

QUESTIONING A MYTH: COMPARING COMMUTER AND RESIDENT STUDENTS IN
TERMS OF ENGAGEMENT AND SATISFACTION AT A LARGE, URBAN INSTITUTION

KATRINA ANGEL

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Abstract

University commuter and resident students were compared in terms of level of academic engagement, social engagement, and satisfaction. The participants were 311 undergraduates at a large university in Ontario. The findings revealed that levels of academic engagement did not differ significantly between commuters and residents, but the two groups differed significantly in terms of social engagement and satisfaction, with residents exhibiting higher levels of both than commuters.

The findings indicated that the family home environment is not an impediment to academic engagement, and that there is not one model of preference for students regarding housing. Investigating the characteristics of commuter and resident students is warranted, including expectations regarding academic and social activities. Having a better understanding of why students are making their choice regarding housing, combined with research on how the residence environment impacts these and other student outcomes, would empower the PSE sector to better serve both populations.

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Chapter 1 Introduction

An area of focus in the postsecondary education sector is that of student success. The term student success is one that is commonly used by researchers, policy makers and practitioners, although it is rarely defined. Student success can be considered as a broad concept that includes students' persistence, academic achievement, learning and development, involvement in educationally effective activities, and satisfaction (Kuh, 2011). While the term can be employed, and measured, in various ways (Pidgeon, 2009; Seifert, Henry & Peregrina-Kretz, 2013), the gist is that individual students, or groups of students, both large (e.g. institution/sector-wide) and small (e.g. specific populations), gain what is hoped or expected that they gain from their educational experience, be it certification, knowledge, skills, empowerment, and/or a transformative experience.

Much research has been done to better understand factors that contribute to and influence student success in the post-secondary education sector (PSE). Two seminal studies were Arthur Chickering's (1974) *Commuting Versus Resident Students* and Alexander Astin's (1977) *Four Critical Years*. In these studies, students who lived on-campus in student housing were found to have numerous demographic characteristics related to success, such as higher family incomes and higher levels of parental education. Comparatively, students who commuted to campus possessed significantly lower rates of these characteristics. Further, these studies found that students living in campus residences were much more likely to complete their studies, and were more satisfied with their university experience than students living off-campus. The differences in success outcomes between the resident and commuter groups of students were so significant that commuter students were understood to be an 'at-risk' population.

Living on-campus is seen to provide an environment conducive to success due to multiple factors. Living in student housing provides students with convenient access to campus activities, academic and non-academic in nature. Further, commuter students face a time deficit compared to residents, due to the time spent travelling to and from campus. In addition to being places to live on-campus, residences also provide programming to students, both social and academic. Student housing has long been recognized as a specialized field within PSE, with professional associations and publications dedicated to the area. Thus, the programming and support provided in residence is done so by professional staff.

Following Chickering's (1974) and Astin's (1977) important publications, the next period of research sought to refine these findings and understand the mechanisms at work in the relationship between students' location of accommodation and their success, often specifically comparing residence and commuter students. However, some studies during this time began to question if living at home with parents really did hinder a student's ability to succeed in university, as some studies began to find that the higher levels of social activities in residence may be counterproductive to success.

Research focussed on commuter students' success and experience drew attention to limitations in the earlier studies. Further, these studies found that institutions were perpetrating a residential tradition, and were not making efforts to include or support commuters. As well, more recent studies at institutions with high percentages of commuter students found that commuters were not as disadvantaged as previously shown, as institutions had implemented programming and supports for this group.

Yet, even with these more current findings, some authors continue to recommend living in residence to increase chances of success (e.g. Kuh, 2005; Schudde, 2011). The assumption

that residence students have higher levels of success is so prevalent that ‘commuter university’ has become a term that implies a disadvantage, offering an inferior experience, compared to the primarily residence-based institutions. However this perception is based on a number of assumptions. The first is that the early studies’ findings, with data collection in the 1960’s, still hold validity today. This would be to assume that students in the two groups continue to show the same vast differences in entering characteristics, as well as the differences in outcomes of success. Further, studies have shown that institutional support for commuter populations has impacted outcomes for these students. Institutions, and the sector as a whole, have developed to provide enriching environments through support and services to include diverse groups of students. It appears that the seminalness of Chickering’s (1974) and Astin’s (1977) studies have left a lasting impression even though more recent research has provided a more nuanced understanding of the topic. It is appropriate to consider if today’s commuter and residence students reaffirm the old assumptions, or break the myth by mirroring some of the recent research findings of no substantive differences in outcomes.

It appears that research specific to this topic has stalled, although location of housing is still often a variable considered in broader studies concerning student success outcomes. There recently has been literature written on factors within residence, such as comparing dormitory to suite style residence (e.g. Rodger & Johnson, 2005) and living learning centres (LLCs), but not continued research on the differences between residents and commuters. Further, all research reviewed on this topic was American, apart from one author’s Canadian papers. Thus, further research is needed to better understand the impacts of location of housing in the current context. In particular, research is needed in the Canadian context.

Areas of current focus in PSE related to student success include student engagement and satisfaction, and some studies do compare commuters to residents. Here generally, residents are found to have higher levels of social engagement and satisfaction, but not usually academic engagement. Student engagement and satisfaction are success outcomes that are commonly measured via quantitative methods, most notably with the NSSE instrument. As such, this study investigated if there was a relationship between place of accommodation, on one hand, and, academic and social engagement, and satisfaction, on the other, at a primarily commuter institution. Using Astin's Input-Environment-Outcome model as the theoretical framework for this study, the following variables in the student experience were considered: students' entering characteristics (input); location of housing, namely, in residence or off-campus (environment); and levels of student engagement and satisfaction (outcome).

Specifically, the research questions were:

1. How do undergraduate commuter and residence students at a large institution in Southern Ontario compare in terms of their levels of academic engagement?
2. How do undergraduate commuter and residence students at a large institution in Southern Ontario compare in terms of their levels of social engagement?
3. How do undergraduate commuter and residence students at a large institution in Southern Ontario compare in terms of their levels of student satisfaction?

In this thesis, the term residence refers to university-provided and -operated student housing, commonly referred to in the literature as dormitories. Residence appears to be the more common Canadian usage, while dormitory seems to be a more common American term. The term resident refers to a student who lives in student housing, while commuter refers to a student who lives off campus, and commutes to and from campus. Commuter includes both students

living with parents and family, sometimes referred to as 'at home', along with those who live away from the family home, but not in student housing.

This study takes place at York University. York is located in the province of Ontario, in the city of Toronto, which is a part of the regional Greater Toronto Area (GTA). The GTA is the fourth most populous area in North America (greatertoronto.worldweb.com) and has seen a high rate of immigration over the past 20 plus years. This immigration has resulted in an incredibly culturally and linguistically diverse population. In 2006, there were more than 70 ethnic groups with populations of 10,000 or more in the GTA (greatertoronto.org). The city of Toronto is home to four universities, including York, plus one university satellite campus. A total of ten universities and colleges are located in the GTA.

York University is a large, comprehensive research institution, with approximately 47,000 undergraduate and 6,000 graduate students in 2015. It was founded in 1959, making it a relatively young institution that, based in an urban centre, has always been a predominantly commuter university. Currently, 80% of York's students are from the GTA (Monahan, 2010a, p. 37), and thus, the student body reflects the region's demographics. Students that identify as visible minority make up 45% of the institution's population. As well, 50% of students are first generation post-secondary education attenders in their families (Monahan, 2010a, p. 37).

York's residence system houses approximately 2,500 students, across nine residence buildings, two of which are located at a second campus located approximately 20km from the main campus. Approximately 7% of full time undergraduate students live on campus, with about 13% of first year students being residents. The residences are operated by a team of staff, made up of administrative and student personnel, who are well educated and trained for the role. Each residence building at York is associated with one of York's affiliated Colleges, to which

membership is primarily determined by program of study. As such, an important factor in residence building placement at this institution is the student's academic program, resulting in students living with peers in the same and related programs.

The participants of this study were 311 undergraduate York University students, from both residence and commuter groups. Using data collected from a questionnaire designed for this study, a causal comparative research method was employed to consider the research questions.

Results from this study will contribute to our understanding of how student success outcomes are influenced by the residence and commuting environments. Specifically, as the study investigated students and environments in the current context, the results will reaffirm or refute the seminal studies from the 1970s. Further, while findings will be particularly relevant at this university, as the Ontario and Canadian PSE sector includes many institutions similar in nature to York, the results may be relevant to the Canadian sector, which currently has a scarcity of research on this topic.

The next chapter of this thesis will review the literature on residence and commuter students; student engagement; and student satisfaction, as well as the conceptual framework used for this study. Methodology, including study design, participant recruitment and data collection and analysis procedures, is then detailed in Chapter 3, followed by findings in Chapter 4. The discussion and conclusions of the study are in Chapter 5.

Chapter 2 Literature Review

The purpose of this study was to better understand the comparative experience of commuter and residence students at a large, urban, Canadian university, by examining their levels of engagement and satisfaction. This chapter begins with a review of Astin's I-E-O model, which is the theoretical framework for this study. The following sections review the literature regarding the impacts of living in student housing. This area will be addressed with three segments: the foundational early studies conducted primarily in the 1970s, the subsequent and more nuanced research of the 1980s and 1990s, and the research on and attention to commuter students that began in the 1980s. The next section discusses the changing contexts of PSE, with the emerging importance of accountability, and attention to student engagement and satisfaction. In the final sections of this chapter, the constructs of student engagement and satisfaction are reviewed.

2.1 The Input-Environment-Outcome Model

The Input-Environment-Outcome (I-E-O) model is a conceptual framework developed and employed by Alexander Astin in a number of his publications (e.g. 1991, 1993). Astin developed the model in 1970, making it one of the first college impact models (Pascarella & Terenzini, 2005). The I-E-O model became a pre-eminent design for student outcome studies (Arendale, 2005) and has stood the test of time, still being regularly implemented (e.g. Mahan, 2010; Sax & Harper, 2011).

The premise of the model is that outcomes can only be fully understood and conclusions only deemed valid if the initial characteristics of the participants, or inputs, and the environment during the period of time being examined are also considered. Inputs encompass any student characteristics considered relevant at the time of entry to the context of the study. Examples

include: entering grades, gender, socio-economic status, and parental level of education.

Environment is what the participants are exposed to during the time of the study, such as programs, activities, teaching methods, and facilities. Outcome is the student characteristic after exposure to the environment. In research studies, outcomes are the dependent variables being considered, while environment is the independent variable, with inputs being moderator variables.

Astin (1993), in explaining the model, stated “The basic purpose of the model is to assess the impact of various environmental experiences by determining whether students grow or change differently under varying environmental conditions. Studying student development with the I-E-O model provides educators, students, and policy makers with a better basis for knowing how to achieve desired educational outcomes” (p. 7). Astin used the I-E-O model to study the outcomes of development or change in post-secondary students, taking into account the traits students arrive with (input), and the experiences the students have during university (environment). The environment component made the model important at the time Astin developed it, as much focus was on the role the institutions’ environment had on student success, independent of pre-entry characteristics.

A limitation of the I-E-O model is that some factors can be considered to be either inputs or environment, depending on the conceptualization of the question. Astin (1993) acknowledged this, and refers to these variables as ‘bridge measures’. For example, the amount of time a student spends commuting to and from campus can be argued to be part of either the input or environment components. Time spent travelling can be seen to be a product of where a student lives, which would be an input, or alternately a product of where the institution is located, which places it in the environment component. The nature of the research question and study allows

for different categorizations to be made; however, this does illustrate that employment of the model is not always completely obvious.

A critique of the I-E-O model is that it is based on studies involving predominantly full-time, traditional aged, residential students. Thus, a concern is that it is based on a primarily homogeneous student population.

The I-E-O model was useful for this study because of its focus on the environmental experience, which is the core of this study, being the two environments of residence and commuting. This study measured levels of student engagement and student satisfaction (outcomes) in these two environments. Students' pre-entry characteristics, such as enrolment in program of preference, were the inputs. Sax and Harper (2011) emphasized the importance of accounting for students' background factors, since "the characteristics and predispositions that students bring with them to college lead them to select certain environments when they arrive on campus" (p. 503). This was a principal factor to this study as students choose their location of housing. Travel time, an additional environment factor related to commuting, was also considered as an input. The housing location of residence or commuting was the environment. The outcomes considered were students' levels of academic engagement, social engagement, and satisfaction. Wolf-Wendel et al. (2009) argued that in the I-E-O model engagement was intended to be part of the environment, rather than an outcome; however, many studies do use engagement (or involvement) as outcome measures. Consideration of these various factors made the I-E-O model an appropriate conceptual framework for this study.

2.2 Residence and Commuter Students

2.2.1 Early studies.

While there was some earlier research addressing the impact of on-campus residence on student success outcomes (e.g. Walker, 1935 and Drasgow, 1958), the two seminal works were books from the 1970s by Arthur Chickering (1974) and Alexander Astin (1977). Chickering's (1974) *Commuting Versus Resident Students* was the first large-scale study to specifically investigate the differences between students who live 'at home' and those who move away to attend university. Astin's (1977) *Four Critical Years* had a broader focus on student success outcomes, but still found much useful information on the topic of the impact of living in residence. Both studies used quantitative data such as grades, standardized test results and surveys as measures of numerous student outcomes. The sample included only direct-entry, full-time students from varied institutions from across the US. These two works provided a solid grounding for inquiry on the topic. The literature since has either theorized and considered the implications of these studies, or carried the research forward from their foundational findings. More recent literature continues to cite one or both of these books (e.g. Flowers & Pascarella, 1999; Kuh, Gonyea & Palmer, 2001; Kuh, 2005).

