.083	1.09
On-Campus											
Not Employed	136	.031	.964	.026	1.01	-.016	.996	2.94	.564	-.052	1.09
Commute Status											
Independent	313	-.003	.989	.009	.987	-.076	1.03	2.90	.545	.063	.998
Dependent	211	-.029	1.01	-.070	1.00	.160	.960	2.81	.643	-.066	.996
Commute Time											
1-8 minutes	89	.028	1.04	.054	1.02	-.087	1.05	2.85	.557	.034	.867
9-15 minutes	133	-.021	.949	-.030	.994	.008	.988	2.86	.534	.067	1.12
16-30 minutes	148	.028	.996	-.072	1.00	.038	.984	2.90	.638	.034	.988
31-45 minutes	99	-.058	1.00	-.065	.979	-.057	.965	2.90	.593	-.058	.956
46-60 minutes	41	-.127	1.04	-.087	.866	.136	1.06	2.79	.668	-.149	1.30
More than 1 hour	14	-.002	1.14	.576	1.11	-.025	1.43	2.79	.491	-.150	1.30

¹ Scales standardized to z scores with $M=0$, $SD=1$

Table 10
Correlation Matrix of Variables Used in Study

	A	B	C	D	E	F	G	H
Positive Attention Scale (A)								
Institutional Commitment to Diverse Populations Scale (B)	-.623**							
Personalized Academic Advising Scale (C)	-.566**	-.214**						
Cumulative GPA (D)	.032	.008	-.049					
Satisfaction Scale (E)	.591**	.427**	.330**	.154**				
Race (Black) (F)	-.010	-.011	.022	-.211**	-.005			
Race (Asian) (G)	-.051	-.113**	.032	-.023	-.081*	-.156**		
Gender (Female) (H)	.022	.049	.033	.108**	.071	.146**	.015	
Educational Goal (I)	.011	-.009	-.023	.175**	.067	-.001	.026	.020
First Choice (J)	.130**	.079*	.104**	.029	.262**	-.085*	-.029	-.046
Class Load (Part-Time) (K)	.067	.020	.142**	-.050	-.053	.003	-.021	-.005
Class Level (Junior) (L)	.069	.061	.074	-.185**	.032	.034	-.077	.020
Arts, Humanities, Social Sciences (M)	-.087*	-.016	-.066	-.102*	-.045	.082*	-.137**	.047
Sciences (N)	-.022	-.049	.015	.062	-.015	-.089*	.134**	-.060
Resident Life Experience (O)	-.079*	-.047	-.082*	.049	.001	-.026	-.131**	.000
Full time off campus employment (P)	.005	-.023	.079*	-.143**	-.006	.104**	-.047	-.052
Part time off campus employment (Q)	-.045	-.035	-.046	-.072	.007	-.015	-.004	.102*
Full time on campus employment (R)	-.037	-.013	-.014	.027	-.044	-.024	-.031	-.027
Part time on campus employment (S)	.026	.035	.013	.131**	.016	.049	-.067	.043
Commuter Status (Dependent) (T)	-.023	-.036	.103**	-.078	-.066	.016	.262**	.035
Commuter Time (U)	-.029	-.000	.043	-.012	-.067	.031	.114**	.031

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

Table 10 (continued)

Correlation Matrix of Variables Used in Study

	H	I	J	K	L	M	N
Positive Attention Scale (A)							
Institutional Commitment to Diverse Populations Scale (B)							
Personalized Academic Advising Scale (C)							
Cumulative GPA (D)							
Satisfaction Scale (E)							
Race (Black) (F)							
Race (Asian) (G)							
Gender (Female) (H)							
Educational Goal (I)	.020						
First Choice (J)	-.046	.010					
Class Load (Part-Time) (K)	-.005	.016	.051				
Class Level (Junior) (L)	.020	-.039	-.033	-.089*			
Arts, Humanities, Social Sciences (M)	.047	-.001	-.013	-.019	.076		
Sciences (N)	-.060	.038	-.013	.049	-.105**	-.454**	
Resident Life Experience (O)	.000	.071	-.140**	-.101*	-.031	.083*	-.104**
Full time off campus employment (P)	-.052	-.066	.026	.166**	.023	.039	.002
Part time off campus employment (Q)	.102*	-.082*	.004	-.017	.001	-.003	-.041
Full time on campus employment (R)	-.027	.006	.004	-.019	-.054	-.012	.074
Part time on campus employment (S)	.043	.050	-.069	-.049	-.016	.051	.027
Commute Status (Dependent) (T)	.035	-.038	.046	.100*	-.028	-.125**	.060
Commute Time (U)	.031	-.024	.029	.166**	.016	-.042	.050

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

Table 10 (continued)

Correlation Matrix of Variables Used in Study

	O	P	Q	R	S	T	U
Positive Attention Scale (A)							
Institutional Commitment to Diverse Populations Scale (B)							
Personalized Academic Advising Scale (C)							
Cumulative GPA (D)							
Satisfaction Scale (E)							
Race (Black) (F)							
Race (Asian) (G)							
Gender (Female) (H)							
Educational Goal (I)							
First Choice(J)							
Class Load (Part-Time) (K)							
Class Level (Junior) (L)							
Arts, Humanities, Social Sciences (M)							
Sciences (N)							
Resident Life Experience (O)							
Full time off campus employment (P)	-.051						
Part time off campus employment (Q)	-.163**	-.360**					
Full time on campus employment (R)	-.007	-.026	-.067				
Part time on campus employment (S)	.151**	-.142**	-.370**	-.026			
Commute Status (Dependent) (T)	-.360**	-.072	.151**	-.058	-.116**		
Commute Time (U)	-.287**	.074	.066	-.065	-.040	.441**	

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

Hypothesis 2: Relationship of Demographic, Aspirational, Situational, Employment, and Commuting Variables to Mattering

Hypothesis two stated that the combination of demographic, aspirational, situational, employment, and commuting predictor/independent variables does not explain a significant amount of the variance in students' sense of mattering to the institution. Blocked hierarchical regression was used to explore the relationship between the mattering scales (dependent variable) and the demographic, aspirational, situational, employment, and commuting variables (independent/predictor variables). As described earlier, variables were entered in blocks according to Astin's (1991) I-E-O model. The first block contained the demographic variables, race/ethnicity and gender. The second block contained the aspirational variables, educational goal and institutional choice. The third block contained the situational variables, class load (full- or part-time), class level (junior or senior), college, and resident life experience. The fourth block contained the employment variables. And, the fifth block contained the commuting variables, commute status (dependent or independent commuter) and commute time. Separate regression procedures were performed for each mattering scale. The following paragraphs and tables demonstrate that the null hypothesis was partially rejected.

Prediction of positive attention. The entire regression equation explained 5% of the variance in Positive Attention and was significant, $F(16) = 1.81, p < .05$. Blocks 1 (demographic variables), 4 (employment variables), and 5 (commuting variables) were not significant. Block 2 (aspirational variables) was significant (R^2 change = .012, F

change (2, 518)=3.28, $p<.05$) as was Block 3 (situational variables) (R^2 change=.026, F change (5,513)=2.78, $p<.05$). Table 11 summarizes the results of this regression analysis.

In the final model, selection of the university as first choice was a positive predictor of Positive Attention ($\beta=.098$, $p<.05$). Being in the Arts, Humanities, and Social Sciences was a negative predictor of Positive Attention ($\beta = -.140$, $p<.05$). And, having resident life experience was a negative predictor of Positive Attention ($\beta =-.116$, $p<.05$). These results indicate that for the mattering scale of Positive Attention, the overall hypothesis was rejected. For the sub-hypotheses, hypotheses 2a, 2d, and 2e failed to be rejected while hypotheses 2b, and 2c were rejected. That is, the demographic, employment, and commuting variables did not explain a significant amount of the variance in Positive Attention. However, after the demographic variables were accounted for, the aspirational block explained a significant amount of variance in Positive Attention. Similarly, after both the demographic and aspirational blocks were accounted for, the situational block explained a significant amount of variance in Positive Attention.

Table 11

Summary of Regression Equation Predicting Positive Attention (N=524)

Independent Variable	Block 1 β	Block 2 β	Block 3 β	Block 4 β	Block 5 β
Gender: Female	.051	.054	.052	.056	.056
Race: Black/African American	.000	.009	.005	.005	.010
Race: Asian American/ Pacific Islander	-.049	-.047	-.066	-.072	-.055
First Choice Institution		.112*	.096*	.096*	.098*
Educational Goal		-.002	.008	.002	.000
Class Load: Part-Time			.053	.058	.069
Class Level: Junior			.052	.048	.049
College: Arts, Humanities, Social Sciences			-.135**	-.135**	-.140**
College: Sciences			-.072	-.072	-.075
Resident Life Experience			-.076	-.089	-.116*
Employment: Full-Time Off-Campus				-.043	-.042
Employment: Part-Time Off-Campus				-.064	-.056
Employment: Full-Time On-Campus				-.039	-.044
Employment: Part-Time On-Campus				.108	.007
Commute Status: Dependent Commute Time					-.042 -.055
R^2	.005	.017*	.043*	.049	.054*
Adj. R^2	-.001	.008	.025	.022	.024
R^2 Change	.005	.012*	.026*	.005	.005

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

Prediction of institutional commitment to diverse populations. The entire regression equation explained 4% of the variance in Institutional Commitment to Diverse Populations but was not significant. Only Block 1 (demographic variables) demonstrated significant change in R^2 ($R^2=.022$, adj $R^2=.017$, F change (3, 520)=3.97, $p.<.01$). Table 12 summarizes the results of this regression analysis.

In the final model, being Asian American was the only significant predictor and showed a negative relationship to Institutional Commitment to Diverse Populations ($\beta=-.136$, $p<.05$). These results indicate that for the mattering scale of Institutional Commitment to Diverse Populations, Hypothesis 2a was rejected while Hypotheses, 2b, 2c, 2d, and 2e failed to be rejected. That is, only the demographic variable block explained a significant amount of the variance in Institutional Commitment to Diverse Populations. However, the overall hypothesis could not be rejected because of lack of overall significance.

Table 12

Summary of Regression Equation Predicting Institutional Commitment to Diverse Populations (N=524)

Independent Variable	Block 1 β	Block 2 β	Block 3 β	Block 4 β	Block 5 β
Gender: Female	.079	.081	.079	.083	.082
Race: Black/African American	-.030	-.025	-.031	-.029	-.026
Race: Asian American/ Pacific Islander	-.132*	-.130*	-.144*	-.149*	-.136*
First Choice Institution		.056	.047	.047	.049
Educational Goal		-.021	-.011	-.019	-.021
Class Load: Part-Time			-.003	.006	.008
Class Level: Junior			.035	.033	.033
College: Arts, Humanities, Social Sciences			-.074	-.075	-.080
College: Sciences			-.050	-.053	-.057
Resident Life Experience			-.069	-.084	-.096
Employment: Full-Time Off-Campus				-.055	-.061
Employment: Part-Time Off-Campus				-.070	-.069
Employment: Full-Time On-Campus				-.013	-.015
Employment: Part-Time On-Campus				.012	.009
Commute Status: Dependent Commute Time					-.057 .021
R^2	.022**	.026	.036	.042	.044
Adj. R^2	.017	.017	.018	.016	.014
R^2 Change	.022**	.004	.010	.006	.002

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

Prediction of personalized academic advising. The entire regression equation explained 6% of the variance in Personalized Academic Advising and was significant, $F(16) = 2.02, p < .05$. Blocks 1 (demographic variables), 4 (employment variables), and 5 (commuting variables) were not significant. Block 2 (aspirational variables) was significant (R^2 change = .013, F change (2, 518) = 3.33, $p < .05$) as was Block 3 (situational variables) (R^2 change = .031, F change (5, 513) = 3.23, $p < .05$). Table 13 summarizes the results of this regression analysis.

In the final model, selection of the university as first choice ($\beta = .091, p < .05$) was a positive predictor of Personalized Academic Advising. Being a part-time student ($\beta = .145, p < .05$) was also a positive predictor of Personalized Academic Advising. Finally, being a dependent commuter ($\beta = .109, p < .05$) was also a positive predictor of Personalized Academic Advising. These results indicate that for the mattering scale of Personalized Academic Advising the overall hypothesis was rejected. For the sub-hypotheses, hypotheses 2a, 2d, and 2e failed to be rejected while Hypotheses 2b, and 2c were rejected. That is, the demographic, employment, and commuting variables did not explain a significant amount of the variance in Personalized Academic Advising. However, after the demographic variables were accounted for, the aspirational block explained a significant amount of variance in Personalized Academic Advising. Similarly, after both the demographic and aspirational blocks were accounted for, the situational block explained a significant amount of variance in Personalized Academic Advising.

Table 13

Summary of Regression Equation Predicting Personalized Academic Advising (N=524)

Independent Variable	Block 1 β	Block 2 β	Block 3 β	Block 4 β	Block 5 β
Gender: Female	.029	.033	.031	.034	.036
Race: Black/African American	.027	.037	.031	.022	.015
Race: Asian American/ Pacific Islander	.031	.033	.031	.035	.012
First Choice Institution		.113*	.093*	.095*	.091*
Educational Goal		-.004	-.004	-.004	-.002
Class Load: Part-Time			.152**	.148**	.145**
Class Level: Junior			.058	.056	.056
College: Arts, Humanities, Social Sciences			-.050	-.058	-.047
College: Sciences			-.036	-.043	-.036
Resident Life Experience			-.042	-.050	-.029
Employment: Full-Time Off-Campus				.043	.055
Employment: Part-Time Off-Campus				-.028	-.030
Employment: Full-Time On-Campus				-.005	-.002
Employment: Part-Time On-Campus				.053	.059
Commute Status: Dependent Commute Time					.109* -.047
R^2	.002	.015	.046	.052	.060*
Adj. R^2	-.003	.006	.027	.026	.030
R^2 Change	.002	.013*	.031**	.007	.008

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

Hypothesis 3: Relationship of Demographic, Aspirational, Situational, Employment, Commuting Variables, and Materring Scales to Cumulative GPA

Hypothesis three stated that materring does not explain a significant amount of the variance in GPA over and above the demographic, aspirational, situational, employment, and commuting variables. Blocked hierarchical regression was performed to explore the relationship between cumulative GPA (dependent variable) and the demographic, aspirational, situational, employment, commuting variables, and materring scales (independent/predictor variables). The first block contained the demographic variables, race/ethnicity and gender. The second block contained the aspirational variables, educational goal and institutional choice. The third block contained the situational variables, class load (full- or part-time), class level (junior or senior), college, and resident life experience. The fourth block contained the employment variables. The fifth block contained the commuting variables, commute status (dependent or independent commuter) and commute time. And, the sixth block contained the materring scales (Positive Attention, Institutional Commitment to Diverse Populations, and Personalized Academic Advising).

The entire regression equation explained 19% of the variance in GPA and was significant, $F(19) = 6.08, p < .05$. Blocks 5 (commuting variables) and 6 (materring scales) were not significant. Block 1 (demographic variables) was significant (R^2 change = .073, F change (3, 520) = 13.67, $p < .01$). Block 2 (aspirational variables) was significant (R^2 change = .027, F change (2, 518) = 7.65, $p < .01$). Block 3 (situational variables) was significant (R^2 change = .043, F change (5, 513) = 5.15, $p < .01$). Finally,

block 4 (employment variables) was also significant (R^2 change=.030, F change (4, 509)=4.63, $p<.05$). Table 14 summarizes the results of this regression analysis.

In the final model, several variables were significant predictors of GPA. Being female was a positive predictor of GPA ($\beta=.163$, $p<.05$). Both being Black ($\beta =-.230$, $p<.05$) and Asian American ($\beta =-.100$, $p<.05$) were negative predictors of GPA. Educational goal (those seeking an advanced degree) ($\beta =.136$, $p<.05$) was a positive predictor of GPA. Class level (junior) ($\beta =-.179$, $p<.05$) was a negative predictor of GPA. Both full-time off-campus employment ($\beta =-.137$, $p<.05$) and part-time off-campus employment ($\beta =-.112$, $p<.05$) were negative predictors of GPA. Finally, the mattering scale of Personalized Academic Advising ($\beta =-.108$, $p<.05$) was a negative predictor of GPA. These results indicate that Hypothesis 3 failed to be rejected. That is, mattering did not explain a significant amount of the variance in GPA over and above the demographic, aspirational, situational, employment, and commuting variables. However, the blocks which contained the demographic, aspirational, situational, and employment variables did demonstrate significant predictive capacity of GPA.

Table 14

Summary of Regression Equation Predicting Cumulative GPA (N=524)

Independent Variable	Block 1 β	Block 2 β	Block 3 β	Block 4 β	Block 5 β	Block 6 β
Gender: Female	.161**	.156**	.161**	.162**	.160**	.163**
Race: Black/African American	-.245**	-.247**	-.239**	-.233**	-.230**	-.230**
Race: Asian American/Pacific Islander	-.074	-.080	-.107*	-.112*	-.100*	-.100*
First Choice Institution		-.002	.001	.002	.005	.008
Educational Goal		.163**	.155**	.138*	.137*	.136*
Class Load: Part-Time			-.054	-.027	-.031	-.022
Class Level: Junior			-.180**	-.180**	-.182**	-.179**
College: Arts, Humanities, Social Sciences			-.058	-.061	-.068	-.064
College: Sciences			.035	.023	.018	.018
Resident Life Experience			.017	-.014	-.018	-.015
Employment:				-.133*	-.144*	-.137*
Full-Time Off-Campus						
Employment:				-.107*	-.110*	-.112*
Part-Time Off-Campus						
Employment:				-.002	-.002	.001
Full-Time On-Campus						
Employment:				.071	.065	.071
Part-Time On-Campus						
Commute Status: Dependent					-.078	-.065
Commute Time					.078	.079
Positive Attention Scale						.093
Institutional Commitment to Diverse Populations Scale						-.049
Personalized Academic Advising Scale						-.108*
R^2	.073	.100	.143	.173	.179	.186*
Adj. R^2	.068	.091	.126	.150	.153	.156
R^2 Change	.073**	.027*	.043**	.030*	.006	.008

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

Hypothesis 4: Relationship of Demographic, Aspirational, Situational, Employment, Commuting Variables, and Mattering Scales to Overall Satisfaction

Hypothesis four stated that mattering does not explain a significant amount of the variance in overall satisfaction over and above the demographic, aspirational, situational, employment, and commuting variables. Blocked hierarchical regression was performed to explore the relationship between overall satisfaction with the university (dependent variable) and the demographic, aspirational, situational, employment, commuting variables, and mattering scales (independent/predictor variables). The first block contained the demographic variables, race/ethnicity and gender. The second block contained the aspirational variables, educational goal and institutional choice. The third block contained the situational variables, class load (full- or part-time), class level (junior or senior), college, and resident life experience. The fourth block contained the employment variables. The fifth block contained the commuting variables, commute status (dependent or independent commuter) and commute time. And, the sixth block contained the mattering scales (Positive Attention, Institutional Commitment to Diverse Populations, and Personalized Academic Advising).

The entire regression equation explained 40% of the variance in satisfaction and was significant, $F(19) = 17.66, p < .05$. Blocks 1 (demographic), 3 (situational variables), 4 (employment variables), and 5 (commuting variables) were not significant predictors of satisfaction. Block 2 (aspirational variables) was significant (R^2 change = .059, F change

(2, 518)=16.45, $p<.01$) as was Block 6 (mattering scales) (R^2 change=.303, F change (3, 504)=84.72, $p<.01$). Table 15 summarizes the results of this regression analysis.

In the final model, several variables were significant predictors of satisfaction. Selection of the university as a first choice was a positive predictor of satisfaction ($\beta =.195, p<.05$). Attending part-time was a negative predictor of satisfaction ($\beta =-.099, p<.05$). Part-time off-campus employment was a positive predictor of satisfaction ($\beta =.088, p<.05$). The mattering scale, Positive Attention, was a positive predictor of satisfaction ($\beta =.476, p<.05$). Finally, the mattering scale, Institutional Commitment to Diverse Populations, was a positive predictor of satisfaction ($\beta =.113, p<.05$). These results indicate that Hypothesis 4 was rejected. In the final regression equation, the mattering scales block did explain a significant amount of the variance in satisfaction.

Table 15

Summary of Regression Equation Predicting Overall Satisfaction (N=524)

Independent Variable	Block 1 β	Block 2 β	Block 3 β	Block 4 β	Block 5 β	Block 6 β
Gender: Female	.082	.088*	.087	.079	.078	.041
Race: Black/African American	.135	.003	.009	.007	.014	.011
Race: Asian American/Pacific Islander	.115	-.087*	-.095*	-.095*	-.075	-.033
First Choice Institution		.239**	.246**	.247**	.250**	.195**
Educational Goal		.050	.056	.059	.057	.059
Class Load: Part-Time			-.071	-.070	-.061	-.099*
Class Level: Junior			.027	.026	.027	-.002
College: Arts, Humanities, Social Sciences			-.101*	-.102*	-.109*	-.032
College: Sciences			-.038	-.035	-.039	.004
Resident Life Experience			.007	.008	-.020	.047
Employment:				.005	.001	.027
Full-Time Off-Campus						
Employment:				.046	.052	.088*
Part-Time Off-Campus						
Employment:				-.045	-.049	-.027
Full-Time On-Campus						
Employment:				.045	.045	.039
Part-Time On-Campus						
Commute Status: Dependent					-.069	-.045
Commute Time					-.026	-.001
Positive Attention Scale						.476**
Institutional Commitment to Diverse Populations Scale						.113*
Personalized Academic Advising Scale						.029
R^2	.014	.073**	.087	.092	.097	.400*
Adj. R^2	.008	.064	.069	.067	.069	.377
R^2 Change	.014	.059**	.014	.005	.005	.303**

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

Summary

Results from the exploratory factor analyses indicate that three reliable measures of mattering could be derived for this sample from the Student Satisfaction Inventory. Although not addressing all of the components of mattering, two of these scales, Positive Attention and Institutional Commitment to Diverse Populations, provide an adequate and reliable measure of the attention and importance aspects of mattering. The third scale, Personalized Academic Advising, although not a theoretical component of mattering, addresses the general concept of mattering in a particular setting – academic advising.

The multiple regression analyses of this study revealed a variety of findings, which will be discussed in Chapter V. The significance of the overall regression equations for Positive Attention and Personalized Academic Advising allowed the null hypothesis to be partially rejected, suggesting that the combination of blocks of variables do explain a significant although small amount of the variance in students' feelings of mattering to the institution. For Positive Attention, the aspirational and situational blocks and three particular variables were significant predictors of this dimension of mattering. Selection of the university as first choice predicted higher levels of Positive Attention while being in the Arts, Humanities, and Social Sciences and having resident life experience predicted lower levels of Positive Attention. The only block with significant predictive capacity for the Institutional Commitment to Diverse Populations scale was the demographic one and being Asian American was the only significant variable. Asian American students had, on average, lower values on this scale suggesting they did not feel as strongly in the institution's commitment to diverse populations. For Personalized

Academic Advising, the aspirational and situational blocks and three particular variables were significant predictors of this dimension of mattering. The three positive predictors of Personalized Academic Advising were: students for whom the University was their first choice, who attended part-time, or who lived with family.

For the secondary analyses, which examined how well mattering contributed to the variance in GPA and overall satisfaction, the significance of the overall regression equation suggested that as a group the blocks of variables predicted a significant amount of change in GPA. However, the mattering block did not emerge as significant, therefore the null hypothesis was not rejected. Several blocks and variables, though, did emerge as significant predictors. For GPA, the demographic, aspirational, situational, and employment blocks of variables were significant predictors. Positive predictors of GPA included being female and seeking an advanced degree. Negative predictors of GPA included being Black, being Asian American, being a junior, off-campus employment (both full- and part-time) and experiencing Personalized Academic Advising.