Chickering's (1974) findings were drawn from three analyses, conducted at the American Council of Education, between 1965 and 1969. (Astin was director of research there at this time.) These studies ranged in sample size from 5,000 to over 26,000, at 270 American institutions. A diversity of 2- and 4-year institutions types (i.e. size, public/private, religious-based, etc.) were included. However, no information was given on the location of these institutions. Based on the described expansiveness of the sample, conducted by a national organization, and a listing given of 27 of the institutions, it is presumed that the locations of these institutions were US-wide. Two of the three analyses employed longitudinal design

beginning with entering first-year students, while the third used a simple descriptive design, also with entering first-years. Information given for one of the analyses stated that only first time, full-time students were included in the sample. It was, therefore, assumed that this was the case for all three data sets. For the analysis with over 5,000 participants, it was reported that 76% lived in student housing and 22% lived at home with parents, with the remainder representing other types of accommodation.

One of the most striking and important findings from this research was the differences in entering characteristics between residence and commuter students. Chickering (1974) found that for residents, parental education, occupation status and family income were higher. Residents tended to live in suburbs, compared to commuters who lived in mid- to large-sized cities. Residents had higher high school grades than commuters, along with the related scholarships and class rankings. Commuters participated less in extracurricular activities in high school, and had lower academic goals. Residents were also, on average, younger, with only 3% of residents as opposed to 11% of commuters over 20 years of age.

After these students entered university, Chickering (1974) found that students who lived in residence exhibited more positive scholastic behaviours than their commuter counterparts:

Commuters who live with their parents more frequently flunk a course and are on academic probation... . Compared to dormitory residents, they less frequently do extra reading, check out a book or journal from the college library, study in the library, type a homework assignment, or argue with an instructor in class; they more frequently fail to complete an assignment on time and come late to class. They much less frequently discuss school work with their friends or read books not required for courses... In

general, therefore, the students who live at home with their parents appear to be less fully engaged in academic activities than their dormitory peers. (p. 61)

After the first year, residents did have slightly higher grades than those living with parents (a difference of 0.3 on an 8-point scale). However, when achieved GPA was compared with predicted GPA employing a model taking entering characteristics into account (using regression analysis), both groups had lower grades than predicted, with residents having the larger gap. As Chickering's (1974) study was of a simple descriptive nature, no explanation for this gap was given.

Residents were found to have more interaction than commuters with both faculty and other students. While retention and graduation were not outcomes considered in these studies, students were asked if they intended to return in subsequent years. During the first year, more residents than commuters planned to return the next year as full-time students. Over the four years of university, the commuters' satisfaction decreased, and they less frequently planned to return as full-time students.

Other differences in characteristics between the two groups of students included that commuters more frequently financed their studies through their own income or savings, while residents had financial assistance from their parents or loans. Also commuters were more frequently in business and engineering majors, than residents. It was also found that residents more frequently smoked cigarettes, drank beer or wine, and stayed up all night than did commuters.

Chickering's (1974) interpretation of his findings was that residents began university with an advantage compared to commuters, and that the gap between the groups grew over their

time as students. Given these differences, he expressed concern for American higher education, as at the time the proportion of commuters was increasing.

In *Four Critical Years*, Astin (1977) also utilized a multi-institutional and longitudinal study, the Cooperative Institutional Research Program (CIRP), conducted by the American Council of Education. The CIRP was the largest ongoing research project in American higher education, with over 200,000 participants from 300 institutions of all types, including community colleges, across the USA. The CIRP was administered to entering first-year students, who were then asked to complete follow-up surveys four or more years later, and in some cases, also before the second year. *Four Critical Years* draws on CIRP findings gathered over 10 years (1966 to 1976), with the first entering class considered being from 1961. The students sampled were full-time, and traditional-aged, which refers to students who enter university directly from high school (Astin, 1993). The surveys collected information on personal characteristics, and psychological and behavioural data, to consider both cognitive and noncognitive outcomes. Entering characteristics and other environmental (type of institution, etc.) data were used as weighting factors in considering various outcomes. CIRP is still an active research program today (www.heri.ucla.edu/abtccirp.php).

Astin's (1977) data collection was conducted by the same organization, the American Council of Education, as Chickering's (1974). While Chickering (1974) does not mention CIRP in his book, it appears that at least some of the data used was from this same source.

Astin (1977) found that students who lived in residence had a 12% higher chance of finishing college, plus an additional 6% if residents' parents provided financial support; higher GPAs for men (compared to men who lived at home); higher satisfaction with their undergraduate experience; as well as higher levels of interaction with faculty, and involvement in

student government, fraternities or sororities. Yet, residents also had larger increases than commuters in hedonism during their college years. Examples of hedonist behaviours given are smoking, drinking, missing classes, staying up all night socializing, and gambling. Involvement in academic activities was seen to be negatively correlated to increased hedonism. Astin did not comment on the apparent incongruity of the findings that residents showed higher levels of behaviour that were negatively related to academic work, but that residents at the same time showed higher levels of achievement in terms of persistence. One possible explanation may be that the higher levels of interaction with faculty and peers mitigated and overcame the negative impact of the hedonistic behaviours.

Differences in entering characteristics were not reported in *Four Critical Years*; rather, they were utilized as weighting measures in the statistical analysis, and therefore, they could not be reported here. Astin did report that residents tended to come from more affluent families and attend four-year rather than two-year institutions, compared to commuters. Commuter students were more likely to major in business or engineering, while more residents studied education or social science (Astin, 1973¹).

In the study, the variable of place of accommodation was located under a category titled student involvement. Other factors included in the student involvement category were participation in honours programs, undergraduate research, athletics, student government, and interacting with faculty. This categorization implies that Astin classified the act of living in residence as comparable to participating in campus activities. He summarized that “in almost every respect, residents benefit more than commuters from their undergraduate experience” (p. 249), and suggested that institutions consider these benefits to determine if more residence

¹ This study pre-dated the publication of *Four Critical Years* and employed data from CIRP 1966 entering class.

facilities should be built, to allow more students this experience (as capacity was an issue during this time).

Together, Astin (1977) and Chickering's (1974) studies found that residents, compared to commuters, came from populations associated with higher levels of academic preparation, such as higher parental income and education, and high school achievement. Once in university, residents were found to be considerably more active in their university experience, and exhibit higher levels of persistence and satisfaction than commuters, as well as hedonistic behaviours. However, little difference was found in the grades these students achieved. The findings of these two studies were consistent with each other.

Numerous other studies during this time supported the findings of Astin and Chickering (e.g. Astin, 1973; Chickering, McDowell & Campagna, 1969; Thomas & Andes, 1987; Welty, 1976). These studies collected basic descriptive data on what was typically seen with these two groups of students. Residents and commuters differed greatly in their entering characteristics, with residents holding a more advantageous position for academic success. Although evidence of differences in grades achieved was limited to Astin (1977), these studies consistently showed that residents had higher rates of persistence than commuters. Writing around the same time as Astin and Chickering, Tinto's 1975 seminal work on persistence stated that the background characteristics of students were related to their retention. The background characteristics were the same as those seen in the research on who lives in residence – family education and socioeconomic status, and high school grades. These studies showed that students in residence were better positioned for success, that they went on to achieve it, and were more satisfied with their experience. As mentioned earlier, it was also shown that residents had higher levels of

hedonistic behaviours that were negatively related with academic performance. However, these studies did not have the scope to be able to address this apparently incongruent finding.

These studies created the pathway for further research to follow, which sought to refine these findings and understand the mechanisms at work in these relationships between location of accommodation and success outcomes.

2.2.2 Subsequent studies (1980s and 1990s)².

In 1993 Astin published an expanded follow-up to *Four Critical Years*, titled *What Matters in College?* As with *Four Critical Years*, *What Matters in College?* has become a seminal publication in PSE. Making use of CIRP data again, this study included almost 25,000 students (full-time, entering from high school) at 309 US-wide four-year (Bachelor's degree granting) institutions, of diverse sizes and types. In addition to the entering pretest and four-year later posttest questionnaires (conducted in 1985 and 1989-90), the CIRP now also utilized data from standardized test scores from the SAT/ACT, GRE, MCAT, and LSAT, as well as institutional registrarial records. As in *Four Critical Years*, Astin (1993) used the input characteristics of students, numbering 131, as controls for considering outcomes, and thus did not provide information on these students' characteristics in the book, and therefore, the characteristics could not be reported here.

Astin (1993) found that the act of leaving home for university had the most direct impacts, compared to those students who remained in the family home. This was found whether students moved into residence, or other off-campus accommodation. Students that moved away for school were found to be more involved and satisfied, and have higher levels of hedonism and alcohol consumption, than those who lived at home. The longer the commute time the student

² Also includes one study from 2011

had, regardless of the nature of off-campus accommodation, the less satisfied they were with all areas considered (overall satisfaction, willingness to reenrol at same institution, faculty, curriculum and instruction, student life, support services), with the exception of one, that of facilities (library, computing and laboratory facilities).

The students that did live in student housing came from higher socioeconomic status families and had a higher level of satisfaction with their faculty than those living at home. Residence students had higher retention rates, while living independent of family off-campus had a negative effect on persistence. Commuters were less likely than residents to complete their degree, or enrol in professional or graduate school. This study did consider many academic achievement outcomes, such as GPA, admission to graduate programs, and performance on standardized tests. Aside from higher retention seen in residents, as already mentioned, the housing environment was not listed as a factor in these other outcomes; in other words, there were no differences between the groups in terms of academic achievement found in this study aside from persistence. This apparent contradiction is, unfortunately, not addressed in the book. This finding that retention was higher for residents, but GPA and other academic outcomes had no differences, implies that the commuters that were not retained left for reasons unrelated to academic progress.

Astin (1993) again placed the variable of place of residence in the involvement category, and in this book devoted a chapter to the topic. This is interesting as the preceding chapter addressed environmental effects on student outcomes, which included institutional characteristics (e.g. public/private, size, selectivity, type), curriculum, faculty environment (e.g. research orientation, use of teaching assistants, age, gender, morale of faculty), and the peer group. This categorization of housing location as that of involvement, as opposed to an environment, is

indicative of Astin's interpretation that residence life is akin to an activity that students participate in, rather than something that happens around them.

In discussing the overall findings in *What Matters in College?*, Astin concluded that a student's peer group was the most influential factor on their growth and development. The peer group of residence, being a social immersive environment, was seen to likely be a mediating factor for the positive impacts seen for residents. It was also found that those who left home for school were more likely to exhibit hedonistic behaviours including consuming alcohol than those who lived with parents. Here again, the negative impact associated with higher hedonistic behaviours combined with a larger hedonistic peer group in residence was not addressed. The implication is that the peer impact was strong enough that the good outweighed the bad.

Other studies during this period investigated the role of residence in student success. Pascarella (1984) studied whether the differences seen between commuter and residence students were as a result of direct effects of living on-campus or rather if the influence of residence was indirect, with residence acting as a mediating factor for other direct impacts. This longitudinal study also used CIRP data, and included over 4,000 Caucasian participants from 74 four-year universities, public and private, who were surveyed as they entered university in 1975, then two years later. The differences in entry characteristics found by Chickering (1974) continued in this study, with residents having significantly higher high school grades, higher levels of parental education, and higher levels of extracurricular involvement in high school than commuters. Using path analysis, Pascarella controlled for background characteristics and institution type (private vs public) in comparing residents' and commuters' experiences and success (GPA, persistence, satisfaction). He found that all benefits that residence students enjoyed were directly related to only two factors— higher levels of interaction with professors and with other students.

All other differences were found to be either as indirect effects of these interactions, or as affected by incoming characteristics. Thus, living in residence on its own was not found to be impacting residents' success; it was that those living in residence interacted more with faculty and peers that contributed to their success, with the implication that residence life facilitated higher levels of interaction.

However, the benefits from this higher interaction effect were compounded by the addition of the differences in entering characteristics. To illustrate, Pascarella gave the example of persistence. Resident students showed higher levels of persistence; however, incoming residence students had higher goals of persistence as a group. Thus the differing entering characteristics of the two groups affected the outcomes. Commuters and residents differed significantly on each of seven incoming characteristics considered. Pascarella pointed out that "commuters and residents come from different pre-college populations" (p. 253).

This was an important finding. This finding showed that merely living in university housing did not directly influence outcomes. Rather, it was students' levels of interactions with peers and faculty that were directly related to positive outcomes, in combination with differing background characteristics. The importance of interaction will be further discussed in the following student engagement section.

Pascarella, Terenzini and Bliming (1994), in an extensive review of the literature, conducted for the often cited book *Realizing The Educational Potential Of Residence Halls*, confirmed the findings stated above. Specifically, that residents, compared to commuters, were more involved socially, interacted more with faculty and other students, were more satisfied with their college experiences, and were more likely to persist and graduate, although location of housing did not impact academic performance or study habits. Their synthesis found that while

it was clear that residents and commuters were drawn from different populations, the positive impact of the residence environment persisted even when background characteristics were controlled. They concluded that the positive impacts tended to be directly related to the higher levels of interaction and involvement, and that the effect of residence itself was indirect. As they observed, “residence appears to accentuate the initial advantages of those who live on campus” (p. 26).

Pascarella et al. (1993) investigated differences between residents’ and commuters’ cognitive growth, by employing a pretest-posttest design with 210 entering students at a large, urban, predominantly commuter research university in the Midwestern USA. Controlling for pretest results of age, number of hours worked, number of credits taken and academic motivation, posttest results from the subsequent spring resulted in nonsignificant differences in gains of reading comprehension and very little difference in mathematical reasoning gains. Large and significant differences were seen in critical thinking results, with residents developing more. Pascarella et al. discussed that math skills were largely taught in class, but that critical thinking was an example of a cognitive skill that was more general in nature than specific course lessons. They connected their results to other research findings of residents’ increased interaction with teaching staff and peers. They suggested that cognitive growth, as measured in this study through critical thinking, was nurtured through the additional interactions residents enjoy with other students and faculty.