For overall satisfaction, the final regression equation was significant suggesting that as a group the blocks of variables predicted a significant amount of change in overall satisfaction. In addition, the aspirational and mattering blocks were significant predictors. The emergence of the mattering block as significant allowed the null hypothesis to be rejected for overall satisfaction. Positive predictors of overall satisfaction included selection of the university as first choice, part-time off-campus employment, feeling positively attended to by the university, and perception of

institutional commitment to diverse populations. The only negative predictor of overall satisfaction was attending part-time.

CHAPTER V

DISCUSSION

This study examined commuter students' feelings of mattering at the University of Maryland, a four-year, public, institution with a large commuter population. Specifically, this research used existing data and applied multiple regression to a sample of 524 students to determine how well commuters' feelings of mattering could be predicted by demographic, aspirational, situational, employment, and commuting variables including gender, race, educational goal, institutional choice, class load, class level, college, resident life experience, employment location and status, commute status, and commute distance. In addition, secondary analyses explored the predictive capacity of these variables and mattering on commuter students' GPA and sense of overall satisfaction. To operationalize the construct of mattering, exploratory factor analysis was used to create three psychometrically sound scales that measured the concepts of attention, importance, and personalized academic advising.

This chapter presents the interpretations of the findings of this study, limitations of the study, implications for theory and practice, and suggestions for future research. It is important to note that this study, in an effort to understand the within group differences of the commuter population, examined the experience of commuter students only and did not compare them to residential students. Findings are discussed as they relate to the research questions posed in Chapter I and the corresponding hypotheses outlined in Chapter III.

Interpretations of Findings

Mattering Construct

Research question 1: Creation of mattering scales. The first aspect of this research examined whether the mattering concept could be operationalized from a set of items from the Student Satisfaction Inventory (Schreiner & Juillerat, 1994). First, initial input from experts in mattering and theory was sought to determine items to submit to exploratory factor analysis. Then, exploratory factor analyses were conducted three times to determine the scales. The sample was split randomly in half, then factor analysis was conducted first on one half and then on the other as a means to verify the replicability of the factor loadings in different samples. Finally, a third factor analysis was conducted on the entire sample to determine the factor loadings for each item of each scale. Results suggested that three reliable scales of mattering could be statistically supported. Two of these, Positive Attention and Institutional Commitment to Diverse Populations, directly addressed components of mattering while the third, Personalized Academic Advising, did not relate to a specific theoretical component of mattering (i.e., attention, importance, ego-extension, dependence, and appreciation) but did address the concept of mattering in a particular setting.

Positive attention scale. The Positive Attention scale was composed of 10 items that clustered around the mattering dimension of attention, “the feeling that one commands the interest or notice of another person” (Rosenberg & McCullough, 1981, p. 164). Items on this scale addressed students’ sense of feeling welcome, being cared about as individuals, attention from faculty in regard to feedback and awareness of

student differences, commitment to racial harmony, and the ability to get involved and obtain information easily. The reliability of this scale was strong ($\alpha = .843$).

The mean of this scale was 4.40 ($SD=.958$), suggesting that commuter students felt generally neutral about this attention dimension of mattering (response options ranged from 1, not satisfied at all, to 7, very satisfied). The item with the lowest mean ($M=3.62$, $SD=1.82$) is worth noting for it addressed seldom getting the “run-around” when seeking information, a concern for commuter students who must navigate institutional policies, procedures, and information in short time blocks between classes while they are still on campus. On the other hand, the item with the highest mean ($M=4.85$, $SD=1.45$) and higher than the overall scale mean, “Students are made to feel welcome on this campus,” suggests that commuters on this campus generally feel some degree of attention and welcome. This is an important finding, since developing a sense of belonging on campus is an important need and concern for commuter students (Wilmes & Quade, 1986).

Institutional commitment to diverse populations scale. The Institutional Commitment to Diverse Populations scale was composed of six items all of which addressed students’ satisfaction with the campus’ demonstration of a commitment to meeting the needs of specific populations. The reliability of this scale was also strong ($\alpha = .848$). This scale provided a measure of the mattering dimension of importance, the belief that others care “about what we want, think, and do, or [are] concerned with our fate” (Rosenberg & McCullough, 1981, p. 164). Unlike the other scales which measured mattering in a direct person-to-person way (that is, participants responded about their

personal mattering experiences), the Institutional Commitment to Diverse Populations scale measured students' perception of the institution's support of not just their own needs and concerns but those of diverse populations. This scale then provided a means of assessing institutional mattering.

The mean of this scale was 4.60 ($SD=.967$), suggesting that commuter students felt generally neutral about this dimension of mattering as well (response options ranged from 1, not satisfied at all, to 7, very satisfied). The item that addressed commuter students had a mean of 4.46 ($SD=1.71$). The items that comprise this scale are worthy of note because they incorporate some of the dimensions of diversity within the student, and therefore, commuter population. Granted, not all aspects of diversity are specifically reflected in these items, such as sexual orientation or race, but the multi-faceted nature of students' identities begins to be addressed by the combination of items that create this scale. The mean scores which indicate commuters feel generally neutral about the institution's demonstration of a commitment to meeting the needs of specific populations could suggest that commuters do not feel a strong sense of importance with the institution.

Personalized academic advising scale. The Personalized Academic Advising scale was composed of two items that addressed students' beliefs that their academic advisor was concerned about their success as an individual and helped them set goals to work toward. These two behaviors reflect several mattering concepts including attention, importance, and ego-extension, the feeling that others empathize with the successes and failures in another's life. Although it could be argued that these items could be subsumed

into the Positive Attention scale, they were kept as a separate scale both because of the results of the factor analysis (scale $M=4.23$, $SD=1.60$, $\alpha = .857$) and because they appeared to measure the mattering concept in a particular environment. Like the means for the items on the other scales, the means for these two items suggested that commuter students felt generally neutral about their personalized academic advising experience. Developing a strong personalized academic advising relationship could be important in helping commuter students feel a sense of belonging with and attention from the institution.

Summary. The development of a set of scales that operationalizes the mattering concept for traditional age undergraduate students is a significant contribution to the literature. The only existing measure of mattering is the Mattering Scales for Adults in Higher Education (Schlossberg, Lassalle, & Golec, 1990). Although there are limitations to the scales developed in this study (which will be addressed later in this chapter), the creation of psychometrically sound scales developed from the Student Satisfaction Inventory (Schreiner & Juillerat, 1994), a widely used, valid, and reliable instrument, opens the possibility for future research about mattering using this and other instruments.

Relationship of Selected Variables With Mattering

Research question 2: Prediction of mattering. Blocked hierarchical regression was used to explore the relationship between the mattering scales and the demographic, aspirational, situational, employment, and commuting variables. Separate regression procedures were performed for each mattering scale. Overall, these blocks of variables predicted only 4-6% of the variance in the mattering scales, and the magnitudes of the

significant predictor variables (Beta weights) were low, ranging from .091 to .145. This suggests that most of the variance in mattering was predicted by other variables.

Unfortunately, findings from the sparse research on both mattering and commuter students do not provide guidance as to what these variables might be. Research on constructs with relevance to mattering (e.g., involvement, engagement, and satisfaction) suggests that other environmental variables such as amount and quality of peer and faculty interaction, actual time spent on campus, and degree of involvement on campus (Astin, 1993; Kuh, 2001; Pascarella & Terenzini, 1991) may be better predictors of students' feelings of mattering. It is important to note that no research exists that directly examines the relationship between commuting and mattering. Thus, although the low predictive capacity of these variables is disappointing, it does provide an initial perspective on the relationship between commuting and mattering.

It is worth noting that in all three regressions the commuting and employment variable blocks failed to be significant predictors of mattering. Although limited, other research has illustrated relationships between these constructs. In regard to commute time, Diamond's (1995) research on adult undergraduate students at three different institutions found that longer commutes led to lower mattering scores. McIntire and Smith's (1992) finding that students with less than an eight minute commute to campus were more likely to persist is not specifically about mattering, although it is one of a handful of studies that addresses the notion of commute time. Finally, data from the National Survey of Student Engagement suggested that commuter students who live far enough away from campus to drive have less interaction with faculty and take less

advantage of enriching educational experiences (Kuh et al., 2001). In terms of employment, McIntire and Smith's study revealed that students who worked on campus were more likely to be retained while those working more than 21 hours per week were more likely to drop out of school. Kodama's (2002) research which explored feelings of marginality among commuter and transfer students also at the University of Maryland found that students who worked on campus felt less marginal. Other research about student employment suggests that part-time, on-campus employment has a positive influence on a number of factors including degree attainment and satisfaction and working full-time off-campus has a negative influence on GPA, interpersonal skills, and satisfaction (Astin, 1993; Mulugetta & Chavez, 1996; Pascarella & Terenzini, 1991). Results of this study failed to confirm these other findings. For the students in this study, commute length, type of commuter (dependent or independent), and location and amount of employment do not emerge as salient predictors of mattering. This suggests that while there is variability in this commuter population in regard to their living situation, commute time, and working situation these variables do not make a difference in their feelings of mattering to the institution. Findings for each of the three mattering scales are discussed below. Where possible, other pertinent research is incorporated into the discussion. Again, it is important to note the paucity of research on both commuter students and mattering.

Hypothesis 2: Prediction of positive attention. Only 5% of the variance in Positive Attention could be accounted for by the independent variables of gender, race, educational goal, institutional choice, class load, class level, college, resident life

experience, employment location and status, commute status, and commute distance. However, this small percent was significant. Only the aspirational and situational blocks were significant predictors of positive attention. Kodama's (2002) study, which explored feelings of marginality among commuter and transfer students also at the University of Maryland, found that being Asian American was a significant predictor of marginality for commuters and that being female was a significant predictor of marginality for transfer students. The findings from this dissertation do not confirm Kodama's as the demographic block of variables did not emerge as significant. In addition, Kodama's finding from post hoc ANOVAs that students who worked on campus felt least marginal is also not replicated in the results of this regression analysis. The employment variable block did not emerge as a significant predictor of the variance in Positive Attention. Given that both of these studies examined the experiences of commuter students at the same institution at roughly the same time, these conflicting results are confusing. One possible explanation may be the different instruments and procedures from which the scales for these two studies were created.

Significant individual predictors of Positive Attention were the aspirational variable, institutional choice, and the situational variables of resident life experience and college. Students who indicated that this was their first choice institution were more likely to feel a sense of positive attention from the institution while those in the Arts, Humanities, and Social Sciences colleges or who had prior on campus living experience were less likely to feel a sense of positive attention from the institution. The finding that those who selected this university as their first choice felt a greater sense of mattering

through positive attention is intuitively correct. Unfortunately, however, there is no other research to substantiate this finding. A review of the research on mattering as well as review of the entries on academic major in *How College Affects Students* (Pascarella & Terenzini, 1991) reveals no information to address the finding that students in the colleges of Arts, Humanities, and Social Sciences felt less positive attention from the institution. Work by Astin (1975) does address the finding that prior resident life experience is a negative predictor of positive attention. Astin discovered that students who lived on campus their first year and then moved back home (becoming dependent commuters) had a dramatic increase in dropping out. Certainly many factors are at play in a student's decision to leave an institution, but the finding from this dissertation regarding previous residence life experience suggests that those commuter students who were once residential students may feel that they matter less to the institution now that they no longer live on campus.

Hypothesis 2: Prediction of institutional commitment to diverse populations. A non significant 4% of the variance in Institutional Commitment to Diverse Populations could be accounted for by the independent variables of gender, race, educational goal, institutional choice, class load, class level, college, resident life experience, employment location and status, commute status, and commute distance. The only block of variables with significant predictive capacity was the demographic one. Moreover, in the final model, being Asian American emerged as the only significant predictor of Institutional Commitment to Diverse Populations. Being Asian American led to lower perceptions of institutional commitment to diverse populations. Kodama (2002) found similar results –

perceived low levels of on-campus support and being Asian American predicted marginality. Although being African American did not emerge as a significant predictor in this dissertation, it is important to note that Gosset, Cuyjet, and Cockriel (1996) found significant differences between African American and non-African American students at public, predominantly White institutions. African American students were more likely to feel that the University administration did not meet their needs and were less satisfied with student services.