Building upon this study, Inman and Pascarella (1998) sought to examine the specific aspects in the differing residence and commuting experiences, and the impact of these on critical thinking gains. Expanding the sample to 600 first-year students, at six predominantly commuter institutions of varying types (community college, liberal arts college, historically Black

institution, research universities, comprehensive state university), they employed the pretest-posttest method (entering first year, end of first year) utilized in their 1993 study. Here again controls were employed for characteristics of age, gender, motivation, hours working, part-time/full-time status, critical thinking pretest results, and average pretest results for the institution attended. In this study, higher levels of campus involvement were found to be related to cognitive development. Their other important finding was of no significant difference in development of critical thinking skills between residence and commuter groups at these primarily commuter institutions. They hypothesized that these commuter institutions had developed academic and social programs to meet the learning needs of their student population, writing that “perhaps students who commute are not at a deficit at institutions that provide support services and involvement opportunities that accommodate the commuter schedules and lifestyles” (p. 566), and called for further research to test their conclusion.

Pascarella and Terenzini (2005) have similar findings in their extensive and comprehensive literature review *How College Affects Students*. This book reviewed research studies examining college impact from the 1990s. They found that while earlier (pre-1990) studies examined differences in outcomes based on place of housing, the research literature of the 1990s progressed to study the mechanisms behind the positive effects of residence. The more recent studies found that while residents continued to enjoy higher rates of degree completion, the effects were indeed primarily due to residents’ higher levels of involvement in institutional activities, both social and academic. Thus the impact of location of housing was indirect, with the direct effect stemming from involvement and interactions.

As recently as 2011, research by Schudde continued to support these findings. This study utilized two national datasets conducted by the US Department of Education, from mostly four-

year institutions, with 3,408 full-time students. Here again, the same differences were seen in students' characteristics. Household income was over \$15,000 higher (in 2004) for residents, and commuters worked almost twice as many hours per week, on average. While in high school, commuters participated fewer hours per week in extracurriculars, and this pattern continued into university. Prior to applying any statistical controls, Schudde found that persistence to second-year was significantly higher for residents than commuters. When the students' non-educational background characteristics were accounted for, the difference was reduced but remained significant. However, the differences were rendered insignificant when controls were implemented for students' educational information such as institution type and high school academic achievement, as well as social and academic interaction. Here again it was shown that students' interactions with teaching staff and peers had a primary impact on the outcome of persistence, rather than the act of living in student housing. Given these results, Schudde cautioned that studies that do not effectively control for variables such as personal characteristics, institution information (for multi-institution studies), and involvement may result in misleading findings. Nonetheless, due to the higher rates of retention seen in residents in this study, Schudde concluded that enabling more students to live on-campus could increase persistence to second year.

These studies showed that the mere act of living in residence versus living at home and commuting was not what was responsible for the differences in outcomes. The cause was actually the higher levels of interaction and involvement in activities that residents exhibited. Further, while the students living in residence had substantially different characteristics than commuters, these characteristics on their own did not account for the differences in outcomes. This means that the residence environment played a role in these differences, but that the role

was to indirectly support increased involvement and interaction. Evidence that students in both groups at some predominantly commuter institutions had similar outcomes raised the possibility that commuters were capable of exhibiting levels of interaction required for success, and/or that these institutions had provided services in a manner for commuters to utilize them.

As mentioned, however, some studies continued to find that the higher amounts of social interactions enjoyed by residents could also be detrimental. The impression was given that residents ‘party’ more, potentially too much. Boyer (1987), in an extensive study of the undergraduate experience at American universities produced by the Carnegie Foundation, found eight “special points of tension” (p. 2) on campuses. One of these divisions was that residence life had become antithetical to the educational purposes of the institutions, with what students were doing and thus learning in the dorms having little connection to the classroom. Astin (1993) found that residents had greater increases in hedonistic behaviours and that these behaviours were negatively related to valuable academic behaviours. Parker (2012) offered that “Noisy dorm mates can interrupt sleep and distract a student trying to study in his or her room. Partying dorm mates, besides being noisy, may tempt a student to join in the activity and reduce his or her study time” (p. 151).

Anderson’s (1981) findings supported this notion. Using data from the National Longitudinal Study, a US-wide data set that followed the high school class of 1972 with follow-ups in subsequent years, Anderson examined persistence to third year, and the mechanisms impacting the retention. The sample consisted of 4,000 students from 2- and 4-year institutions from across the US. Three options for place of residence were considered: on-campus, lived at home with parents, and lived off-campus but not with parents. She pointed out that students who lived at home had parents to provide some discipline and motivation in the academic/social

balance, hypothesizing that living at home may not be as detrimental of an environment as seen in previous research. Her findings confirmed this, with living at home not significantly related to attrition, when other factors such as hours working off-campus were controlled. However, living off-campus but not with parents was found to be significantly related to attrition. Students that lived at home and had an on-campus job were found to be more likely to be retained than residents who did not work. Additionally, Anderson found that when controlling for multiple variables, students who lived at home with parents had higher grades than residents.

Anderson's findings indicated that the family home environment of the commuter was likely not as detrimental to success as other studies would lead us to believe, and are in contradiction to Astin's (1993) findings. The study's inclusion of the relationship between other variables, particularly employment, showed that it may have been aspects within a student's overall life associated with being a commuter or resident that directly impacted outcomes of success. On-campus jobs were particularly interesting as they were seen as an example of an interaction activity, as students would be working with faculty, staff, or other students.

Anderson's paper stood out for another reason. It was the earliest literature reviewed that defended the commuter environment, albeit only if living with parents. With the exception of literature specifically focussing on commuters, it was also one of only two papers reviewed to advocate for the non-residence environment, with Grayson (1997) being the other.

Grayson's (1995, 1997) was the only Canadian source, and the only non-American source, found in the search for relevant literature. Conducted at York University, his research on first-year grades, location of residence, and student involvement, used a questionnaire that was then matched to institutional records of over 1,800 first-year students. Here, there were little differences seen in entering characteristics. Family incomes were higher, but not significantly

so, for residents. Differences of less than two percent were seen in high school grades. First-year GPAs were not significantly different between the groups, even without controlling for entering characteristics. These findings differ from those of studies already reviewed here. It is unknown if this was due to difference in location (e.g. Canada, this specific institution), the more recent timing of the study, the site being a primarily commuter institution, or all of these factors.

The results showed that first-year residence students participated in more social activities than their commuter counterparts, while commuters had higher classroom involvement. An interesting finding was that students living at home had more contact with faculty and university staff than students living in double (shared) residence rooms, but that those in single residence rooms had significantly higher levels than both sub-groups. Grayson (1997) concluded from this that residence itself did not result in higher interaction with faculty, and he suggested that students in shared rooms may have had their roommates replace faculty member assistance.

He also found that classroom involvement was the factor that contributed most to GPA, and that social involvement had a negative relationship with GPA, even though the two groups did not differ in GPA. Grayson suggested that the residence environment may encourage more focus on social activities and less on academics. He concluded that living with parents did not hinder a student's ability to succeed academically in university, as much of the previous literature had implied.

Thus, the findings from this second period of research regarding residence and commuter students deepened the understanding of the impacts of the housing environment. The research began to differentiate between the various commuting environments, with some studies (Anderson, 1981; Astin, 1993) distinguishing impacts of leaving the family home as an additional consideration. The studies reviewed had some contradictory findings in relation to

leaving the family home; nonetheless, they gave another aspect of the student's experience to consider. It was seen that even though the entering characteristics of resident students predisposed them for greater success than commuters, the resident students enjoyed gains even when these characteristics were controlled for. Thus, a relationship between the residence environment itself and greater success was usually supported. An exception was Grayson's (1997) findings of little differences in characteristics between groups, and commuters' higher levels of classroom involvement.

However, and perhaps most importantly, these studies consistently showed that the positive outcomes seen in residence were as a direct result of higher levels of interaction residents had with their peers and professors. The mere act of living in the on-campus environment supported these higher levels of interaction, but in itself, had no impact. This was an important finding, since it meant that what really matters for successful outcomes is the level of interaction. Inman and Pascarella's (1998) and Grayson's (1995, 1997) research at commuter institutions indicated that, with purposeful design on the part of the institution, commuters enjoyed the same gains as their resident peers.

The findings also began to ask if the residence environment could be a hindrance to success, if the same environment might actually be immersing students in negative influences and behaviours. So while it was seen that residents continued to have higher levels of persistence than commuters, these studies found no higher levels of academic achievement or learning for residents. However, all the studies that measured involvement and interaction showed that residents were more engaged than commuters with the social environment as well as, with the exception of Grayson (1997), academically and interacted more with faculty.

2.2.3 Commuter students (time period 1980s – current).

Due to the consistent research findings of higher attrition and lower degree completion rates, commuters came to be considered an ‘at-risk’ population. The late 1980’s saw the beginning of a focus on commuter students, with much of the concentration on providing support. A professional organization for staff working in commuter services and off-campus housing was established in the USA in 1972 - the National Clearinghouse for Commuter Programs (NCCP). Their publication is titled *Commuter Perspectives* (wiu.edu/qc/nccp/).

A 1989 report conducted by Association for the Study of Higher Education Universities and the Educational Resources Information Centre (ASHE-ERIC), titled *The Student as Commuter*, was authored by Barbara Jacoby, whose research focussed on commuter students. The report critiqued what it called the residential tradition of American higher education, lamenting that commuters had often been neglected by institutions and researchers. Moreover, Jacoby (1989) stated that the literature was “rife with strongly negative characterizations” (p. 20) of commuters. After providing a comprehensive historical and literature review, the report advocated for institutions to assess their environment from the commuter perspective, in order to improve.

Boyer (1987) also questioned institutions’ perceptions and commitment to commuter student success. Boyer’s (1987) data was gathered from site visits of approximately two weeks in duration at 29 American 4-year institutions, carefully selected to be representative of the sector, 5,000 faculty and 4,500 student survey responses also randomly sampled to reflect institution types, a survey of 1,187 high school students at 196 schools, plus a survey of 1,310 chief academic offices from American universities and colleges. Synthesizing this extensive data, Boyer (1987) “found that residential and commuter students live in two separate worlds.” (p. 5), and that, social, recreational, and cultural activities were mostly offered to serve

residential students. In interviews on campuses, student leaders reported that commuters were not interested in campus life; however, the study found that no efforts had been made to include commuters. Boyer (1987) stressed that it was an increasingly important obligation of institutions to better serve commuters. He asked “are commuters simply tolerated because they help pay the bills or are they full partners on the campus?” (p. 212).

In 1989, Jacoby reported that more than 80% of American college and university students were commuters. The most recent data from the American National Centre for Education Statistics reported that in 2011 only 13.2% of American undergraduate students lived on-campus, with 36.8% living with parents, and 50.2% living off-campus but not with parents (US Department of Education, 2014). In Ontario universities in 2014, the highest rate of residents was 29% (Nipissing University), with only six of 20 universities having levels higher than 20% (cou.on.ca/numbers/cudo).

Thus, it is clear that at many institutions in Canada and the US, the vast majority of students commute to campus. However, it is still a prevailing perception that Chickering’s (1974) and Astin’s (1977, 1993) findings from decades ago continue today. The discourse surrounding this topic claims that leaving home to go to school is an important rite of passage, and is the ‘right’ way to attend university (Holdsworth, 2006). Non-residents are commonly assumed to be non-traditional students, and thus disadvantaged. Worse, commuters are assumed to be “apathetic or uninterested in campus life” (Jacoby & Garland, 2004, p. 63), not wanting to be engaged in campus activities (Stage & Anaya, 1996), and that “what works for traditional on-campus residential students works equally well for commuter students if they would just be a little more serious about their education” (Jacoby & Garland, 2004, p. 63). The literature reviewed commonly claimed that not only do commuters spend much of their time working

and/or caring for dependents, but also assumed that they have low institutional commitment (e.g. Kuh, Gonyea & Palmer, 2001; Pascarella, Terenzini & Blimling, 1994; Zeller, 2005). While research studies have found that more commuters tend to have jobs, and to work more hours off-campus than residents (e.g. Grayson, 1997; Jacoby, 2000; Schudde, 2011), this does not necessarily mean that they are indifferent about their learning or campus life.

Fortunately, researchers and institutions recognized that action needed to be taken to better support commuter students, given that they are such a significant portion of their population with a high risk of attrition. Student service providers now recognize that it is unrealistic and incorrect to put the onus on the commuter students to adapt to offerings designed for residential students. Rather, institutions are taking responsibility to intentionally create and deliver academic and extracurricular activities, as well as services, to facilitate involvement for commuters (Jacoby & Garland, 2004).

In relation to involvement, we saw from Grayson's (1995, 1997) and Inman and Pascarella's (1998) findings that commuters at predominantly commuter institutions had the same levels in outcomes as their residence peers. These findings reinforced the notion that intentionally designed activities can be equally as inclusive of commuters as residents.

Yet, there remains a prevailing perception within the PSE community that the residence experience is superior to commuting. Astin's (1993) categorization of housing location as that of involvement, along with other variables such as academic involvement, involvement with faculty, other students, and work, as opposed to an environment, is indicative of his interpretation of the active participatory nature of residence life, as opposed to a circumstance that the student has little impact on.

In a current Canadian example, The Globe and Mail Newspaper's 2015 Canadian University Report publication included an article discussing the pros and cons of moving away to university. Not only did the number of pros almost double the cons, but two of the negatives given can be interpreted as thinly veiled support for moving away, leaving the only tangible advantage to living at home being cost. Some authors continued to recommend living in residence to increase chances of success (e.g. Kuh, 2005; Schudde, 2011). However this perception is based on a number of assumptions. The first is that the early studies' findings, with data collection in the 1960's, still hold validity today. This would be to assume that students in the two groups continue to show the same vast differences in entering characteristics, as well as the differences in outcomes of success. Further, studies have shown that institutional supports for commuter populations have impacted outcomes for these students. It appears that the seminalness of Chickering's (1974) and Astin's (1977, 1993) books have left a lasting impression even though more recent research has provided a more nuanced understanding of the topic. The time has come to question if the myth of the residence advantage holds true today.