It is important to recall that the items that make up the Institutional Commitment to Diverse Populations scale all focus on students' perceptions of demonstrated institutional commitment to meeting the needs of particular student populations. Perhaps this is why only the demographic block of variables emerged as a significant predictor of this scale. Variables such as institutional choice, class load, commute time, and so forth may not be relevant to this dimension of mattering as measured by this scale.

Hypothesis 2: Prediction of personalized academic advising. Only 6% of the variance in Personalized Academic Advising could be accounted for by the demographic, aspirational, situational, employment, and commuting blocks of variables. However, this small percent was significant. Like the Positive Attention scale, only the aspirational and situational blocks were significant predictors of this measure of mattering. In the final model, there were three significant predictors of Personalized Academic Advising all of which were positive: selection of the institution as first choice, being a part-time student, and being a dependent commuter. These findings suggest that those students for whom the University of Maryland was their first choice were more likely to experience higher

feelings of personalized academic advising. Those who attended part time were also more likely to experience higher feelings of personalized academic advising. This may be because one of the primary areas of concern for part-time students is their academic experience and they may therefore spend more time with their academic advisor.

Unfortunately, a review of the literature on academic advising was unsuccessful in locating findings that related to the results of this research. Most studies focused on community college students or reviewed practices specific to individual institutions. Interpretation of the finding that dependent commuters were more likely to experience higher feelings of personalized academic advising is also difficult. What is it about the experience of living at home that would affect this dimension of mattering? Again, no research addresses this finding. One possible explanation may be that commuter students who live at home may rely more on their academic advisors and less on family members for information and advice and therefore experience a more personalized relationship with their academic advisors. More research is needed to answer this question.

Relationship of Mattering to Outcome Variables: Grade Point Average and Satisfaction

Understanding mattering as an outcome and determining the relationship of the demographic, aspirational, situational, employment, and commuting variables to mattering was the primary focus of this study. However, secondary analyses using these blocks of variables and mattering as predictors of the outcome variables of GPA and overall satisfaction were conducted to provide additional information about commuter students and the mattering construct.

Research question/hypothesis 3: Prediction of cumulative grade point average.

Once again, blocked hierarchical regression was employed to examine the predictive capacity of the demographic, aspirational, situational, employment, and commuting variables on cumulative GPA. In addition, the three mattering scales were added as a sixth block in the regression so that their predictive capacity over and above the previous blocks could be ascertained. These sets of variables accounted for 19% of the variance in GPA and were significant. Four blocks of variables emerged as significant predictors of GPA: demographic, aspirational, situational, and employment. Neither the commuting nor mattering blocks emerged as significant. In the final model, there were several variables that were significant predictors of GPA. Again, the magnitude of the Beta weights of the significant predictor variables was low, ranging from .100 to .230. Although more than 80% of the variance is still unexplained, this finding suggests that there are some important, albeit not very strong, elements that are related to commuter students' GPAs. This is especially relevant since this researcher's review of the literature on academic success and place of residence revealed that most studies, with the exception of Astin's (1977) early work, showed no significant differences between commuter and resident students. Thus, this finding offers information about variables of importance for commuters as a distinct group of students in regard to GPA.

Being female and seeking an advanced degree were positive influences on GPA. It is difficult to interpret the finding which suggests that female commuter students were more likely to have higher GPAs than males. In addition, no research which compared gender and GPA was discovered. It is intuitively correct that students who aspire to

obtain an advanced degree would have higher GPAs since their undergraduate cumulative GPA would be an important factor in admission to graduate school. Experiencing personalized academic advising was a negative predictor of GPA. This finding is counterintuitive and difficult to interpret. It is important to note that as a block the mattering scales were not significant predictors of GPA; however, the Personalized Academic Advising scale, on its own, was a significant predictor in the final equation. Perhaps of the three mattering scales, this one most directly relates to the academic aspect of grade point average, thus its salience as a predictor.

Five variables were negative predictors of GPA: being African American, being Asian American, being a junior, and working either full- or part-time off-campus. Each of these findings is discussed below.

The race variables, Asian American and African American (and not White) emerged as significant negative predictors of GPA. This suggests that for commuter students, being a person of color may negatively relate to GPA. Giles-Gee (1989) studied first-time Black freshmen at a predominantly White institution and found that commuting to campus had a negative correlation with GPA. McIntire and Smith's (1992) findings also suggested that students of color showed greater rates of attrition. On the other hand, Fleming's (1984) research comparing Black and White students at different types of institutions suggested that Black students who commuted were better able to focus their attention on learning and knowledge. Although some of the findings from this prior research do not address GPA directly, they suggest relationships between race, commuting, and academic achievement. The finding from this dissertation that being

African American or Asian American related to lower GPAs also calls for a better understanding of the academic experiences of commuter students of color.

Being a junior was a negative predictor of GPA. This finding suggests merely that seniors have higher cumulative GPAs than juniors. Additional interpretation is difficult.

Finally, working both full-and part-time off-campus were negative predictors of GPA. This finding is supported by several previous research studies. Astin (1993) in his extensive analysis of data from the Cooperative Institutional Research Program found that working full-time off-campus was associated with a “pattern of outcomes that is uniformly negative” (p. 387) including lower GPAs. Pascarella and Terenzini (1991) and Mulugetta and Chavez (1996) also suggested that off-campus employment had more negative correlates than on-campus work with degree completion, integration in campus life, and involvement on campus. Even though the items that measured employment in this survey did not define the number of hours for part-time and full-time work, the finding from this study suggests that any amount of off-campus work is detrimental to GPA. This is a discouraging finding given that 60% of the students in this sample worked off-campus. Data from this research did not confirm previous research findings (Astin, 1993; Mulugetta & Chavez, 1996) that on-campus work had a positive relationship with various outcome variables including degree attainment and satisfaction.

Once again, the commuting variables were not significant predictors of GPA suggesting that the situations in which commuter students live and the time it takes them to get to campus do not have a relationship to their academic success as measured by

GPA. Other variables, then, may be more relevant to academic success. Pascarella and Terenzini (1991) suggest that personal factors such as study habits, personal motivation, and quality of effort as well as institutional interventions such as academic skills instruction, remedial assistance, and comprehensive support services are strongly related to academic achievement.

As a block of variables, the mattering scales also did not significantly predict variance in commuter students' GPAs. This suggests that an institutional focus on students' feelings on mattering is not relevant to students' academic achievement.

Research question/hypothesis 4: Prediction of overall satisfaction. An overall satisfaction scale was created by combining scores from Items 99, 100, and 101 which asked students to rate their feelings about expectations being met, overall satisfaction, and desire to enroll again at the institution. The Cronbach alpha reliability coefficient for this scale was .830. Blocked hierarchical regression was once again used to examine the predictive capacity of the demographic, aspirational, situational, employment, commuting variables and the three mattering scales on students' overall satisfaction with the institution. This analysis yielded the highest percentage of significant explained variance, 40%, and had the widest range of Beta weights, .008 to .476. The aspirational block of variables and the block containing the mattering scales were significant predictors of overall satisfaction while the demographic, situational, employment, and commuting ones were not. In addition, two of the mattering scales, Positive Attention and Institutional Commitment to Diverse Populations, emerged as significant predictors

of overall satisfaction. This is a significant contribution to the literature, since no other studies have demonstrated a direct relationship between satisfaction and mattering.

The aspirational variable, first choice institution, was a positive predictor of overall satisfaction. That is, commuter students who selected this institution as their first choice university were more likely to have higher overall satisfaction scores. This finding makes intuitive sense.

A finding that is difficult to interpret is that part-time off-campus employment was a positive predictor of overall satisfaction. A statistical explanation may be that of a suppressor effect (Astin, 1991). This occurs when two independent variables (in this case, part-time off-campus employment and the Positive Attention scale) are negatively correlated with each other but positively correlated with the dependent variable (i.e., overall satisfaction). When the Positive Attention scale is finally entered into the regression equation, the relationship between part-time off-campus employment and satisfaction that was previously suppressed becomes stronger. That is, once the mattering dimension of Positive Attention is controlled for, commuter students who are employed part-time are more satisfied.

Nevertheless, this finding contradicts others previously discussed by Astin (1993), Pascarella and Terenzini (1991), and Mulugetta and Chavez (1996) who all described the negative effects of off-campus employment. On the other hand, Dunham (2000) in a study of traditional-age commuter student satisfaction with various university services discovered that students who were employed either full- or part-time were more satisfied with university services than those who were not employed. It is difficult to understand

what dimensions may be at play here. Is it the place of work, the amount of the work, or the combination of the two that influences satisfaction? More research is needed to address this question.

The Positive Attention mattering scale was a positive predictor of overall satisfaction implying that the more commuter students experience feelings of mattering to the institution in terms of positive attention the more likely they are to experience overall satisfaction. With the highest Beta weight in the study (.476), this variable demonstrated a strong relationship with its outcome variable (overall satisfaction) suggesting it may be one of the more powerful findings of this study. In fact, this finding provides empirical support for Schlossberg's (1989) contention that mattering is directly connected to satisfaction. Attention reflects a very basic human need – to be visible to others in society (Rosenberg & McCullough, 1981). Although these findings do not address a cause and effect relationship, they do illuminate a connection between satisfaction and mattering for commuter students. The practical implications of this finding will be discussed later in this chapter. The Institutional Commitment to Diverse Populations scale was also a positive predictor of overall satisfaction. Given Rosenberg and McCullough's (1981) description of importance as the belief that others “care about what we want, think, and do” (p. 164), it is also not surprising that overall satisfaction would increase as students' perceptions of the institution's commitment to meeting the needs of particular student populations rose.

The only negative predictor of overall satisfaction was attending part-time. A review of the research about attendance patterns yielded no information regarding part-

time status and satisfaction or feelings of being important to the institution and satisfaction. Regardless, these findings have some face validity. Part-time commuter students who may have numerous life roles and demands (Wilmes & Quade, 1986) may have less investment in their educational experience and be less satisfied in an overall way. A clear departure from previous findings is the non-significance of the commuting variables in predicting satisfaction. It is important to note, however, that this study, in an effort to understand the within group differences of the commuter population, examined the experience of commuter students only and did not compare them to residential students. Regardless, the relationship of these non-significant findings to previous research comparing commuter and resident students is offered. The early work of Chickering (1974) and Astin (1975, 1977) showed that commuter students were less satisfied than those who lived on campus and that independent commuters were the least satisfied (Chickering 1974). In addition, in his later work, Astin (1993) suggested that:

the environmental variable having the strongest positive effect on overall satisfaction is leaving home to attend college. The distance of the student's college from home is also positively related to overall satisfaction, over and above the effects of living away from home. Thus, it would appear that it is not just living somewhere other than at home that positively affects satisfaction but also the sheer distance of the college from the student's home. (p. 279)

Echoing Astin's (1993) findings are those of Knox, Lindsay, and Kolb (1992). Employing logistic regression, these researchers measured educational satisfaction as well as perceptions of the academic experience using data from the National Longitudinal

Study of the High School Class of 1972 and the 1979 and 1986 follow-ups. Like Astin, Knox, Lindsay, and Kolb's (1992) study demonstrated that background student characteristics including race, gender, and socioeconomic status had no significant relationships to satisfaction. However, having ever lived on campus had two significant effects: increase in satisfaction with social life and satisfaction with the prestige of the institution. In this dissertation, however, prior resident life experience did not emerge as a significant predictor of satisfaction.