2.2.4 Implications for students and institutions.

Here it is also important to note the limitations of the earlier studies. It should be clear from this review that much of the research has been conducted by a small number of researchers, who often worked together, using the same or similar data sources. Most of the data was sampled from full-time, traditionally aged, usually predominantly residential, students. Many studies employed large multi-institution data sets, which may not have been able to distinguish characteristics at particular institutions. It is interesting to note that the majority of the studies that did result in findings favourable for commuters were conducted at single-institutions, or at a limited number of institutions, with the exceptions being Anderson (1981) and Schudde (2011),

who used large, US-wide data sets. All studies, with the exception of Grayson's (1995, 1997) were conducted in the USA. All studies reviewed were of a quantitative nature, with no qualitative studies to analyze the experience from a student's point of view. If a different perspective existed that could have been captured from qualitative research, we simply do not know.

In summary, a progression can be seen in the findings as later studies build on earlier ones. The earlier works showed that while the residential experience advantageously impacted outcomes, it was those students who were already at an advantage demographically that lived in residence. These early studies created the pathway for the next generation of research investigating the mechanisms at work in residence. Those studies began to find contradictory results when influencing factors were taken into account, and that among the many differences seen between resident and commuter students, there was only one direct effect – interaction – and that all other differences were indirect due to the interaction influence. These findings did not discredit the work from the 1970s. In fact, none of these studies could have been developed without the foundation laid by the earlier work.

Thus, further research is needed to better understand the experience of commuter and resident students in the current context. In particular, research is needed in the Canadian context, using single institution design, to examine student outcomes at a predominantly commuter institution.

2.3 Changing PSE Contexts

Times have changed and so have the students attending university, as have universities themselves. In particular, there have been changes in student demographics and how students access their institutions, in institutional focus on student success, and in institutional

accountability. This landscape has forced institutions to focus on diverse student populations, including commuters.

It is commonly recognized that the student body has changed since the 1960s, largely due to mass participation in PSE. In addition, geographic access to institutions has increased, making commuting an option for many more students. In Ontario alone, of 20 universities, 11 have been established since 1959, with five since 1990. All these institutions are located in urban centres. At the same time, urbanization has moved more people, and thus students, into these areas. In Ontario, 91% of students live within 80km of a university (Frenette, 2002), giving many the option to commute. Transit service has expanded in many areas, for example GO Transit services over 11,000 square kilometres of the Greater Toronto Area, giving many students a reasonable alternative to moving away to school. These developments change the context for students, as many no longer must move away if they are to attend university.

Institutions have also changed to have a focus on student success that is greater in scope than simple degree attainment. Institutions today are vested in the learning, engagement and satisfaction of their students. For example, York University's 2014 Strategic Mandate Agreement proposal submitted to the provincial government stated that "York is fully engaged in improving the experience of our students" (p. 3), while the provincial vision statement for PSE included the statement that institutions "will put students first by providing the best possible learning experience for all qualified learners" (MTCU, 2014, p. 2). It is now commonly recognized that all activities, academic, social and supportive, need to be convenient and accessible for both commuter and residence students.

At the same time, the PSE landscape has witnessed significant changes in the rise of accountability and quality assurance and a culture of student consumerism. Accountability and

quality assurance are now tied to governance and funding. Ontario PSE institutions have entered into multi-year strategic mandate agreements with the government, which set funding amounts through enrolment targets as well as metrics of assessment on areas outlined as priorities by the Ministry. In 2005, Ontario created an arms-length organization of the government, the Higher Education Quality Council of Ontario (HEQCO), with the mandate to enhance the access, quality, and accountability of institutions.

Related to the notion of accountability is that of satisfying the student as a consumer. Students are regarded as having full choice in the institutions they attend, and thus, in an era of limited resources, institutions compete to attract as many or the best students (or both). Not only do institutions compete for students' initial enrolment, they are challenged to continuously meet students' expectations, not only to retain them as tuition paying customers, but also to be seen as providing a quality experience.

Two important measures of accountability, particularity in Ontario, are those of student engagement and satisfaction. In the North American context, student engagement has universally come to be associated with the National Survey of Student Engagement (NSSE). Participation in NSSE is now mandated by governing bodies in many jurisdictions in Canada and the USA. Since 2006, all universities in Ontario have been required by the provincial government to participate in NSSE every three years, with results used as an accountability measure (Shanahan, Fisher, Jones & Rubenson, 2005). Due to this, student engagement has, in a short time, evolved into a priority for institutions, and is now considered a key factor in policy making.

Student satisfaction has increasingly become a common indicator of institutional quality to the public and is also an accountability measure in Ontario. HEQCO lists student satisfaction as

one of the key issues explored by the organization. All Ontario institutions are required to make public results of the two questions from NSSE concerning satisfaction as a province-wide measure of accountability (cou.on.ca), and are published in the two prominent Canadian university ranking publications (i.e. Maclean's and The Globe and Mail). Hence, students' responses to these two particular questionnaire items carry an enormous weight for the reputation and competitiveness of institutions.

With public and government attention on student engagement and satisfaction, these are areas individual institutions wish to improve upon. For example, York University's White Paper identifies using the student satisfaction ratings from NSSE and other surveys as indicators of quality of student learning, and Ontario's strategic mandate agreements with institutions list satisfaction survey results as system-wide metrics of teaching and learning.

The literature reviewed concerning commuter and residence students' outcomes found differences in terms of involvement with teaching staff and peers, which are important aspects of student engagement, and with aspects of satisfaction. As student engagement and satisfaction are student outcomes that are of high importance in the current era to institutions and researchers, they have been used as outcomes in this study comparing the experiences of commuter and resident students, and are discussed in further detail in the following sections.

2.4 Student Engagement

The term "student engagement" (SE) has become an all-pervasive term used around the world (Dunne & Owen, 2013). However, as is the case with terms that achieve buzzword status, the term is commonly not defined. Further, when definitions or descriptions are provided, it is seen that they differ, particularly by the geographic regions of the authors.

The North American conceptualization of SE has the longest history, and has become what both Bensimon (2007) and Bryson (2014) referred to as the dominant paradigm of SE. Its evolution is intrinsically linked with the creation of the National Survey of Student Engagement (NSSE). The development of NSSE has its roots in the very same body of research and theory described earlier in this chapter, that of college impact studies begun in the 1960s, with the focus on student success and persistence across diverse student populations (Bryson, 2014), for example minority, low-income, residence/commuter populations. Under the direction of George Kuh, NSSE was first administered in 2000.

NSSE as a survey instrument quickly became well established and standardized. Since 2000, approximately 4.5 million students at 1,574 American and Canadian institutions have participated in NSSE. In 2014 alone, participation was over 470,000 students from 716 institutions (including York University) (nsse.iub.edu/html/about). NSSE is now mandated by governing bodies in many jurisdictions, including, as mentioned in the previous section, in the Province of Ontario.

In the North American PSE environment, the widespread adoption of NSSE appears to have standardized the definition of the term SE. Most North American literature reviewed that did include an operationalization of the term SE cites George Kuh, leader of NSSE for many years, and arguably the father of the current construct of SE. Kuh not only defined the construct but has also written extensively on the topic, easily seen from the reference list for this study.

Kuh (with Kinzie, Schuh, Whitt and Associates, 2005) described SE as having:

...two key components that contribute to student success. The first is the amount of time and effort students put into their studies and other activities that lead to the experience and outcomes that constitute student success. The second is ways the institution allocates

resources and organizes learning opportunities and services to induce students to participate in and benefit from such activities. (p. 9).

Hu and Kuh (2002) summarized SE as “the quality of effort students themselves devote to educationally purposeful activities” (p. 555). The same authors in 2003 rephrased SE as “the quality of effort students spend on using the institutions’ resources and facilities” and that “the challenge to universities is arranging their resources for learning so that students spend more of their time on the activities that matter to their education” (p. 185). SE is not exclusively about the students; Kuh’s definition includes the role that institutions play in providing beneficial activities and environments to their students. Bryson (2014) considered this dualist definition as having two distinct spheres of: engaging students, which is what the institution offers to create opportunities for students to engage; and students engaging, which is located with the individual students’ actions. Mahan (2010) described this as “institutions and students involved in a reciprocal relationship for student success” (p. 42).

These descriptions of SE are congruent with the outcomes considered in the studies regarding resident and commuter students. The higher levels of interaction with faculty seen with residents translates here to higher levels of engagement, as this is an example of using the institutions’ resources. The higher levels of social engagement and participation in activities such as student government and extracurriculars, as reported above, are also examples of this. The institutional responsibility for SE has also been identified in the commuter literature, with institutions recognizing that activities need to be provided to be accessible and relevant for the commuter population.

Student engagement, in this North American paradigm, is measured through the NSSE instrument. The initial NSSE design team consisted of nine members, which included Alexander

Astin and Arthur Chickering (nsse.iub.edu/html/origins). NSSE is a quantitative instrument, employing cross-sectional (non-longitudinal) design. NSSE is administered near the end of the academic year (generally the months of February and March) to first- and fourth-year students. The Canadian version of the NSSE currently includes 104 variables.

NSSE is constructed around four engagement themes (prior to 2012, five clusters of effective educational practice), with ten engagement indicators. These themes are: academic challenge, learning with peers, experience with faculty, and campus environment. Two of these four themes, learning with peers and experience with faculty, are areas in which the literature reviewed showed significant differences in the experiences of resident and commuter students. As it relates to commuter and resident students, the NSSE questionnaire includes one item on location of housing. This queries if housing is on- or off- campus, but not the nature of off-campus accommodation (e.g., with parents/family or rental), but does provide options of housing within walking distance and driving distance. As well, one item is on the number of hours spent commuting per week (nsse.indiana.edu).

Kuh's conceptions of both NSSE as an instrument and SE as a construct were an attempt to redefine perceptions of university quality from rankings based on resources and reputations (Kuh, 2001). These rankings are highly influenced by factors directly associated with students' entering characteristics (Pascarella, Seifert, & Blaich, 2010). The hope was to have quality institutions seen as those that showed high levels of students' participation in educational practices associated with learning and personal development. This redefinition of quality could be advantageous to predominantly commuter institutions, where the association found by Pascarella et al. (2010) regarding the entering characteristics of students would likely lead to low rankings. This redefinition of what constitutes quality had the potential to recognize those

institutions striving to provide a positive experience for commuter students. SE has, in a short time, evolved into a priority for institutions, and is now considered a key factor in policy making. SE is also an active area of research with considerable effort being made to increase students' engagement, particularly students in high-risk groups, such as commuters.

This conceptualization of SE is the dominant paradigm not just in North America, but also in Australia and New Zealand (with the AUSSE), South Africa (SASSE), and China (NSSE-China). While the AUSSE is almost identical to NSSE, an additional thematic area, on work-integrated learning, is included (Bryson, 2014). The United Kingdom definition of SE has little in common with the North American paradigm. This definition sees students as primary stakeholders in PSE and focuses on students' involvement in governance at the institution, such as participating on committees (Dunne & Owen, 2012; Ratcliffe & Dimmock, 2013). It is important to note that these definitions are not universal in any of these geographic regions.

Alternative perspectives of SE conceptualize student engagement as a holistic or multi-dimensional construct. These definitions identify components or dimensions of engagement, commonly behavioural, emotional, and cognitive. The behavioural component includes the student's conduct, following rules, time on task, and participation in institutional activities. Emotional engagement refers to attitudes towards the institution and teachers, such as interest, boredom or anxiety. The cognitive dimension includes motivation and effort (Baron & Corbin, 2012).

Using this multi-dimensional perspective, we see that the NSSE-based paradigm of SE includes the behavioural and cognitive components, through time and effort. The emotional component is not included; however, the NSSE instrument does at least partially address the emotional aspect through the construct of student satisfaction (more on satisfaction in the

following section). This separation of the emotional component into a separate construct makes Kuh's student engagement less multi-dimensional than that seen from this conceptualization; however satisfaction and engagement are regularly discussed together in the North American context.

This multi-dimensional perspective, or variations of it, are commonly held in the K-12 education sector. A particular area of focus is students considered 'at-risk' of dropping out, with programs being created to increase their engagement, and thus their chances of graduation (and thus, the implication is, success). The focus on at-risk groups of students brings to the area of SE a social justice aspect, if traditionally disadvantaged students are given opportunities to enjoy the same outcomes as their more privileged peers.

Regardless of education sector or conceptualization of the term, SE is universally considered to be a good thing, focussing on students and their success (Dunne & Owen, 2013). Engaged students are considered to likely be successful, while disengaged students are considered as at-risk of not succeeding. This mirrors how residence and commuter students are commonly viewed, with living in student housing considered to be a superior, and even normative experience, with residents considered likely to be successful, and commuters as at-risk for attrition.

As this study was conducted within the North American PSE context, the choice was made to employ the dominant paradigm of SE. All references to student engagement, unless otherwise stated, refer to the operationalization within the North American paradigm.

It is important to distinguish the term student engagement from other terms common in the North American PSE context, specifically student involvement, student experience, student learning, and student satisfaction. Like student success, the terms student experience and student

learning are generally not defined. Learning can be broadly described as academic and cognitive development (Astin, 1993), development of subject matter competence, intellectual growth, and psychosocial change (Pascarella & Terenzini, 2005). More expansive conceptualizations of learning go beyond the acquisition of knowledge and skills, to include “developing a frame of mind that allows students to put their knowledge in perspective; to understand the sources of their beliefs and values; and to establish a sense of self that enables them to participate effectively in a variety of personal, occupational and community contexts” (King & Baxter Magolda, 2011, p. 207). The presumed primary purpose of students’ participation in PSE is to learn, with learning being a central mission of higher education institutions (King & Baxter Magolda, 2011).

The term student experience refers to the lived experience an individual has during their time as a student. The term often refers to experiences related to the institution and their life as a student, but it can be more holistic, taking into account their entire life of which being a student is only an aspect. Students that live in residence are presumed to have a very different experience, that of living on-campus, than commuters. Satisfaction, which will be discussed in the following section, refers to how happy, or unhappy, a student is with their experience as a student.

Student involvement, on the other hand, does have a clear definition in the literature. The term originates from Astin’s Theory of Involvement (1984). The theory defines involvement as “the amount of physical and psychological energy that the student devotes to the academic experience” (Astin, 1984, p. 518). The theory holds that the more involved a student is, the more successful they will be. Note that Astin included place of residence in student involvement categories in both his 1997 and 1993 books.

While the construct of student engagement and the Theory of Involvement have much in common, there are subtle differences. In Astin's (1984) seminal paper on the theory, he emphasized the behavioural aspects of involvement and was less concerned about how the student feels (p. 519). This results in qualitative difference in the cognitive (or motivational and effort) aspect of student engagement, with involvement being purely behavioural. As a crude example, a student could attend all their classes and be considered highly involved in this respect, but not actually be participating, and thus have low levels of engagement (Harper & Quaye, 2009). A key difference between terms is that student engagement is defined as participation in activities that have already been empirically shown to be beneficial; involvement is more open to the activities of participation. SE includes the role of the institution in providing engaging opportunities. Involvement Theory does not explicitly lay responsibility for this with the institution as engagement does.

A key difference, in my mind, is one that I have not seen described in the literature. The Theory of Involvement is, as the title states, a theory. It is a model, with a hypothesis, that holds that if students put more time and effort in, they will reap benefits. SE is not a theory; it is a construct. It is a way to conceptualize and measure the avenues leading to success. That said the term involvement is often used interchangeably with engagement, and even Astin has stated that he sees "no essential differences" (Wolf-Wendel, Ward, Kenzie, 2009, p. 417) between the terms.

SE is important because engaged students have been found to have higher levels of learning and development (Pascarella & Terenzini, 2005), academic achievement (Kuh et al., 2005) and are more likely to persist (Kuh et al., 2008) and graduate (Harper & Quaye, 2009). That said, it must be noted that measuring levels of SE does not directly assess learning.

Instead, measures of SE tells us about the student's learning process (Dwyer, Millett, & Payne, 2006), as relationships can be determined between levels of SE in particular activities and student success outcomes. By measuring students' levels of engagement, institutions are provided with information regarding the student experience (Kuh, 2001). This is useful since many educationally effective practices are well known in the PSE community; however, less is known on how institutions can actually create an engaging environment (Kezar & Kinzie, 2006).

SE can be separated into academic and social areas. It should be noted that formal definitions of these two areas were not found in the literature; however, the terms were commonly used. For the purposes of this study, academic engagement refers to time and effort spent on activities directly related to scholastic work. This includes attendance and participation in classes, doing homework, talking to professors about academic topics, and using educationally focused resources such as libraries and help centres. Social engagement refers to interpersonal activities that, while not directly academic in nature, are related to student life. These activities typically occur on-campus, or are organized through the institution. Examples include institution-based extracurricular activities, such as clubs, student government, or sports teams, on-campus jobs, and using institutional resources such as athletic facilities or art galleries. Sometimes the line between academic and social engagement is blurry. For example, having a friendly conversation not regarding course work with a professor, or discussing a topic from class with teammates after a hockey game. However, these situations may be considered exemplars of interaction, as they simultaneously combine academic and social components. The research has shown that academic and social engagement activities are mutually reinforcing, and what is most important is a student's total level of engagement across activities (Pascarella & Terenzini, 2005).

Pascarella and Terenzini (2005) proposed that students' interactions with other students and professors affect students in two ways. First, the interaction promotes socialization to the institution's attitudes and normative values. Second, the interactions appear to create a bond between the student and the institution. They also found that peer connections, developed through social and extracurricular activities, positively impacted students' learning. However, they went on to say that some studies found negative relationships between extracurricular participation and learning, with too much time spent socializing impacting time spent on studies.

This review has already shown in the previous section that residents are more involved, and thus presumably engaged in social activities, than commuters. Many studies showed that residents were also more engaged academically; however, results from commuter institutions did not support these findings. In addition to the findings previously discussed, Astin (1993) found that residents were more likely than commuters to tutor other students, join fraternities or sororities, and hold student government positions. Students with higher levels of academic preparation, parental education (Hu & Kuh, 2002) and SES, along with the related lower amount of time spent at a job (Sax & Harper, 2011) have been found to have higher levels of engagement; these are background traits commonly seen in residents. However, Kuh, Gonyea and Palmer's (2001) results showed that commuters were as engaged as residents on a number of academic engagement measures. As well, Grayson's (1995, 1997) and Anderson's (1981) findings pointed out that there may also be disadvantages to residence life, with social activities potentially taking up more time than they should. This is in line with Pascarella and Terenzini's (2005) report that some studies had seen negative relationships between learning and extracurricular involvement. Spending too much time socializing was compounded with findings of higher levels of alcohol use (Astin, 1993) by residents. Given these varying findings

from the literature, it is appropriate to divide SE into two areas, and examine academic and social engagement separately.

2.4.1 Shortcomings and critique of SE.

Even though the North American conceptualization of SE has achieved a dominant position, it is not without its shortcoming and critiques. With its origins resting in the NSSE instrument, SE is a quantitatively based construct, firmly located within the postpositivist paradigm. Not only is the NSSE instrument itself a quantitative tool, the activities and behaviour it measures are those that have been empirically shown to lead to learning and development, resulting in a tool constructed from layer upon layer of quantitative research which excludes qualitative, creative, and observational methodologies (Baron & Corbin, 2012). This is a shortcoming also seen in the research considering resident and commuter students.

The quantitative nature of the NSSE results in the standardization of questions, albeit slightly modified for Canadian institutions. Standardized questions, done to improve instrument reliability, do not account for local contexts (Bryson, 2014), and assume that engagement is “culturally neutral” (Bensimon, 2007, p. 453). Further since the same instrument is completed by all students, differences between disciplines, such as diverse teaching and learning methods, may lead to confounding data (Pascarella et al., 2010). In addition, the identical questions bar the inclusion of the student voice, leaving no space for perspectives that do not fit in the standardized questions (Kahu, 2013).

The correlational design employed raises the question of the ‘chicken or the egg’ (Bryson, 2014); is it the engagement that causes success or are successful students more apt to be engaged? Correlational research (at least well done studies) never claims to prove causation. However the rhetoric surrounding student engagement does imply that engagement leads to

success. In reality, all that is being done is to indicate students that are likely to be successful. However, NSSE fails to tell us what mechanisms are leading to the success outcomes (Axelson & Flick, 2010). NSSE results are aggregated in a single measurement, giving a simplistic output (Bryson, 2014). This allows for understanding about the majority, but gives little information on the minority populations (Bensimon, 2007).

A critique of the student engagement construct is that it was developed on theories and data largely associated with traditional-aged, full-time, often residential based students (Wolf-Wendel et al., 2009), and presumably non-diverse populations. Although there certainly are studies that investigate student engagement in other population groups (including this study), the very grounding of the concept in this demographic raises the question of whether it is applicable to other, diverse, groups (Pidgeon, 2009), such as commuters. Further, the concept assumes that all students are equally free to participate in, are knowledgeable of, and feel empowered or entitled to partake in, the good practice activities being measured (Bensimon, 2007).

Commuters comprised 60% of NSSE participants in 2014, who were from 622 US bachelors-granting universities (nsse.iub.edu). However, the US Department of Education (2014) statistics reported that 87% of American students lived off-campus in that year. It is not known why this large discrepancy exists. This is concerning as it appears that NSSE participants and thus results, which are purported to be utilized to influence policy, are not representative of the student population. This raises the question of if institutions are perpetuating, albeit potentially unknowingly, the myth of the residential tradition critiqued by Jacoby (1989).

Pascarella and Terenzini (1998) acknowledged that students that differ from the typical research sample, in particular those who work and have family responsibilities simultaneously with their studies, may experience growth in dimensions not typically considered in the research.

Thus, these students may be developing but since the ways in which they are developing are not measured, they are not recognized. Further, it is not known if some types of engagement have a greater impact on (Wolf-Wendal et al., 2009), or have greater social or economic value for (Bensimon, 2007), some populations than others. In other words, the paths to success, and even success itself, may be different for different students. Not only has the research underpinning the development of the student engagement construct been limited, it can be seen from this review that a small group of researchers were the developers. Together these result in a potentially narrow view in building the construct of SE, which is concerning considering the dominance of the concept.

In addition to these critiques at the epistemological level, there is a paucity of research to associate NSSE results with actual student success outcomes (Axelson & Flick, 2010; Bryson, 2014; Pascarella et al., 2010), independent of research conducted by NSSE and those affiliated with it. This is surprising, particularly given the pervasiveness of the NSSE instrument. Pascarella et al. (2010) did find that NSSE results were a good indicator of growth in important education outcomes such as cognitive and personal development; however, they state that theirs was the first study they were aware of to investigate this. More research of this nature is called for in the literature. However, NSSE, through its team of staff researchers, does conduct vigorous research, which is posted on its website and/or published in the literature.

In some of the literature reviewed (e.g. Ratcliffe & Dimmock, 2013), highly engaged students were presented as being superior to other students. The literature includes the discourse that an engaged student is the stereotypical ideal. Most commonly this discourse concentrates mostly on social engagement activities, rather than academic. This is concerning as it creates a stigma regarding what students 'should' be doing. However, as this literature review has already

stated, all that levels of SE do are indicate students that are likely to be successful, and on its own is not a proxy for success. Here again, this mirrors the discourse seen in the literature regarding place of housing, with living in residence considered the 'right way' to attend university.

Even with these shortcomings and critiques, this conceptualization of SE is what was employed in this study. Its position as the dominant paradigm, in an environment where alternative definitions are not widely known (for example, I was unaware of alternatives prior to undertaking this literature review), hopefully made the study more understandable and relevant to readers.

2.5 Student Satisfaction

Another outcome considered in this study, comparing commuter and resident students, is student satisfaction. Research has shown that the constructs of student satisfaction and engagement are positively related to each other, along with learning, development and persistence (Kuh, Kinzie, Schuh, Whitt & Associates, 2005, Pascarella & Terenzini, 2005). In particular, it has been found that social engagement and satisfaction are related. Fischer (2007) found that students involved in campus activities had higher levels of satisfaction. Mahan (2010) stated that the most significant finding from his dissertation research was that campus relationships positively influenced satisfaction in students, over their four year experience. Since residents have been seen to have higher levels of interaction with their peers and faculty, these findings imply that this will also positively influence their levels of satisfaction.

The term student satisfaction, similar to student engagement, does not have a universally accepted definition in the PSE context. Also like student engagement, student satisfaction is a

commonly used term that is often not defined in the literature. It is commonly referred to as satisfaction in relation to students.

A simple description of student satisfaction would be a student's interpretation of their experience as a student, the environment of the institution they attend, and the value or quality of their experience (e.g. Astin, 1977, 1993; Elliott & Shin, 2002). Satisfaction can be thought of as how satisfied the student is with their 'college life' (Liu & Jung, 1980). More refined operationalizations include the expectations of the student, with satisfaction occurring when those expectations have been met (Juillerat, 1995; Pullins, 2011). Student satisfaction resembles the emotional component in the multi-dimensional constructs of SE. Satisfaction and engagement are commonly discussed together, potentially due to this relationship. Like SE, the satisfaction construct includes the role that the institution plays in students' satisfaction, by providing a favourable experience and environment. Satisfaction is typically measured by surveys, including the NSSE.

A key element of the student satisfaction construct is that of the student as consumer. This makes the construct of satisfaction student-focussed, putting the emphasis on the student, rather than the institution's desired outcomes. In particular, satisfaction is an outcome that is more student-focussed than retention/attrition, which measures success from the institution's perspective (Sanders & Burton, 1996), typically from a financial point of view. In this way, satisfaction can be thought of as capturing at least part of the student voice, in relation to their student experience.

The focus on student satisfaction began in the 1960s and 1970s, during the times of student riots and activism (Liu & Jung, 1980), which also coincided with the beginning of post-secondary education moving from an elitist system to massification, and thus a more competitive

landscape. In both *Four Critical Years* and *What Matters in College*, Astin (1977, 1993) devotes an entire chapter to satisfaction, stating:

Given the considerable investment of time and energy that most students make in attending college, their perceptions of the value of that experience should be given substantial weight. Indeed, it is difficult to argue that student satisfaction can be legitimately subordinated to any other educational outcome. (1977: p. 164; 1993: p. 273)

Astin made the argument that satisfaction is an important measure of student success. Satisfaction is about much more than students reaching the end point of graduation. It is about students having a positive experience during their time as a student. Satisfaction focuses on the journey, not just the destination.

Satisfaction is strongly connected to retention (Astin, 1993, Sanders & Burton, 1996). In fact, retention has come to be considered to be a byproduct of satisfaction (Natalicio & Smith, 2005). Not only is a highly satisfied student more likely to be retained, a dissatisfied student is more likely to leave. Research has shown that satisfied students are also more likely to have higher levels of academic achievement (Astin, 1993; Bresciani, 2011; Hu & Kuh, 2002; Pullins, 2011); however some studies have not found such relationship (Bramming, 2007; Sanders & Burton, 1996). In addition, satisfaction has become important to institutions since students and alumni perceiving their experience as positive contributes towards heightened reputation, student recruitment, as well as fundraising and advancement (Sanders & Burton, 1996). As with SE, satisfaction is not a measure of learning and development.

As it relates to commuter and resident students, the research literature showed that students who live in residence had higher levels of satisfaction than commuters (Astin, 1973, 1993; Chickering, 1974; Pascarella, 1984; Pascarella & Terenzini, 2005, Pullins, 2011).