Summary

Interpreting the regression findings in an omnibus fashion reveals the only consistent pattern to be that the commuting block of variables does not appear to be a good predictor of mattering, GPA or overall satisfaction as a within group variable. This suggests that the situation in which commuters live and the length of time it takes them to get to campus are not critical pieces of information in understanding their experiences at the institution in regard to mattering, GPA, or overall satisfaction. Moreover, the situational variable which described whether the commuter students in this study had ever lived on campus was statistically significant only once (as a negative predictor of Positive Attention), providing further strength to the argument that commuting, even if one had ever lived on campus, is not particularly relevant. This finding may be different, however, in a study which compares commuter and resident students. The non-significant commute time findings may also differ with another group of participants. It is possible that in the metropolitan area where the University of Maryland is located it is common for people to drive at least 30 or more minutes to get to various places, thus, a

commute time to school may not feel any different than a commute time to other destinations.

In predicting feelings of mattering for these commuter students, the employment variables also did not emerge as salient, suggesting that where and how much commuter students work does not relate to their sense of mattering to the institution. These findings counter previous literature, practical assumptions, and sparse empirical research that suggest that students may matter less precisely because they commute (Jacoby, 1989; Kodama, 2002; Likins, 1991; Wilmes & Quade, 1986). Although these findings are statistically non significant, they do enhance an understanding of commuter students by suggesting that the situation in which commuter students live and how long it takes them to get to campus do not play a role in the mattering experiences of this population. Understanding why, how, and the degree to which commuters feel that they matter to an institution is a more complex process worthy of investigation of other sources of input including developmental, social, and interpersonal constructs. In addition, variables which assess commuter students' experience of their institutional environment (e.g., amount and quality of interaction with peers or involvement in curricular and co-curricular activities) and degree of engagement as described Kuh (2001) (e.g., level of academic challenge, active and collaborative learning, student interactions with faculty members, enriching educational experiences, and supportive campus environment) may be more relevant predictors of mattering.

Unfortunately, no other discernable patterns of prediction emerged in the analyses to shed light on what might be those critical sources of data. The aspirational variable of

selecting the institution as one's first choice comes closest as it was a significant predictor of Positive Attention, Personalized Academic Advising, and overall satisfaction. In addition, two of the mattering scales significantly predicted overall satisfaction suggesting that a link does exist between the degree to which students feel they matter and their degree of overall satisfaction. This finding confirms Schlossberg's (1989) contention that mattering is a relevant dimension in a student's overall college experience. Other variables appeared only once or twice as predictors of the different measures suggesting that their influence is isolated rather than systematic.

Although multiple regression is a well-used and sound statistical procedure (Huck, 2000) it has some limitations which are worth mentioning as they relate to the non-significant findings. When there are many variables in the equation, the variance of each variable becomes more difficult to account for since it is being shared by all the other variables in the model (Pedhazur, 1982). That is, the prediction payoff decreases. This may help to explain the lack of significance found in the commuting and employment blocks which were entered last in the regression analyses. In addition, the generally low beta weights of the significant variables of this study call into question the importance of each variable in predicting mattering, GPA, and satisfaction. However, Gall, Gall, and Borg (2003) offer a response to this limitation:

The magnitude of a predictor variable's beta weight should not be confused with its importance. A predictor variable can be theoretically significant and highly correlated with the criterion, yet have a low beta weight. The beta weight is arbitrary to an extent, because ... the significance of a predictor variable in a

multiple regression equation depends on its correlation with other predictor variables that are entered first. (p. 345)

Limitations

With any study, it is important to articulate limitations. In particular, limitations regarding the instrumentation, sample, and method are discussed.

Instrumentation

Although the Student Satisfaction Inventory is a well-used, reliable, and valid instrument, flaws exist. Precisely because it is an instrument designed for use at many institutions, some questions are not applicable to respondents at the University of Maryland. None of these items, however, were used in this study. Additionally, the self-report nature of the Student Satisfaction Inventory leaves room for the effects of social desirability or positive self-presentation which could affect the reliability of the results. Information about these effects, however, is not published about the Student Satisfaction Inventory.

Since no instrument exists to measure the mattering perceptions of traditional-age college students, items from the Student Satisfaction Inventory were used to create the mattering scales used in these analyses. Although the scales demonstrated good psychometric properties including strong internal consistency and were informed by the work of expert raters, they did not address all of the dimensions of mattering. The three scales provided adequate measure of the attention and importance dimensions but did not measure dependence, ego-extension, or appreciation. These measures of mattering, then,

were limited by the items that were used to create them and may therefore not represent accurately or completely the concept of mattering.

Sample

Random sampling is the ideal procedure for reducing bias in a study sample (Gall, Gall, & Borg, 2003). The sample used in this study, however, was one of convenience. As mentioned, juniors and seniors in Professional Writing courses were asked to complete the instrument during one class period. This convenience sample, however, was specifically selected because it closely mirrored the demographic make-up of the University, thus suggesting that the results can be generalized to the overall University population. In fact, the chi-square test used to compare the original sample to the University population on the variables of gender, race, class level, and class load indicated that there were no significant differences in regard to race and gender; however, the original sample over represented full-time students and juniors. The over representation of juniors is expected since the survey was administered in Professional Writing classes which most students take when they are juniors.

This study examined the experiences of commuter students only, therefore, the results explain only within group variance and cannot be generalized to all students. The mattering scales were also derived from this commuter-only sample, therefore they may not be usable in other studies which examine both commuters and residents. Finally, the data for this study were from only one type of university, a large, public, four-year institution with a significant commuter population, and therefore cannot be generalized to other types of institutions.

Method

Deciding how to handle missing cases is an important consideration in a research study and any decision results in strengths and limitations. In this study there were generally few missing cases. For the factor analyses these were dealt with by imputation of the means for the items selected by all four expert raters. Mean substitution can artificially restrict variance. For the regression analyses missing data were dealt with by removal which reduces one's sample size. A rule of thumb is that there be a minimum of 10 cases per independent variable (Shavelson, 1988). In this study, there were 19 independent variables. Thus, the total sample size for the regression analyses ($N=524$) was more than sufficient. The commute time variable had the largest number of missing cases (25), suggesting that it may have been a poorly worded item or that students did not understand it. Perhaps these considerations reduce its reliability and validity and therefore help to explain why it did not emerge as significant in any of the analyses.

For the regression analyses, three variables were modified from their original form. These modified variables included educational goal, institutional choice, and academic college. Although this practice is acceptable it does carry some limitations. For example, educational goal was reduced to a two-level variable measuring whether students were seeking a bachelor's degree or an advanced degree. The experience of those students who selected options other than these two were not included in this study. In addition, the collapsing of individual colleges into three broad categories is an artificial distinction that obscures the unique experiences of students within individual colleges. Moreover, one must question how similar each college is with the others in its category.

Finally, the decision to use only the responses of African American, Asian American, and White students in the regression analyses fails to illuminate the experience of other students of color. Although this decision was methodologically sound, it is an important drawback to this study.

As described in this section, there were several limitations to this study. These limitations, however, should not obscure the significance of this research which provided an operationalization of the mattering concept for traditional age college students and provided new information about commuter students and their perceptions of mattering in college.

Implications for Practice

The findings of this study suggest several implications for practice in student affairs and higher education. First, the discovery that mattering does play a significant role in satisfaction provides evidence to support Schlossberg's (1989) contention that a strong connection exists between mattering and typical areas of concern in students affairs including involvement, community, satisfaction, and retention. Put simply, mattering does matter, at least in regard to student satisfaction. More specifically, when commuter students feel attended to (as measured by the Positive Attention scale) they may be more satisfied. Similarly, when they feel that the institution cares about their (or other students') specific needs (as measured by the Institutional Commitment to Diverse Populations scale), they may be more satisfied. Institutional attention to these basic building blocks of the mattering concept may have a positive relationship with commuter students' feelings of overall satisfaction with their college experience. Specific actions

institutions can take to assist commuter students to feel attended to and important include programming that addresses particular commuter concerns (e.g., orientation); provision of basic amenities such as lockers and lounges; assistance with securing off-campus housing and transportation to and from campus; centralization of information to reduce the “run around” effect; multiple ways of conducting business transactions (i.e., online, phone, and in person bill payment); and regular assessment of commuter students’ needs and concerns (Jacoby, 1989).

By attending to commuter students’ feeling of mattering, institutions can also embrace Tinto’s (1993) first principle of effective retention, an institutional commitment to students where student welfare supersedes institutional goals. Focusing on students’ experiences of mattering allows institutions to put students first. By understanding the degree to which students feel important to and attended to by the institution, colleges and universities can design and shape programs, services, and policies that enhance students’ feelings of mattering and therefore increase their sense of satisfaction. Tinto suggested that “communities, educational or otherwise, which care for and reach out to members and which are committed to members’ welfare are also those which keep and nourish their members” (p. 146). Regard for how important and attended to commuter students feel they are to their institutions (how much they feel they matter) can be a powerful tool in demonstrating the “ethos of caring” (p. 149) outlined by Tinto.

The second compelling finding of this study is that commuting, in and of itself, is not a valuable predictor in understanding commuter students’ experiences of mattering, academic achievement, or satisfaction. The emergence of other input and environmental

variables (i.e., race, institutional choice, previous resident life experience, and part-time attendance) as significant predictors of the mattering scales, suggest that other factors are more relevant in comprehending commuter students' feelings of mattering. Although it is good practice to understand the range of commute times and living situations of one's commuter population, administrators must not stop there in determining the dimensions that help to shape the degree to which commuters feel they matter to their institution.

Data from this study suggest that both input and environmental variables shape commuter students' experiences of mattering. The input variables of race and institutional choice demonstrated significant but small prediction of mattering. Racial background (being Asian American) negatively influenced feelings of importance while selection of the University of Maryland as first choice had a positive relationship with attention and experience of personalized academic advising. Three environmental variables emerged as salient to mattering. Being in the Arts, Humanities, or Social Sciences and having ever lived on campus had a negative relationship with attention. Attending part-time had a positive relationship with experience of personalized academic advising. Unfortunately, there is no discernable pattern to these findings, thus it is difficult to recommend specific implications for practice except to suggest that institutions, including the University of Maryland, conduct their own assessment to determine the variables that shape their own population's experiences of mattering.

Finally, data from this study confirm previous research by Astin (1993) that working off-campus has a significant negative impact on GPA. It was expected, though, that differences would have emerged regarding place of employment and students'

feelings of mattering and satisfaction. Much of the literature suggests that on-campus employment can be beneficial to a variety of outcomes including degree completion, involvement, integration with campus, and satisfaction (Pascarella & Terenzini, 1991). Although no findings in this study addressed on-campus employment, the one significant finding related to both full- and part-time off-campus work suggests that institutions should continue to promote on-campus employment since it has positive effects on students' academic performance.

In summary, analysis of the findings from this research suggest several practical implications for student affairs and higher education. Most important is the confirmation of the importance of mattering in relation to student satisfaction and the suggestion that the details of students' commuting experiences are less relevant to their feelings of mattering, satisfaction, and academic success.

Suggestions for Future Research

Findings from this study suggest several avenues for future research to contribute to the limited literature on mattering and commuter students. First, this study demonstrates that mattering does matter, thus it is critical to have a reliable and valid instrument to measure this construct. Although this study produced three psychometrically sound measures of mattering, the scales were created both from a pre-existing instrument and from a sample of only commuter students. Thus, these scales should be used with caution. What is needed is a reliable and valid instrument designed to measure mattering among traditional age college students. This would augment the Mattering Scales for Adults in Higher Education (Schlossberg, Lassalle, & Golec, 1990).

An instrument that is designed to measure all of the dimensions of mattering and normed on traditional age college students would significantly enhance the research and assessment options of professionals in higher education.

Additional research is needed to determine salient predictors of mattering both for commuter students and for all students. The lack of consistent patterns of prediction and relative low amounts of explained variance in this study imply that other variables may be better predictors of mattering. An examination of factors that address more developmental, social, and interpersonal constructs, such as peer interaction, faculty contact, and stages of identity development, could offer additional insight into what makes students feel they matter to their institution. Moreover, exploring the interactions between these variables and the ones in this study could be fruitful.