However, Sanders and Burton (1996) found no differences in overall satisfaction between the two groups. Their study of 1,016 freshman was conducted at a small, urban, mid-West US institution. The reasons for Sanders and Burton's contrary finding were not apparent, and this was not addressed in their paper. Their study employed an attribute measurement model of satisfaction, considering ten areas, or indices, of satisfaction. While there were no significant differences in overall satisfaction seen between the two groups, the indices of importance varied between groups. For residents, overall academic satisfaction and students/social life were the most important components to net satisfaction. For commuters, overall academic satisfaction along with environment and academic support were the best predictors of total level of satisfaction. Thus, student and social life were very important to residents, but not to commuters, while academic support and campus environment were valued by commuters. These findings indicate that commuters and residents had differing wants and needs, or expectations, as different components of the student experience lead to similar overall levels of satisfaction.

Contrary to many other student outcomes, satisfaction has not been seen to be dependent on entering characteristics. Instead, the environment the student experiences appears to be the primary influence (Astin, 1985). This makes the construct of satisfaction particularly appropriate to be used as an outcome in this study, as the focus is on the differing environments of commuter and resident students.

There are multiple standardized assessment tools that measure student satisfaction, namely the Noel-Levitz Student Satisfaction Inventory (SSI), and College Student Satisfaction Questionnaire. Some institutions use alumni donations as a gauge of satisfaction (Pascarella & Terenzini, 2005, as cited in Mahan, 2010). There are two types of student satisfaction assessment: global or aggregate and attribute or multi-item. Global assessment asks students

about their overall or net experience. Attribute assessment measures satisfaction with different areas of the experience, typically involving multiple questionnaire items per area, and then summing these responses. Results can vary from using the different types of assessment (Elliott & Shin, 2002). It is thought that global measurement may cause students to not be thorough in their evaluation of their experiences, and respond based on a few memorable experiences (Pullins, 2011). Satisfaction can also be categorized by considering academic and socially related topics, like in student engagement. A weakness in this type of assessment is that the satisfaction surveys used do not provide information on why students were or were not satisfied (Bresciani, 2011).

The NSSE survey contains two questions directly measuring student's satisfaction: "How would you evaluate your entire educational experience at this institution?", and "If you could start over again, would you go to the same institution you are now attending?" (Kuh, 2003). These are the two questions that Ontario institutions are required to publish results to and that are used in the Maclean's and The Globe and Mail's rankings. While it is promising that institutions and governing bodies have utilized the student-focussed outcome of satisfaction, it is unfortunate that the results from only two global questions are employed in these varying, but important, contexts. It is quite possible that the assessment may be overly simplistic, since only these two global questions are asked. This is a significant shortcoming of how satisfaction is assessed in these instances, which have such important implications.

These same two NSSE questions regarding satisfaction were used to measure students' levels of satisfaction in this study. In line with the logic employed regarding SE, due to the pervasiveness of these two particular questions, use of familiar measures hopefully made this study more understandable and relevant to readers.

2.6 Summary of the Implications for Commuter and Resident Students

We see from the attention given to student engagement and satisfaction, not just by PSE researchers, but also by institutions and governing bodies, that student success is an important topic. Arguably, high levels of engagement and satisfaction are in themselves measures of success. However, it is more the positive relationship (both proven and perceived) of engagement and satisfaction with learning, development, and persistence that makes them of value to institutions.

Nevertheless, we have seen that there are assumptions made within these measures. Of particular concern is that they were founded based on predominantly full-time, traditional aged, residential based students. Further, the standardization of the measurements does not allow for other populations to give alternate views of their experiences. Authors such as Pidgeon (2009) pointed out that some groups of students (in her example, Aboriginal students), do not easily fit within these models. It raises the question if the same could be true of commuter students.

The research reviewed found that students living in residence were more engaged and also more satisfied with their university. While it is true that residents spend much more of their time on campus, it must be made clear that SE is participation in *educationally purposeful* activities. While it is conceivably more convenient for students living on-campus to partake in educationally effective activities, it is an assumption that they in fact do so due to this convenience. Further, as Grayson (1995, 1997), Astin (1993) and Anderson (1981) saw, residence students can have more social distractions than academically positive influences.

The assumption that residence students have higher levels of success is so prevalent that 'commuter university' has become a term that implies a disadvantage, offering an inferior experience, compared to the primarily residence-based institutions. Much of the assumption is based on research conducted on students in the 1960s through the 1980s, in multi-institution

studies. More recent findings indicate that commuters have similar levels of academic engagement as residents. The nature of students and institutions has changed. An increasingly large, diverse student population has different wants, needs and expectations from their institution. Further, institutions, and the sector as a whole, have developed to provide enriching environments through support and services to include diverse groups of students. It is appropriate to consider if today's commuter and residence students reaffirm the old assumptions, or break the myth by mirroring some of the recent research findings of no differences in outcomes.

Chapter 3 Method

A causal comparative research design was used to investigate the relationship between location of housing and student engagement and satisfaction. Causal comparative design was most appropriate to answer the research questions, as the questions considered the difference between two groups. The predictor variable was place of housing, with two levels: commuter and resident. The dependent variables were: level of student engagement, considered as both academic engagement and social engagement, and level of student satisfaction. These variables coincided with the components of the Input-Environment-Outcome model. The predictor variable of place of housing was the Environment component of the I-E-O model. The dependent variables were the Outcomes being considered. The Inputs of the model were moderator variables, being the characteristics that the participants possessed prior to their university experience (e.g., first-generation PSE, household income).

3.1 Questionnaire

After receiving ethics approval, data was collected via a questionnaire. A questionnaire was specifically designed for this study since the NSSE instrument does not collect some data of interest for this study. For example, this study collected data on housing preferences, which NSSE does not include. In addition, NSSE only surveys first- and fourth-year students. NSSE results show noticeably higher rates of satisfaction and engagement in fourth-year compared to first-year (yorku.ca/factbook). Given that many students who live in residence at York University do not do so for all four years of their studies (upper year students often rent accommodation near campus, commonly with friends from residence), it was not desirable to limit the data to only first- and fourth-year students' responses. The questionnaire, titled The

Student Engagement and Satisfaction Questionnaire (Appendix A), included items regarding each component of the Input-Environment-Outcome model.

There were 46 questions in the online version of the questionnaire. Questions 1 through 6 were informed consent and confirmation of the required conditions of being an undergraduate student at York University and at least 18 years of age. The questions numbered 2, 5, and 6 were not actually questions, but rather text to inform students that the questionnaire was ending since the participant responded negatively to the consent or condition questions. Thus the first question that began gathering data in the questionnaire was question 7.

Questions 7 through 9 were three of the seven questions that addressed the Environment component of I-E-O. Questions 25, 26, 31 to 34 were the remaining environment questions. These questions were purposely not listed together, to avoid participants perceiving that the data would be used to compare commuters to residents. These seven questions addressed location of residence and implications of commuting, such as amount of time spent commuting, as well as preferred and future expected location of housing.

Question 7 asked how much time was spent commuting. Responses to this question were used to determine resident and commuter groups. As well, information on how much time was spent travelling for school was one variable considered in this study. Half-hour segments were given as response options for this question. This short time frame was chosen to be able to consider if there was a difference for different lengths of time, and also to ensure that very short commute times, such as students who could walk to campus, were captured. This was in line with a distinction used by Kuh, Gonyea and Palmer (2001) between walking and driving commuters. Question 8 used a five-point always-to-never scale, to determine methods of transportation. Questions 25 and 26 used finite time scales in three-hour segments asking time

spent at off-campus job and volunteer work. This three-hour segment was deemed to be appropriate based on the context of the questions (i.e. hours at off-campus job and volunteer work). Questions 31 through 34 had categorical answers regarding locations of housing. The categories were created based on knowledge of the context, to include the most common housing options.

Academic engagement, one of the outcomes in this study, was addressed next through sixteen items, concerning amount of classes attended and time spent on homework (questions 10 through 16, 18c, 18d, 18h, 20a, and 20c). Questions 15, 18, and 20 were array questions, and have thus been renumbered into separate variables using the letter following the question number (e.g. 15a). All variables within question 15 (i.e. a – e) were related to academic engagement. Questions 18 and 20 asked what types of activities students spent their time doing, and where students spent their time, respectively. Some of these activities and locations contributed to academic engagement and others to social engagement outcomes.

A four-point scale was used for question 10: had the student found their courses interesting. This was intentionally chosen to not have a neutral, middle option. The remainder of the academic engagement questions asked about how students were spending their time. The decision was made to use students' own perceptions of the portion of their time devoted (i.e. always-to-never rating scales) to activities in many cases, rather than asking for specific counts of hours, for some, but not all, questions. I felt that this was an appropriate way to measure some aspects of engagement as I conceptualized it, since what individuals perceive a significant amount is more important in this context than actual amounts of time. The construct of engagement includes more than just the amount of time dedicated to an activity; it also includes the concept of effort and quality of time. Rather than asking for the number of hours spent,

querying proportions of time (e.g. never to always) gives participants the ability to weight, if even subconsciously, their responses based on what that activity meant to them. For example, two students could both respond that they spent time frequently doing extracurricular activities. One of those students could spend 20 hours in a week on extracurriculars, while the other spent 5 hours per week. The actual amount of time was less important than the students' perception of the significance of the quantity of time. Formatting the responses in this way also compensated for circumstantial differences between students. For example, some programs of study, such as lab-based sciences and studio-based fine arts, typically involve more in-class time than other programs. It was of more interest whether a student attended all of their assigned classes rather than how many hours were spent in class. However, it was recognized that gathering data this way could be problematic in terms of interpretation of the results, since it was perceptions rather than actual amounts of time, as well as being self-reported, that were being compared. That being said, questions such as time doing homework (13) and time on-campus (17) did give finite time ranges as options.

Questions 11, 12, and 14 used five-point always-to-never or all-to-none scales. Questions 15 and 16 used a four-point frequently-to-never scale. In some cases, it was more appropriate to use a finite time scale. As stated above, questions 13 and 17, hours spent doing school work and time on-campus, used the finite time scale in three-hour ranges. Three-hour ranges were deemed to be appropriate for the context, and also allowed consistency with other question response options.

The second outcome considered was the social aspects of student engagement, or social engagement. Nine items queried this (questions 18a, 18b, 18e-g, 20b, 22 through 24). Question 18b queried time spent not socially engaged, and thus could be considered as a reverse coded

question. Questions 18 and 20 used five-point always-to-never scales, as in the academic engagement questions. Questions 19 and 21 were free text options for participants to list other on-campus activities. A yes/no response option was given for questions 22 through 24. These questions query student participation in university clubs, varsity sports teams, and student government. Straightforward participation in these activities could be used as a dummy variable, allowing for a simple comparison of groups. Further, similar to the logic for some academic engagement questions, the actual number of hours spent was deemed to be less relevant than the perception of the overall level of participation in the activity. In other words, we can find out more about a student's engagement from being a member of a varsity team, regardless of whether they spend 10 or 20 hours involved with the team per week. These three questions are examples of data not collected in the NSSE instrument. All questions in this outcome considered activities done on-campus.

Student satisfaction, the final outcome considered, was addressed through four items (questions 27 through 30). Question 27, enrolment in the academic program of preference, offered a yes/no response option. A four-point scale was used for question 28, plan to continue studying at the same institution the next year. This was intentionally chosen so as not to have a neutral, middle option. Questions 29 and 30, evaluate experience at this university and would student return if starting again, were adopted from the National Survey of Student Engagement (NSSE) 2010, with the word "institution" changed to "university" to better reflect the specific context of this study. The results to these two NSSE questions are mandated in Ontario to be published as Common University Data Ontario (CUDO) results and are also included in the Maclean's and Globe and Mail university rankings publications.

Ten items addressed the Inputs component of the I-E-O model. Eight of these items considered demographic information (e.g. gender, age, parental levels of education) (questions 35 to 42, 45), and two questions asked about the academic characteristics of current program and year of study (questions 43 and 44). Question 35 was also adopted from NSSE 2010, with modifications to reflect the Canadian post-secondary system. A yes/no response option was given for questions 36, 37, and 40. Examples of these questions include visible minority and disability characteristics. Question 38 asked about respondents' year of birth, and question 39 asked about respondents' gender. Questions 41 and 42 were free text options asking about location of permanent residence, specifically postal code for Canadian residents and country of residence for non-Canadians. Question 43 asked participants what their program of study was, and question 44 asked about year-level of study. Question 45 asked about education background prior to this institution, and thus had categorical answer options.

All questions using the frequency scale (e.g. always to never) displayed the response options from most often (i.e. always) to least often (i.e. never). Similarly, questions with definitely yes to definitely no, and excellent to poor scales, displayed the definitely yes or excellent option first. These responses were each recoded to reverse the order of response options. Thus, the lowest frequency or least positive option has a value of 1, while the highest frequency or most positive option had the highest value. The results reported are based on these reversed values.

The questionnaire was circulated for feedback amongst classmates in a Research Methods (in Education) course. It was reviewed by both members of my thesis supervisory committee. It was pilot tested with a number of undergraduate students, and revised based on feedback, to improve it. For example, I had considered asking for student identification

numbers, so that I could match responses to academic records. The vast majority of students asked about this expressed discomfort, and thus it was not included. Other feedback was regarding the potentially biasing of responses to overcome the negative stigma of being a commuter. Due to this, the question order was changed so that the location of housing questions were not together at the beginning of the questionnaire, along with the questionnaire title and introductory text, to remove cues that the study would be comparing commuters to residents. As well, the wording in many questions and responses was revised due to feedback from the pilot tests.

3.2 Data Collection

Ethics approval was received on April 21, 2011. I had planned to distribute the questionnaire through the month of March 2011, to recruit student participants during the standard academic year. However, with the ethics approval being received after the academic session was complete, a decision was made to distribute the questionnaire during the Summer term, rather than wait for the following Fall term. Since the study was specifically asking about experiences from the 2010-2011 academic year, it was not desirable to extend the distribution into the new academic year. Also, it was better to avoid including new first year students, since they would not have a perspective on engagement or satisfaction so early in the term. However, with fewer students taking courses during the Summer term, the number of available participants decreased. A goal was set to collect at least 100 responses.

The questionnaire was distributed in an online version. An email invitation, with links to the online questionnaire, was sent to students. An incentive of a draw for a \$50 iTunes gift card was offered.

Given the importance of student engagement to York University, in part due to the Provostial White Paper (i.e. Monahan 2010a and Monahan 2010b), it was anticipated that faculty members and administrative/student services offices would agree to distribute the invitation in their classes/at their location. A number of potential distributing areas, described below, were contacted. All requests were made via email using the request approved in my thesis proposal and ethics submission (Appendix B). The Residence Life office was asked in mid-May 2011 if they were willing to distribute the questionnaire to residence students. They sent an email to all 2010-2011 residence tenants in early June asking them to complete the survey. Two course directors of large Summer term courses were approached in mid-May. One professor agreed to post the link on the course Moodle page and announce it in class. The second professor declined, since this particular course had a policy to not promote student research projects, due to the overwhelming number of requests received each year as this was one of the largest courses at the university. One College Master was asked to distribute the questionnaire. He included a link to the questionnaire in the College's weekly newsletter, and also posted it on the College's web homepage for the duration of the summer. A Division that was offering a large number of Summer term courses was contacted, requesting the distribution of the questionnaire. They responded that they forwarded the information to all faculty in the Division. Within two weeks of the survey being launched, 292 students completed the questionnaire. However, over 70% of the respondents were residents, and so efforts were made to recruit more commuter students for the remainder of the data collection period. The President of a student club with a high proportion of commuters was asked to post the link to the questionnaire on the club's listserve. I also asked many commuter students that I knew or met to complete the questionnaire and to ask their friends to do so.

The questionnaire was conducted from May 23 to August 31, 2011. On August 31, the survey was deactivated on the online web site, and a message stating that the survey was no longer available was posted.

The draw for the incentive gift card was done on August 31, 2011. A submission was randomly chosen using Microsoft Excel to identify the recipient. The recipient was contacted, and was mailed the gift card on September 7, 2011.

3.3 Return Rate

The questionnaire was completed by 369 students. Of these, 311 were included in this study. Forty-five participants were excluded because they did not complete any or enough of the questionnaire items. Question 30 was used as the cut-off question for removing incomplete submissions. This question was chosen since the engagement and satisfaction questions were prior to this point. However, 11 students did not complete the entire questionnaire, but were included since they responded to most of the questions. Two respondents did not meet the informed consent and York student criteria. Ten respondents were removed due to discrepancies in the responses to the grouping questions. (More detail on the inconsistent housing response determinations is in the Definition of Groups section below.) One response was removed since it appeared to be submitted by the same person twice, potentially to enter the draw for the incentive an additional time. The first submission was retained; the second was deleted.

3.4 Participants and Groups

Participants were undergraduate students at York University during the 2010 – 2011 academic session, who were at least 18 years of age.

The residence and commuter groups were identified from their responses to a question about the location of residence during the September 2010 to April 2011 academic year. This

was question 7, which was the first question in the questionnaire following Informed Consent and confirmation of age and York student status. The question asked how long the student spent commuting on a typical day. The first option for responses was: “Not applicable, as I lived on-campus”. Participants who selected the live on-campus option were placed in the residence group. All other responses were placed in the commuter group.

A second question was used to confirm group classification. Question 31 asked where the student lived during the academic year. The options for responses included in residence, with family, and renting accommodation for school. The responses from this question were compared to question 7. Specifically, some respondents gave a commute time rather than selecting the living in residence option in response to question 7, but they also indicated that they lived in residence in response to question 31, or vice versa. There were 19 records that showed such inconsistencies. Each record was carefully reviewed to attempt to determine the appropriate group for each of these 19 respondents.

Reviewing questionnaire responses of these 19 respondents in their entirety showed which method of transportation they used to travel to campus (question 8). By using the postal code of their permanent address (question 41), Google Maps was used to determine commute time for the method of transportation given. If the time given by Google Maps approximated the response to question 7, it was determined they were likely a commuter. Also considered were responses to how much time was spent on campus (question 17), and where time was spent on campus (question 20), particularly the response option of time spent in residence. A student that listed a very high number of hours on campus and that time was spent in residence always or frequently would be classified as a resident. Some respondents were reclassified in the residence group responded that they travelled less than 30 minutes to question 7, and that they always

walked in response to question 8. It was determined that these were resident students who interpreted the question to include the time it took them to travel from residence to their classes on campus. Some of these were lower year international students, who may have misinterpreted the question due to language difficulties. Where it was not possible to make a decision if the student was a resident or commuter, the participants were removed from the study. Ten of the records were removed from the sample. Three records were determined to have responded to question 7 appropriately, and five participants were reclassified to the other group.

As this research design was not longitudinal in nature, participants were determined to be in the group based on their current housing type. What was not captured from this method of defining groups was participants who switched between groups over time, such as previous residents who later became commuters.

The final sample included 311 respondents. The commuter group included 111 participants (36% of the sample), the resident group 200 (64%). York University lists the enrolment for the 2010-11 academic year as 48,231, with 7% (2,871) of full time undergraduate students living in residence. 19,264 students were enrolled in the 2011 Summer term, which is when the data collection was conducted (yorku.ca/factbook). The number of students living in residence during the summer months is not published, as residence is not available. Students are able to rent rooms during the summer, but no activities or programs are offered. As such, it is referred to as summer housing, rather than residence.

Table 3.1 shows the general characteristics of the participants in each of the groups. With the exception of estimated household income, all data was gathered directly from questionnaire responses. Estimated household income was determined using postal codes of permanent address given in the questionnaire (question 41) using Statistics Canada Census Tract profiles,

Table 3.1 *Characteristics of Participants by Commuter and Resident Groups*

Characteristic	Commuters (<i>n</i> =111)	Residents (<i>n</i> =200)
Gender	61% women	75% women
Visible Minority	49%	31%
Permanent residence in Canada	93%	82%
Disability	7%	6%
Estimated household income		
Mean	\$64,307	\$81,373
Median	\$59,538	\$80,382
	(SD \$23,223)	(SD \$22,756)
1 st Generation PSE	11%	4%
Entered directly from high school	83%	86%
Have a job	60%	44%
On-campus job	22%	34%
Off-campus job	46%	17%
Volunteer off-campus	40%	29%

from the 2006 census (<http://www12.statcan.gc.ca/census-recensement/2006/dp-pd/prof/92-597/index.cfm?lang=E>). The postal codes were input to determine census tract, which then provided average household income. The 2011 census data available online does not include any income information, and thus it was decided to use the readily available 2006 information. It is important to note that this data is estimated, based on the postal code and the 2006 census information, and only for Canadian residents. A number of participants' postal codes did not provide income information. Some postal codes were not included in the 2006 census tracks, presumably these were more recently created postal codes (i.e. newly built neighbourhoods). Some census tracks did not list income as the population was small and thus deemed to provide too much personal information on residents.

First-generation Post-Secondary Education was determined using the responses to the parental levels of education question (25). The definition used by Ontario's Ministry of Training, Colleges, and Universities (www.tcu.gov.on.ca) was employed here for this variable. First-generation PSE was defined by any post-secondary education attendance, and includes college as well as those who attended but did not complete studies. In other words, only those that responded that both parents did not have any studies past high school were identified as first generation post-secondary education. Some participants did not provide responses to this particular question. Unfortunately, this may have led to small sample sizes within the sub-groups (i.e. first generation PSE $n = 10$ for commuters, 8 for residents).

Whether students had a job was compiled from the responses to two questions. Question 18e asked about time spent at an on-campus job, while question 25 asked about the number of hours at an off-campus job. The responses to these were compiled into a single variable of having a job, regardless of location.

The York University gender distribution for 2010-11 was 60% women. For the Summer 2011 session it was 62% women (yorku.ca/factbook). The gender distribution of the commuter group matched that of the university; however, the resident sample had a disproportionate percentage of women. Data on the gender distribution of students in residence was not available as a comparison. The York University percentage of students identifying as visible minority was 45%, with the largest three groups within being South Asian 45%, Chinese 31%, and Black 11% (Monahan, 2010a, p. 37). In terms of study participants that identified as being a member of a visible minority, there was a slightly higher percentage of commuters than the university population, and a noticeably lower proportion living in residence. The percentage of international students in residence was more than 2.5 times greater than commuters (almost five

times as many in number of students). York University percentage of non-Visa students in 2010-2011 was 93% (yorku.ca/factbook). The questionnaire did not ask about study permit status or citizenship, instead asking if students' permanent address was in Canada. Thus this is not an exact comparison. Even so, the percentage of commuters is the same as the university. Countries of permanent residence can be seen in Appendix C.

Table 3.1 shows that demographically many of the differences that Chickering (1974) and Astin (1977) saw decades ago between residents and commuters apply to this sample. Residents came from more affluent households with previous post-secondary participation (more on levels of education in Table 3.5). More commuters had a job, although residents were more likely to work on-campus if they did work. First generation, visible minority, low income student groups are populations which institutions and governments recognize may need extra supports.

Table 3.2 shows the year of birth of the students in each group. Question 38 of the instrument queried this, with students choosing from a list of options between 1950 and 2000. Year of birth is shown in the table in groups of four years. Four years is time required to complete an honours-level degree. Students that entered university directly from high school, after grade 12 (in other words, "traditional aged") in their first through fourth year in the summer of 2011 would have been born between 1989 and 1992. The ages that the students would have been by the end of 2011 are shown, for reference. The average age of commuters was 22 ($M = 1989.08$, $SD = 3.15$), and for residents was 21 ($M = 1990.65$, $SD = 1.44$).

Based on housing offerings, and typical practices, it is not surprising that fewer residents than commuters were older than the traditional student age. The university offers apartment-style housing to students over the age of 21. This housing is not considered residence, as it is

Table 3.2 *Year of Birth of Commuter and Residence Students*

Year	Age	Commuters <i>f</i> (%)	Residents <i>f</i> (%)
1993	18	0	1 (.5%)
1989 - 1992	19 – 22	72 (71.3%)	176 (89.4%)
1985 - 1988	23 – 26	21 (20.8%)	19 (9.6%)
1981 - 1984	27 – 30	5 (5%)	1 (.5%)
1977 - 1980	31 – 34	2 (2%)	0
1973 - 1976	35 – 38	1 (1%)	0

solely accommodation available on campus. Also, older students may well not wish to live with a younger population, or be restricted by the structure and regulations of residence (e.g. shared washrooms, set quiet hours, minimum course load).

Year of study is shown in Table 3.3. Question 44 of the questionnaire queried this, giving first through fourth year as potential responses. In calculating the York University study level percentages, Faculty of Education-Consecutive program and Osgoode Hall Law School students were excluded from the information presented. Since these are both non-direct entry Bachelors level programs, students in their fourth or higher years of post-secondary studies would have been considered first year students to those programs. None of the participants in this study responded to be in either of these programs.

Table 3.3 shows that the distribution of the sample fairly closely approximated that of the York University population at the time.

Area of academic program of study is shown in Table 3.4. Areas of study were determined using responses to question 43, program of study, in which students input their program as free text. The responses were recoded into three areas of study. Business & Economics included all programs with business (including the Schulich School of Business),

Table 3.3 *Year of Study of Commuter and Residence Students*

Study Level	Commuters <i>f</i> (%)	Residents <i>f</i> (%)	Total <i>f</i> (%)	York U (2010-11) ^a
1 st	20 (19.8%)	51 (25.8%)	71 (23.7%)	26.5%
2 nd	37 (36.6%)	66 (33.3%)	103 (34.4%)	27.3%
3 rd	22 (21.8%)	41 (20.7%)	63 (21.1%)	27.3%
4 th	22 (21.8%)	40 (20.2%)	62 (20.7%)	18.9%

^a data from yorku.ca/factbook

Table 3.4 *Area of Study of Commuter and Residence Students*

Area	Commuters <i>f</i> (%)	Residents <i>f</i> (%)	Total <i>f</i> (%)	York U ^a
Business & Economics	13 (13%)	29 (15.3%)	42 (14.5%)	20.7%
Science, Engineering & Health	60 (60%)	31 (16.4%)	91 (31.5%)	29.8%
Social Science & Humanities	27 (27%)	129 (68.3%)	156 (54%)	49.5%

^a data from yorku.ca/factbook

economics, finance, or accounting in the title. Administrative Studies was included in the area, as was Human Resources. Social Science & Humanities included all programs offered by the Faculty of Liberal Arts & Professional Studies except those in the Business & Economics area. Programs in the Faculties of Fine Arts and Environmental Studies were also placed in the Social Science & Humanities area, as were Glendon programs that were not business or mathematics. Science, Engineering & Health included all programs offered by the Faculties of Science & Engineering (which included mathematics programs) and Health, as well as mathematics programs at Glendon. If the response to question 43 listed more than one program from two different areas, the first program listed was used. Undecided majors were recorded as unknown.

The overall sample was fairly similar to the University population at the time in terms of area of study. However, when distribution within the groups was considered, it was not as

representative. A very high number of residents were in Social Science & Humanities areas, while an almost equally high percentage of commuters were in Science, Engineering & Health. Both groups had fewer participants in Business & Economics than the University population. All students living in residence during the 2010-11 academic year were invited to participate in the research. Data is not available on the areas of study of these residence students. It is possible that more residents are in social science programs and fewer are in business and sciences. Indeed, this is what was seen in Astin's (1977) and Chickering's (1974) studies. For the commuters, attempts were made to recruit participation from all subject areas, specifically by reaching out to a Division that provides service teaching for all non-BSc students. The large course that did promote the questionnaire was a science course and the College that assisted with promotion is affiliated with science. It appears that these areas produced higher participation rates than the service teaching area. It is unknown if particular subject areas are more or less likely to participate in surveys, or to enrol in summer term courses.