An exploration of additional outcomes of mattering would also be useful. This study demonstrated that mattering is related to satisfaction. What other outcomes might be affected by students' feelings of mattering to the institution? Perhaps engagement, persistence, retention, time to degree, involvement, student learning, or other variables are also related.

This study examined commuter students at one particular time in their institutional experience. A longitudinal study which explored how commuter students' feelings of mattering may change during their college experience could help institutions design programs, services, and interventions to enhance their experience. In addition, qualitative research, where individual student perspectives and perceptions can be

obtained, may be especially helpful in understanding commuter students' experiences of mattering (or marginality).

This study's findings that commute time and commute status were not salient dimensions in commuters' experiences of mattering suggests that other aspects of commuting would be useful to explore. These could include understanding the reasons students' choose to live off campus, how long they have lived off campus, and exploration of the types of communities in which they live (i.e., high student population, suburban neighborhood, urban locations).

Finally, although this study intentionally examined the within-group differences of commuter students, more research is needed to understand how students who commute differ from their residential peers. Mattering may be experienced differently for commuters and residents; predicting factors may vary; and outcomes may change with residential status. Comparing commuter to resident students could help institutions discover gaps in mattering and the reasons for these differences.

Summary

This study, which explored the relationship of demographic, aspirational, situational, employment, and commuting variables on commuter students' feelings of mattering at the University of Maryland, provides new information about both commuter students and mattering. Creation of a set of scales that measure the mattering construct and exploration of predictors of mattering, GPA, and satisfaction were the foci of this dissertation.

The variables of commute distance and type of commuter did not emerge in any of the analyses as significant predictors. Demographic variables were significant predictors of Institutional Commitment to Diverse Populations and GPA; aspirational variables were significant predictors of Positive Attention, Personalized Academic Advising, GPA, and satisfaction; situational variables were significant predictors of Positive Attention, Personalized Academic Advising, and GPA; employment variables were significant predictors of GPA; and mattering variables were significant predictors of satisfaction.

Implications from this research suggest that mattering is an important element in understanding commuter students' feelings of satisfaction with the university. Institutional attention to commuters' mattering experiences can have a significant impact on commuter students' feelings of overall satisfaction with their college experience. In addition, a focus on the commuting specific aspects of students' experience may not be as salient as attention to other variables.

This study is significant for it answers the call for research about commuter students, a large and continually growing population of students in higher education. Although many questions were answered, even more were raised, perhaps encouraging additional research about commuter students and their experiences of mattering in college.

APPENDIX A
STUDENT SATISFACTION INVENTORY



STUDENT SATISFACTION INVENTORY™

4-Year College and University Version

Laurie A. Schreiner, Ph.D., and Stephanie L. Juillerat, Ph.D.
 Copyright 1994, Noel/Levitz Centers, Inc. All rights reserved.

Dear Student,

Your institution is interested in systematically listening to its students. Therefore, your thoughtful and honest responses to this inventory are very important.

You are part of a sample of students carefully selected to share feedback about your college experiences thus far. Your responses will give your campus leadership insights about the aspects of college that are important to you as well as how satisfied you are with them.

To preserve confidentiality, your name is not requested.

— Thank you for your participation.



Instructions:

- Use a No. 2 pencil only. Please do not use ink or ballpoint pen.
- Erase changes completely and cleanly.
- Completely darken the oval that corresponds to your response.

Each item below describes an expectation about your experiences on this campus. On the *left*, tell us how important it is for your institution to meet this expectation. On the *right* tell us how satisfied you are that your institution has met this expectation.

Importance to me My level of satisfaction	
1 - not important at all			not available/not used
2 - not very important			very satisfied - 7
3 - somewhat unimportant			satisfied - 6
4 - neutral			somewhat satisfied - 5
5 - somewhat important			neutral - 4
6 - important			somewhat dissatisfied - 3
7 - very important			not very satisfied - 2
	does not apply		not satisfied at all - 1
① ② ③ ④ ⑤ ⑥ ⑦	1. Most students feel a sense of belonging here.	① ② ③ ④ ⑤ ⑥ ⑦	●
① ② ③ ④ ⑤ ⑥ ⑦	2. The campus staff are caring and helpful.	① ② ③ ④ ⑤ ⑥ ⑦	●
① ② ③ ④ ⑤ ⑥ ⑦	3. Faculty care about me as an individual.	① ② ③ ④ ⑤ ⑥ ⑦	●
① ② ③ ④ ⑤ ⑥ ⑦	4. Admissions staff are knowledgeable.	① ② ③ ④ ⑤ ⑥ ⑦	●
① ② ③ ④ ⑤ ⑥ ⑦	5. Financial aid counselors are helpful.	① ② ③ ④ ⑤ ⑥ ⑦	●
① ② ③ ④ ⑤ ⑥ ⑦	6. My academic advisor is approachable.	① ② ③ ④ ⑤ ⑥ ⑦	●
① ② ③ ④ ⑤ ⑥ ⑦	7. The campus is safe and secure for all students.	① ② ③ ④ ⑤ ⑥ ⑦	●
① ② ③ ④ ⑤ ⑥ ⑦	8. The content of the courses within my major is valuable.	① ② ③ ④ ⑤ ⑥ ⑦	●
① ② ③ ④ ⑤ ⑥ ⑦	9. A variety of intramural activities are offered.	① ② ③ ④ ⑤ ⑥ ⑦	●
① ② ③ ④ ⑤ ⑥ ⑦	10. Administrators are approachable to students.	① ② ③ ④ ⑤ ⑥ ⑦	●
① ② ③ ④ ⑤ ⑥ ⑦	11. Billing policies are reasonable.	① ② ③ ④ ⑤ ⑥ ⑦	●
① ② ③ ④ ⑤ ⑥ ⑦	12. Financial aid awards are announced to students in time to be helpful in college planning.	① ② ③ ④ ⑤ ⑥ ⑦	●
① ② ③ ④ ⑤ ⑥ ⑦	13. Library staff are helpful and approachable.	① ② ③ ④ ⑤ ⑥ ⑦	●
① ② ③ ④ ⑤ ⑥ ⑦	14. My academic advisor is concerned about my success as an individual.	① ② ③ ④ ⑤ ⑥ ⑦	●
① ② ③ ④ ⑤ ⑥ ⑦	15. The staff in the health services area are competent.	① ② ③ ④ ⑤ ⑥ ⑦	●
① ② ③ ④ ⑤ ⑥ ⑦	16. The instruction in my major field is excellent.	① ② ③ ④ ⑤ ⑥ ⑦	●
① ② ③ ④ ⑤ ⑥ ⑦	17. Adequate financial aid is available for most students.	① ② ③ ④ ⑤ ⑥ ⑦	●
① ② ③ ④ ⑤ ⑥ ⑦	18. Library resources and services are adequate.	① ② ③ ④ ⑤ ⑥ ⑦	●
① ② ③ ④ ⑤ ⑥ ⑦	19. My academic advisor helps me set goals to work toward.	① ② ③ ④ ⑤ ⑥ ⑦	●
① ② ③ ④ ⑤ ⑥ ⑦	20. The business office is open during hours which are convenient for most students.	① ② ③ ④ ⑤ ⑥ ⑦	●

1239073

PLEASE DO NOT MARK IN THIS AREA

Importance to me My level of satisfaction	
1 - not important at all 2 - not very important 3 - somewhat unimportant 4 - neutral 5 - somewhat important 6 - important 7 - very important does not apply		not available/not used very satisfied - 7 satisfied - 6 somewhat satisfied - 5 neutral - 4 somewhat dissatisfied - 3 not very satisfied - 2 not satisfied at all - 1	
1 2 3 4 5 6 7	21. The amount of student parking space on campus is adequate.	1 2 3 4 5 6 7	<input type="radio"/>
1 2 3 4 5 6 7	22. Counseling staff care about students as individuals.	1 2 3 4 5 6 7	<input type="radio"/>
1 2 3 4 5 6 7	23. Living conditions in the residence halls are comfortable (adequate space, lighting, heat, air conditioning, telephones, etc.).	1 2 3 4 5 6 7	<input type="radio"/>
1 2 3 4 5 6 7	24. The intercollegiate athletic programs contribute to a strong sense of school spirit.	1 2 3 4 5 6 7	<input type="radio"/>
1 2 3 4 5 6 7	25. Faculty are fair and unbiased in their treatment of individual students.	1 2 3 4 5 6 7	<input type="radio"/>
1 2 3 4 5 6 7	26. Computer labs are adequate and accessible.	1 2 3 4 5 6 7	<input type="radio"/>
1 2 3 4 5 6 7	27. The personnel involved in registration are helpful.	1 2 3 4 5 6 7	<input type="radio"/>
1 2 3 4 5 6 7	28. Parking lots are well-lighted and secure.	1 2 3 4 5 6 7	<input type="radio"/>
1 2 3 4 5 6 7	29. It is an enjoyable experience to be a student on this campus.	1 2 3 4 5 6 7	<input type="radio"/>
1 2 3 4 5 6 7	30. Residence hall staff are concerned about me as an individual.	1 2 3 4 5 6 7	<input type="radio"/>
1 2 3 4 5 6 7	31. Males and females have equal opportunities to participate in intercollegiate athletics.	1 2 3 4 5 6 7	<input type="radio"/>
1 2 3 4 5 6 7	32. Tutoring services are readily available.	1 2 3 4 5 6 7	<input type="radio"/>
1 2 3 4 5 6 7	33. My academic advisor is knowledgeable about requirements in my major.	1 2 3 4 5 6 7	<input type="radio"/>
1 2 3 4 5 6 7	34. I am able to register for classes I need with few conflicts.	1 2 3 4 5 6 7	<input type="radio"/>
1 2 3 4 5 6 7	35. The assessment and course placement procedures are reasonable.	1 2 3 4 5 6 7	<input type="radio"/>
1 2 3 4 5 6 7	36. Security staff respond quickly in emergencies.	1 2 3 4 5 6 7	<input type="radio"/>
1 2 3 4 5 6 7	37. I feel a sense of pride about my campus.	1 2 3 4 5 6 7	<input type="radio"/>
1 2 3 4 5 6 7	38. There is an adequate selection of food available in the cafeteria.	1 2 3 4 5 6 7	<input type="radio"/>
1 2 3 4 5 6 7	39. I am able to experience intellectual growth here.	1 2 3 4 5 6 7	<input type="radio"/>
1 2 3 4 5 6 7	40. Residence hall regulations are reasonable.	1 2 3 4 5 6 7	<input type="radio"/>
1 2 3 4 5 6 7	41. There is a commitment to academic excellence on this campus.	1 2 3 4 5 6 7	<input type="radio"/>
1 2 3 4 5 6 7	42. There are a sufficient number of weekend activities for students.	1 2 3 4 5 6 7	<input type="radio"/>
1 2 3 4 5 6 7	43. Admissions counselors respond to prospective students' unique needs and requests.	1 2 3 4 5 6 7	<input type="radio"/>
1 2 3 4 5 6 7	44. Academic support services adequately meet the needs of students.	1 2 3 4 5 6 7	<input type="radio"/>
1 2 3 4 5 6 7	45. Students are made to feel welcome on this campus.	1 2 3 4 5 6 7	<input type="radio"/>
1 2 3 4 5 6 7	46. I can easily get involved in campus organizations.	1 2 3 4 5 6 7	<input type="radio"/>
1 2 3 4 5 6 7	47. Faculty provide timely feedback about student progress in a course.	1 2 3 4 5 6 7	<input type="radio"/>
1 2 3 4 5 6 7	48. Admissions counselors accurately portray the campus in their recruiting practices.	1 2 3 4 5 6 7	<input type="radio"/>
1 2 3 4 5 6 7	49. There are adequate services to help me decide upon a career.	1 2 3 4 5 6 7	<input type="radio"/>
1 2 3 4 5 6 7	50. Class change (drop/add) policies are reasonable.	1 2 3 4 5 6 7	<input type="radio"/>
1 2 3 4 5 6 7	51. This institution has a good reputation within the community.	1 2 3 4 5 6 7	<input type="radio"/>
1 2 3 4 5 6 7	52. The student center is a comfortable place for students to spend their leisure time.	1 2 3 4 5 6 7	<input type="radio"/>
1 2 3 4 5 6 7	53. Faculty take into consideration student differences as they teach a course.	1 2 3 4 5 6 7	<input type="radio"/>
1 2 3 4 5 6 7	54. Bookstore staff are helpful.	1 2 3 4 5 6 7	<input type="radio"/>
1 2 3 4 5 6 7	55. Major requirements are clear and reasonable.	1 2 3 4 5 6 7	<input type="radio"/>
1 2 3 4 5 6 7	56. The student handbook provides helpful information about campus life.	1 2 3 4 5 6 7	<input type="radio"/>
1 2 3 4 5 6 7	57. I seldom get the "run-around" when seeking information on this campus.	1 2 3 4 5 6 7	<input type="radio"/>
1 2 3 4 5 6 7	58. The quality of instruction I receive in most of my classes is excellent.	1 2 3 4 5 6 7	<input type="radio"/>
1 2 3 4 5 6 7	59. This institution shows concern for students as individuals.	1 2 3 4 5 6 7	<input type="radio"/>
1 2 3 4 5 6 7	60. I generally know what's happening on campus.	1 2 3 4 5 6 7	<input type="radio"/>
1 2 3 4 5 6 7	61. Adjunct faculty are competent as classroom instructors.	1 2 3 4 5 6 7	<input type="radio"/>
1 2 3 4 5 6 7	62. There is a strong commitment to racial harmony on this campus.	1 2 3 4 5 6 7	<input type="radio"/>
1 2 3 4 5 6 7	63. Student disciplinary procedures are fair.	1 2 3 4 5 6 7	<input type="radio"/>
1 2 3 4 5 6 7	64. New student orientation services help students adjust to college.	1 2 3 4 5 6 7	<input type="radio"/>
1 2 3 4 5 6 7	65. Faculty are usually available after class and during office hours.	1 2 3 4 5 6 7	<input type="radio"/>
1 2 3 4 5 6 7	66. Tuition paid is a worthwhile investment.	1 2 3 4 5 6 7	<input type="radio"/>
1 2 3 4 5 6 7	67. Freedom of expression is protected on campus.	1 2 3 4 5 6 7	<input type="radio"/>
1 2 3 4 5 6 7	68. Nearly all of the faculty are knowledgeable in their field.	1 2 3 4 5 6 7	<input type="radio"/>
1 2 3 4 5 6 7	69. There is a good variety of courses provided on this campus.	1 2 3 4 5 6 7	<input type="radio"/>
1 2 3 4 5 6 7	70. Graduate teaching assistants are competent as classroom instructors.	1 2 3 4 5 6 7	<input type="radio"/>
1 2 3 4 5 6 7	71. Channels for expressing student complaints are readily available.	1 2 3 4 5 6 7	<input type="radio"/>
1 2 3 4 5 6 7	72. On the whole, the campus is well-maintained.	1 2 3 4 5 6 7	<input type="radio"/>
1 2 3 4 5 6 7	73. Student activities fees are put to good use.	1 2 3 4 5 6 7	<input type="radio"/>

Your institution may choose to provide you with additional questions on a separate sheet. The section below numbered 74 - 83 is provided as a response area for those additional questions. Continue on to item 84 when you have completed this section.

Importance to me My level of satisfaction	
1 - not important at all		not available/not used	
2 - not very important		very satisfied - 7	
3 - somewhat unimportant		satisfied - 6	
4 - neutral		somewhat satisfied - 5	
5 - somewhat important		neutral - 4	
6 - important		somewhat dissatisfied - 3	
7 - very important		not very satisfied - 2	
does not apply		not satisfied at all - 1	
① ② ③ ④ ⑤ ⑥ ⑦	74. My UM CORE courses actively involved me in the learning process.	74.	① ② ③ ④ ⑤ ⑥ ⑦
① ② ③ ④ ⑤ ⑥ ⑦	75. My UM CORE courses challenged me intellectually.	75.	① ② ③ ④ ⑤ ⑥ ⑦
① ② ③ ④ ⑤ ⑥ ⑦	76. Ethical issues are frequently discussed at the University of Maryland.	76.	① ② ③ ④ ⑤ ⑥ ⑦
① ② ③ ④ ⑤ ⑥ ⑦	77. Computers/Information Technology are effectively used in my courses.	77.	① ② ③ ④ ⑤ ⑥ ⑦
① ② ③ ④ ⑤ ⑥ ⑦	78. My access to computer resources is adequate to support my academic needs.	78.	① ② ③ ④ ⑤ ⑥ ⑦
① ② ③ ④ ⑤ ⑥ ⑦	79. Writing Center support services adequately meet student needs.	79.	① ② ③ ④ ⑤ ⑥ ⑦
① ② ③ ④ ⑤ ⑥ ⑦	80. This course content differs from my other writing courses.	80.	① ② ③ ④ ⑤ ⑥ ⑦
① ② ③ ④ ⑤ ⑥ ⑦	81. Registration for this Professional Writing course was easy.	81.	① ② ③ ④ ⑤ ⑥ ⑦
① ② ③ ④ ⑤ ⑥ ⑦	82. I will be well prepared for professional writing by this course.	82.	① ② ③ ④ ⑤ ⑥ ⑦
① ② ③ ④ ⑤ ⑥ ⑦	83. This course adequately teaches research skills.	83.	① ② ③ ④ ⑤ ⑥ ⑦
How satisfied are you that this campus demonstrates a commitment to meeting the needs of:			
① ② ③ ④ ⑤ ⑥ ⑦	84. Part-time students?	84.	① ② ③ ④ ⑤ ⑥ ⑦
① ② ③ ④ ⑤ ⑥ ⑦	85. Evening students?	85.	① ② ③ ④ ⑤ ⑥ ⑦
① ② ③ ④ ⑤ ⑥ ⑦	86. Older, returning learners?	86.	① ② ③ ④ ⑤ ⑥ ⑦
① ② ③ ④ ⑤ ⑥ ⑦	87. Under-represented populations?	87.	① ② ③ ④ ⑤ ⑥ ⑦
① ② ③ ④ ⑤ ⑥ ⑦	88. Commuters?	88.	① ② ③ ④ ⑤ ⑥ ⑦
① ② ③ ④ ⑤ ⑥ ⑦	89. Students with disabilities?	89.	① ② ③ ④ ⑤ ⑥ ⑦
How important were each of the following factors in your decision to enroll here?			
① ② ③ ④ ⑤ ⑥ ⑦	90. Cost		
① ② ③ ④ ⑤ ⑥ ⑦	91. Financial aid		
① ② ③ ④ ⑤ ⑥ ⑦	92. Academic reputation		
① ② ③ ④ ⑤ ⑥ ⑦	93. Size of institution		
① ② ③ ④ ⑤ ⑥ ⑦	94. Opportunity to play sports		
① ② ③ ④ ⑤ ⑥ ⑦	95. Recommendations from family/friends		
① ② ③ ④ ⑤ ⑥ ⑦	96. Geographic setting		
① ② ③ ④ ⑤ ⑥ ⑦	97. Campus appearance		
① ② ③ ④ ⑤ ⑥ ⑦	98. Personalized attention prior to enrollment		

Choose the one response that best applies to you and darken the corresponding oval for each of the questions below.

- | | | |
|---|---|--|
| <p>99. So far, how has your college experience met your expectations?</p> <p>① Much worse than I expected</p> <p>② Quite a bit worse than I expected</p> <p>③ Worse than I expected</p> <p>④ About what I expected</p> <p>⑤ Better than I expected</p> <p>⑥ Quite a bit better than I expected</p> <p>⑦ Much better than I expected</p> | <p>100. Rate your overall satisfaction with your experience here thus far.</p> <p>① Not satisfied at all</p> <p>② Not very satisfied</p> <p>③ Somewhat dissatisfied</p> <p>④ Neutral</p> <p>⑤ Somewhat satisfied</p> <p>⑥ Satisfied</p> <p>⑦ Very satisfied</p> | <p>101. All in all, if you had it to do over again, would you enroll here?</p> <p>① Definitely not</p> <p>② Probably not</p> <p>③ Maybe not</p> <p>④ I don't know</p> <p>⑤ Maybe yes</p> <p>⑥ Probably yes</p> <p>⑦ Definitely yes</p> |
|---|---|--|

CONTINUE TO THE NEXT PAGE

APPENDIX B

COMPARISON OF PARTICIPANTS INCLUDED AND REMOVED FROM
REGRESSION ANALYSES

Appendix B: Comparison of Participants Included and Removed From Regression

Analyses

	In Sample (<i>n</i> =524)			Not in Sample (<i>n</i> =105) ¹		
	Mean	SD	%	Mean	SD	%
Gender: Female			54.6			45.7
Race: Black/African American			12.6*			11.5
Race: Asian American/ Pacific Islander			18.3*			30.8
First Choice Institution			63.7			63.8
Educational Goal: Bachelor's Degree			71.0			70.5
Class Load: Part-Time			6.7			8.6
Class Level: Junior			71.0			61.9
College: Arts, Humanities, Social Sciences			42.7			39.0
College: Sciences			21.2			26.7
Resident Life Experience			39.7			31.4
Employment: Full-Time Off- Campus			12.0			12.4
Employment: Part-Time Off- Campus			48.1			50.5
Employment: Full-Time On- Campus			.6			.0
Employment: Part-Time On- Campus			13.4			9.5
Commute Status: Dependent			40.3			45.7
Commute Time	-.006	1.01		.044	.969	
Positive Attention Scale	.068	1.02		-.014	.997	
Institutional Commitment to Diverse Populations Scale	.023	.994		.114	1.03	
Personalized Academic Advising Scale	-.019	1.01		.094	.950	
Satisfaction Scale	.011	1.01		-.055	1.01	
Adj. R^2						
R^2 Change						

* $p < .05$

¹For Commute Time variable, $n=77$ due to missing cases.

APPENDIX C

BRIEF SUMMARY OF MATTERING FOR EXPERT REVEIERS

Brief Summary of Mattering

Overview

Mattering, as defined by Rosenberg and McCullough (1981), is the “direct reciprocal of significance” (p. 163). In psychological terms, mattering is a function of how the self (I) perceives his or her importance to the other (You). That is, how important do I feel I am to you? Rosenberg and McCullough are recognized as the initiators of this field of study; however, it is Nancy Schlossberg who has brought this common sense but deeply influential concept to the world of higher education. Suggesting that a strong connection exists between mattering and typical areas of concern in student affairs such as involvement, community, satisfaction, and retention, Schlossberg (1989) wrote “...for whether they [students] are traditional or nontraditional, gifted or average, male or female, all students are concerned about belonging and mattering” (p. 14).

Definitions of Components of Mattering

Rosenberg and McCullough (1981) described mattering as “*a motive; the feeling that others depend on us, are interested in us, are concerned with our fate, or experience us as an ego-extension...*” (p. 165). In their development of the concept, they offered three specific components -- attention, importance, dependence. Although they stated ego-extension as an aspect of mattering in their definition, they embedded it in the idea of importance. Later, Schlossberg (1989) pulled ego-extension out to become a separate aspect and added the notion of appreciation. These collective notions of attention, importance, dependence, ego-extension, and appreciation are briefly described below.

Attention: The notion that you are of interest to others.

Importance: The feeling that others care about what you think, want, or do. This does not necessarily involve approval of your thoughts, feelings, or actions.

Ego-Extension: The feeling that others empathize with your successes and failures and feel pride and sadness with you.

Dependence: The sense that you are necessary and that you are depended on by others.

Appreciation: The feeling that you and your efforts are appreciated.

References

- Rosenberg, M., & McCullough, B. C. (1981). Mattering: Inferred significance to parents and mental health among adolescents. *Research in Community and Mental Health*, 2, 163-182.
- Schlossberg, N. K. (1989). Marginality and mattering: Key issues in building community. In D. C. Roberts (Ed.), *Designing campus activities to foster a sense of community* (pp. 5-15). New Directions for Student Services, no. 48. San Francisco: Jossey-Bass.
- Schlossberg, N. K., Lynch, A. Q., & Chickering, A. W. (1989). *Improving higher education environments for adults*. San Francisco: Jossey-Bass.

REFERENCES

- Anthrop, P. S. (1996). Expectations and satisfaction of freshmen in higher education. (Doctoral dissertation, University of Central Florida, 1996). *Dissertation Abstracts International*, AAT 9623727.
- Astin, A. W. (1975). *Preventing students from dropping out*. San Francisco: Jossey-Bass.
- Astin, A. W. (1977). *Four critical years: Effects of college on beliefs, attitudes, and knowledge*. San Francisco: Jossey-Bass.
- Astin, A. W. (1991). *Assessment for excellence: The philosophy and practice of assessment and evaluation in higher education*. New York: American Council on Education and Macmillan Publishing Co.
- Astin, A. W. (1993). *What matters in college: Four critical years revisited*. San Francisco: Jossey-Bass.
- Benjamin, M., & Hollings, A. (1997). Student satisfaction: Test of an ecological model. *Journal of College Student Development*, 38, 213-228.
- Bryant, F. B., & Yarnold, P. R. (1995). Principal-components analysis and exploratory and confirmatory factor analysis. In L. G. Grimm & P. R. Yarnold (Eds.), *Reading and understanding multivariate statistics* (pp. 99-136). Washington DC: American Psychological Association.
- Campus Assessment Working Group (CAWG) Charter* (1998, November 6). Retrieved November 27, 2000 from <http://www.inform.umd.edu/CAWG/Org/charter.html>
- Chickering, A. W. (1974). *Commuting versus resident students: Overcoming the educational inequities of living off campus*. San Francisco: Jossey-Bass.
- Dependency status. (2000). *Student Guide – Financial Aid*. United States Department of Education, 3.
- Diamond, M. R. (1995). Does it matter to matter? The role of involvement and mattering for returning adult undergraduate students. (Doctoral dissertation, Northwestern University, 1995). *Dissertation Abstracts International*, AAT 9537424.
- Dixon, A. L. (2002). The relationship among ethnic identity, acculturation, mattering, and wellness in minority and non-minority adolescents. (Doctoral dissertation,

- University of North Carolina at Greensboro, 2002). *Dissertation Abstracts International*, AAT 3049158.
- Duarte Silva, A. P., & Stam, A. (1995). Discriminant analysis. In L. G. Grimm & P. R. Yarnold (Eds.), *Reading and understanding multivariate statistics* (pp. 277-318). Washington DC: American Psychological Association.
- Dunham, A. M. (2000). Traditional-aged commuter student usage of and satisfaction with student services at four-year institutions. (Doctoral dissertation, University of Northern Colorado, 2000). *Dissertation Abstracts International*, AAT 9981500.
- Fleming, J. (1985). *Blacks in college*. San Francisco: Jossey-Bass.
- Gall, M. D., Gall, J.P., & Borg, W.R. (2003). *Educational research: An introduction* (7th ed.). Boston: Allyn & Bacon.
- Giles-Gee, H. F. (1989). Increasing the retention of Black students: A multimethod approach. *Journal of College Student Development*, 30, 196-200.
- Hamcke, A. J. (1992, December). Mattering and marginality. Concepts for guiding practice. *The Commuter*, 18, 1-2.
- Helmich, D. (1999). Individual student characteristics and satisfaction within the college environment. (Doctoral dissertation, Johnson & Wales University, 1999). *Dissertation Abstracts International*, AAT 9946604.
- Huck, S. W. (2000). *Reading statistics and research* (3rd ed). New York: Addison Wesley Longman.
- Jacoby, B. (1989). *The student as commuter: Developing a comprehensive institutional response* (ASHE-ERIC Higher Education Report No. 7). Washington, DC: School of Education and Human Development, The George Washington University.
- Jaeger, R. M. (1983). *Statistics: A spectator sport*. Beverly Hills, CA: Sage.
- Juillerat, S. (1995). Investigating a two-dimensional approach to the assessment of student satisfaction: Validation of the Student Satisfaction Inventory. (Doctoral dissertation, Temple University, 1995). *Dissertation Abstracts International*, AAT 9527493.

- Keeling, R. P. (1999, February/March). A new definition of college emerges: Everything that happens to ... a (newly defined) student, in the context of a noisy visual 'datascape.' *NASPA Forum*, 20, 4-5.
- Kincaid, R. Working through college. In R. Kincaid (Ed.), *Student employment: Linking college and the workplace*. (pp. 3-10). Columbia, SC: National Resource Center for The Freshman Year Experience and Students in Transition.
- Knefelkamp, L. L., & Stewart, S. S. (1983). Toward a new conceptualization of commuter students: The developmental perspective. In S. S. Stewart (Ed.), *Commuter students: Enhancing their educational experiences* (pp. 61-69). New Directions for Student Services No. 24. San Francisco: Jossey-Bass.
- Knox, W. E., Lindsay, P., & Kolb, M. N. (1992). Higher education, college characteristics, and student experiences: Long-term effects on educational satisfactions and perceptions. *Journal of Higher Education*, 63, 303-328.
- Kodama, C. K. (2002). Marginality of transfer commuter students. *NASPA Journal*, 39, 233-250.
- Kuh, G. D. (2001, March). Assessing what really matters to student learning: Inside the National Survey of Student Engagement. *Change*, 33, 10-17, 66.
- Kuh, G.D., Gonyea, R. M., & Palmer, M. (2001, Fall). The disengaged commuter student: Fact or fiction. *Commuter Perspectives*, 27, 2-5.
- Licht, M. H. (1995). Multiple regression and correlation. In L. G. Grimm & P. R. Yarnold (Eds.), *Reading and understanding multivariate statistics* (pp. 19-64). Washington DC: American Psychological Association.
- Likins, J. M. (1986). Developing the commuter perspective: The art of advocacy. *NASPA Journal*, 24 (1), 11-16.
- Likins, J. M. (1991). Research refutes a myth: Commuter students do want to be involved. *NASPA Journal*, 29 (1), 68-74.
- Litwin, M. S. (2003). *How to assess and interpret survey psychometrics* (2nd ed). Thousand Oaks, CA: Sage.
- Merton, R.K. & Kitt, A.S. (1950). Contributions to the theory of reference groups. In R.K. Merton & P.F. Lazarsfeld (Eds.), *Continuities in social research: Studies in the scope and method of the American soldier* (pp. 40-105). Glencoe, IL: The Free Press.

- McIntire, R. W., & Smith, S. (1992). *Work and life styles among dropouts and ongoing college students*. Unpublished manuscript, University of Maryland at College Park.
- Moody, D. C. (1996). The relationship between academic advising philosophy and mattering for adult undergraduate students. (Doctoral dissertation, University of Georgia, 1996). *Dissertation Abstracts International*, AAT 9722442.
- Mulugetta, Y., & Chavez, D. (1996). National student employment survey: Why students choose to work and their perceptions of the academic year work experience. In R. Kincaid (Ed.), *Student employment: Linking college and the workplace* (pp. 43-56). Columbia, SC: National Resource Center for The Freshman Year Experience and Students in Transition.
- National Center for Education Statistics (1998). *Profile of undergraduates in U.S. postsecondary education institutions: 1995-96*. Washington DC: U.S. Department of Education.
- Noel, L., Levitz, R., Saluri, D., & Associates (1985). *Increasing student retention: Effective programs and practices for reducing the dropout rate*. San Francisco: Jossey-Bass.
- Pascarella, E. T. (1985). The influence of on-campus living versus commuting to college on intellectual and interpersonal self-concept. *Journal of College Student Development*, 26, 292-299.
- Pascarella, E. T., Bohr, L., Nora, A., Zusman, B., Inman, P., & Desler, M. (1993). Cognitive impacts of living on campus versus commuting to college. *Journal of College Student Development*, 34, 216-220.
- Pascarella, E. T. & Terenzini, P. T. (1991). *How college affects students*. San Francisco: Jossey-Bass.
- Pedhazur, E. J. (1982). *Multiple regression in behavior research: Explanation and prediction*. New York: Holt, Rinehart, & Winston.
- Rockensies, K. J. (1995). A study of the relationship between student goals for attending college and levels of faculty contact for commuter students compared to resident students. (Doctoral dissertation, University of Virginia, 1995). *Dissertation Abstracts International*, AAT 9600376.

- Rosenberg, M., & McCullough, B. C. (1981). Mattering: Inferred significance to parents and mental health among adolescents. *Research in Community and Mental Health, 2*, 163-182.
- Rue, P. & Stewart, S. (1982, July). Toward a definition of the commuter student population in higher education. *NASPA Forum, 2*, 8-9.
- Sanders, L., & Burton, J. D. (1996). From retention to satisfaction: New outcomes for assessing the freshmen experience. *Research in Higher Education, 37*, 555-567.
- Schlossberg, N. K. (1989). Marginality and mattering: Key issues in building community. In D. C. Roberts (Ed.), *Designing campus activities to foster a sense of community* (pp. 5-15). New Directions for Student Services, no. 48. San Francisco: Jossey-Bass.
- Schlossberg, N. K., Lassalle, A. D., & Golec, R. R. (1990). *The mattering scales for adult students in postsecondary education*. Washington DC: American Council on Education Center for Adult Learning and Educational Credentials. (ERIC Document Reproduction Service No. ED 341 771).
- Schlossberg, N. K., Lynch, A. Q., & Chickering, A. W. (1989). *Improving higher education environments for adults*. San Francisco: Jossey-Bass.
- Schmidt, D. K., & Sedlacek, W. E. (1972). Variables related to university student satisfaction. *Journal of College Student Personnel, 13*, 233-238.
- Schreiner, L., & Juillerat, S. (1994). *Student Satisfaction Inventory: 4-year college and university version*. Iowa City, IA: USA Group Noel-Levitz.
- Shavelson, R. J. (1988). *Statistical reasoning for the behavioral sciences* (2nd ed.). Boston: Allyn and Bacon.
- Smith, B. M. (1989). The personal development of the commuter student: What is known from the comparisons with resident students? An ERIC review. *Community College Review, 17*, 47-55.
- Spanbauer, S. (1992). *A quality system for education*. Milwaukee, WI: ASQC Quality Press.
- Sullivan, H. S. (1953). *Interpersonal theory of psychiatry*. New York: W. W. Norton & Co.

- Thelin, J. R. (1996). Historical overview of American higher education. In S. R. Komives & D. B. Woodard, Jr. & Associates, *Student services: A handbook for the profession* (3rd ed., pp. 3-21). San Francisco: Jossey-Bass.
- Tinto, V. T. (1993). *Leaving college: Rethinking the causes and cures of student attrition* (2nd ed.). Chicago: The University of Chicago Press.
- Upcraft, M. L. & Schuh, J. H. (1996). *Assessment in student affairs*. San Francisco: Jossey-Bass.
- Weinfurt, K. P. (1995). Multivariate analysis of variance. In L. G. Grimm & P. R. Yarnold (Eds.), *Reading and understanding multivariate statistics* (pp. 245-276). Washington DC: American Psychological Association.
- Whiting, B. E. (1982). *Determinants and consequences of mattering in the adolescents' social world*. Unpublished doctoral dissertation, University of Maryland.
- Wilmes, M. B. & Quade, S. L. (1986). Perspectives on programming for commuters: Examples of good practice. *NASPA Journal*, 24 (1), 25-35.
- Wolfe, J. S. (1993). Institutional integration, academic success, and persistence of first-year commuter and resident students. *Journal of College Student Development*, 34, 321-326.