The highest level of education completed by the students' parents is shown in Table 3.5. This was question 35 in the instrument, and was adopted from NSSE 2010. However, I incorrectly formatted the item in the online questionnaire tool; respondents were not able to select the same level of education option for both parents. Fortunately, a number of participants made note of this in their comments, and listed the correct information. The survey data was manually recoded; however, a number of records did require 'unknown' coding.

Table 3.5 shows that both parents of residence students had higher levels of education, and completion of education, than parents of commuters. For the most part, differences were greater for mothers. For example, 13% more mothers of commuters did not complete high school, while 12% more mothers of residents were university graduates. The exception is at the

Table 3.5 *Parental levels of Education of Commuter and Residence Students*

Highest level of education	Commuters <i>f</i> (%)		Residents <i>f</i> (%)	
	Father	Mother	Father	Mother
Did not finish high school	13 (14%)	14 (16%)	16 (9%)	5 (3%)
High school graduate	11 (12%)	19 (21%)	22 (13%)	28 (15%)
Attend college	11 (12%)	6 (7%)	7 (4%)	14 (8%)
College graduate	9 (10%)	13 (14%)	27 (16%)	36 (20%)
Attend university	3 (3%)	3 (3%)	12 (7%)	11 (6%)
University graduate	15 (16%)	18 (20%)	36 (21%)	58 (32%)
Graduate degree	14 (15%)	6 (7%)	35 (21%)	14 (8%)
Professional, post-graduate degree	18 (19%)	11 (12%)	16 (9%)	16 (9%)

professional, post-graduate degree level. Examples of this level given in the question text were BEd, MD, LLB/JD, MBA, Physiotherapy, etc. Commuters had noticeably higher rates, with a difference of 10% for fathers and 3% for mothers. When the options of university graduate, graduate degree, and professional post-graduate degree are added together, fathers of commuters and residents were nearly identical at 50% and 51%, while mothers still differed by 10% (39% for commuters, 49% residents). Thus, fathers' of the students in the study had the same level of university participation.

Of the commuters, 74% lived with parents or family, while 24% rented housing for the purpose of attending university, with others or on their own. Homeowners made up 2%. The specific residence facilities that residence group participants lived in can be seen in Appendix D.

The time commuter students spent travelling to and from campus each day can be seen in Table 3.6. This information was gathered from question 7. Time ranges of 30 minutes were given as response options, giving seven commuting time groups. These have been condensed into four groups, for ease of viewing. Over 40% of commuters travelled less than an hour per

day, while only 6% had commute times greater than 3 hours. This shows that a large portion of this sample had a relatively short commute to campus. In relation to this sample, the White Paper reports that close to half of York students have a commute of longer than 40 minutes each way (Monahan, 2010a, p. 37).

Table 3.6 *Time Spent Commuting Daily (combined time round trip)*

	Frequency	Percent
Less than 1 hour	46	41%
1 - 2 hours	32	29%
2 - 3 hours	26	23%
More than 3 hours	7	6%

How the commuter students travelled to campus is shown in Table 3.7. Students that responded that they had lived in residence to question 7 did not see this question. For commuters, this was the second question (number 8) they were asked in the questionnaire. The question listed the following options for method of transportation: drive, transit, car-pool with family, car-pool with others, walk/bike/inline skate etc., and other. The question was formatted as an array, with response options of always, frequently, sometimes, rarely, and never. The data was recoded to the single mode of transportation or a combination of many. Respondents who listed one mode of transportation as always and only one other mode as rarely were recoded as the always mode. Any other combinations (an always and more than one rarely, any other combination of non-never responses) were coded as combination. Table 3.7 shows that the majority of students used transit to travel to campus. No students responded that they solely car-pooled with non-family members.

Table 3.7 *Commuters' Modes of Transportation*

Mode	Frequency	Percent
Drive	8	7%
Transit	57	52%
Car-pool with family	1	1%
Walk/bike/inline skate etc.	6	6%
Combination of modes	38	35%

3.5 Data Analysis

The data was analyzed using SPSS. The sample was divided into the commuter and residents groups as described above. The descriptive statistics of mean and standard deviation (for continuous data) or frequencies and percentages (for categorical data) were calculated for all questionnaire items. The results of the descriptive statistics for the demographic, or Input, characteristics are presented in the preceding section.

To determine if parametric tests, such as t-test, were appropriate to use, the continuous data was tested for normality of distribution using the Kolmogorov-Smirnov and Shapiro-Wilk tests. Each variable was found to be significantly non-normal. Since the assumption of normality of distribution was violated for all variables, I did not continue on to test for homogeneity of variance. It was not surprising that the data was not normally distributed, when the response options to questionnaire items were considered. Most questions had a response range of four or five. The lowest and highest choices in these questions (i.e. 0 being never or none, 4 or 5 being always or all) were extreme options. Therefore, many responses of 2 and 3 on 4-point scales, or responses of 2, 3, and 4 on 5-point scales, is understandable.

Upon consultations with York University's Statistical Consulting Service and my thesis supervisor, it was decided that parametric tests along with non-parametric tests would be done and reported.

3.5.1 Academic engagement.

Comparisons of levels of academic engagement between residence and commuter students were considered using sixteen variables. Specifically, these were questions 10 through 14, 15a through 15e, 16, 18c, 18d, 18h, and 20a and 20 c. For the parametric test analysis, a two-tailed independent *t*-test was conducted to compare the mean results for these questions to determine if there were any significant differences between the two groups. Results have been considered to be significant at the $p < .05$ level. Effect size was determined using Pearson's correlation coefficient (*r*), a common effect size measure. Commonly recognized interpretations of effect sizes are that between .1 and .3 the effect is small. Effect sizes between .3 and .5 are considered medium, with $r = .3$ accounting for 9% of the variance. Effect sizes of .5 or greater are considered large effects (Field, 2005).

The Wilcoxon rank-sum test was employed as the non-parametric test for comparing these same dependent variables concerning academic engagement across groups. The Wilcoxon rank-sum test is a non-parametric alternative to the *t*-test. Effect size was calculated manually, using the equation $r = Z/\sqrt{N}$. Effect size was reported only for variables with significant results. When the effect size product differed between parametric and non-parametric tests, the lower result was reported.

3.5.2 Social engagement.

Social engagement was considered through nine variables, these being questions 18a, 18b, 18e, 18f, 18g, 20b, and 22 through 24. The variables from questions 18 and 20 were ordinal

data, and thus have been analysed for significance using the two-tailed independent *t*-test and Wilcoxon rank-sum test. Questions 22 through 24 are nominal level, or categorical, data, being yes/no responses. Therefore the chi-square test was used to compare the two groups for these three variables. The effect size for the categorical data was measured using Cramer's *V*.

3.5.3 Student satisfaction.

The student satisfaction outcome was measured through four questions, 27 through 30. Question 27 was a categorical, yes/no response, and so chi-square and Cramer's *V* were used to compare the groups. Two-tailed independent *t*-tests and Pearson's correlation coefficient, along with Wilcoxon rank-sum and effect size, were calculated for questions 28 to 30, since these were ordinal level data.

3.6 Summary of Methods

Table 3.8 shows a summary of the methods used for each of the questions considered in this study.

Table 3.8 *Summary of Variables Used in this Study*

Research Question	Predictor Variables	Outcome Variable	Indicators	Statistical Analysis
How do commuters and residents compare in their levels of academic engagement?	Groups	Academic Engagement	Questions 10 – 16, 18c, d, h, 20a, 20c	<i>t</i> -test, Wilcoxon rank-sum
How do commuters and residents compare in their levels of social engagement?	Groups	Social Engagement	Questions 18a, b, e-g, 20b Questions 22 - 24	<i>t</i> -test, Wilcoxon rank-sum Chi-square
How do commuters and residents compare in their levels of student satisfaction?	Groups	Student Satisfaction	Questions 28 – 30 Question 27	<i>t</i> -test, Wilcoxon rank-sum Chi-square

Chapter 4 Findings

This study sought to investigate if there was a relationship between whether students lived in residence or commuted to school and their levels of engagement and satisfaction, at a large, urban university in Southern Ontario. The intent was to determine if the previous research findings of the advantageous experience of residents applied in this current context.

4.1 Academic Engagement

The first research question compared commuters' and residents' levels of academic engagement. The results for this research question can be seen in Table 4.1. Of the 16 questions that comprised the academic engagement outcome, both groups of students responded with strong levels of academic engagement. For example, both groups responded that they attended, on average, between most and all of their classes (question 11), did most of their assigned homework (question 12), and discussed class materials with others, in non-classroom settings fairly often (question 16). Residents had higher means on nine of the indicators, while commuters had higher means on seven. For example, compared to residents, commuters more often used instructors' office hours, joined Moodle discussions, used help-centres/peer mentoring, and participated in research with a faculty member. Most of the means did not vary by more than 0.2, and none had a greater difference than the standard deviation. In the non-parametric data, only two of the variables differed in medians (question 11 and 15c), while most had the same minimum and maximum values.

The *t*-test results indicated that of the 16 questions considered for academic engagement, five were significant at the $p < .05$ level. These were questions 15d, 18c, 18d, 20a, and 20c. The non-parametric Wilcoxon rank-sum test produced the same results as the *t*-test. Question 15d queried frequency using help centres or peer mentoring; commuters used help centres

Table 4.1 *Comparison of Academic Engagement Results*

Question	Commuters ^a						Residents ^b						<i>t</i>	<i>df</i>	<i>p</i>	<i>W</i>	<i>p</i>
	scale	<i>M</i>	<i>SD</i>	<i>Mdn</i>	Min	Max	<i>M</i>	<i>SD</i>	<i>Mdn</i>	Min	Max						
10	Interest level in courses	4	2.81	0.56	3	1	4	2.91	0.52	3	1	4	-1.6 ^c	212.42	.11	16132	.05
11	Proportion of classes attended	5	4.31	0.80	4	2	5	4.42	0.71	5	1	5	-1.29	309	.20	16560	.27
12	Proportion of homework completed	5	3.88	0.82	4	2	5	4.02	0.90	4	1	5	-1.28	309	.20	16181	.11
13	Hours spent doing school work	8	4.22	2.02	4	1	8	4.33	1.97	4	1	8	-0.47	308	.64	16750	.49
14	Frequency doing extra school work	5	2.98	0.90	3	1	5	2.87	0.93	3	1	5	1.03	308	.30	30402	.24
15a	Frequency of use of prof/TA office hours	4	2.16	0.91	2	1	4	1.97	0.86	2	1	4	1.85	308	.06	29860	.08
15b	Frequency of email professor/TA	4	2.73	0.78	3	1	4	2.82	0.79	3	1	4	-0.91	306	.36	16088	.28
15c	Frequency of talk to professor/TA	4	2.53	0.88	2	1	4	2.63	0.90	3	1	4	-0.97	308	.33	16246	.23
15d	Frequency of use of Help Centre	4	1.64	0.80	1	1	4	1.44	0.71	1	1	4	2.27 ^c	199.68	.02*	29403	.01*
15e	Frequency of joining Moodle discussions	4	2.04	1.00	2	1	4	1.87	1.00	2	1	4	1.39	306	.16	29805	.12
16	Frequency discuss course topics outside class	4	2.87	0.76	3	1	4	2.96	0.71	3	1	4	-1.07	305	.28	16057	.28
18c	Time on-campus doing group work	5	2.64	1.01	3	1	5	2.98	0.98	3	1	5	-2.85	309	.00*	9279	.01*
18d	Time on-campus doing work alone	5	3.39	1.03	4	1	5	4.08	0.82	4	1	5	-5.93 ^c	182.32	.00*	6804	.00*
18h	Frequency of research with professor	5	1.34	0.82	1	1	4	1.22	0.56	1	1	4	1.47 ^c	168.25	.14	30746	.36
20a	Time spent at library	5	3.39	1.14	3	1	5	2.80	1.01	3	1	5	4.70	308	.00*	27900	.00*
20c	Time spent at computer lab	5	2.39	1.22	2	1	5	1.85	1.00	2	1	5	3.88 ^c	181.43	.00*	27806	.00*

^a Commuter *n* range from 106 to 111. ^b Residents *n* range from 198 to 200. ^c Equal variances not assumed results reported.

* $p < .05$

significantly more often ($M = 1.64$) than residents ($M = 1.44$, $r = .13$). On average, residents worked with other students on course work while on-campus more frequently (question 18c, $M = 2.98$) than commuters ($M = 2.64$, $r = .16$). Residents also did course work by themselves while on-campus more frequently (question 18d, $M = 4.08$) than commuters ($M = 3.39$, $r = .33$). Commuters were more likely to spend time at the library ($M = 3.39$), as well as computer labs ($M = 2.39$), than residents ($M = 2.80$, $r = .26$ and $M = 1.85$, $r = .23$ respectively). However, with the exception of doing homework by themselves, which had a medium effect size of $r = .33$, all other effect sizes were small.

The results showed that there was no significant relationship between students' place of housing and their levels of academic engagement. Although five of the 16 questions that comprised the academic engagement outcome had significant results, these questions have been assessed to be invalid, as discussed below. No significant differences were seen, on both parametric and non-parametric types of statistical tests, for 11 of the 16 questions considered for the academic engagement outcome. These 11 questions included the most direct assessments of academic engagement. Specifically, questions 10 through 14, 15e and 16 were candid measures of academic engagement. These questions asked students about their level of interest in courses, amount of classes attended, amount of homework and extra school work done, and time spent on school work and discussing class material with others outside of class. With the exception of the question concerning level of interest in courses, all of these questions were measures of time on task. Time on task is one of the Seven Principles of Good Practice in Undergraduate Education (Chickering & Gamson, 1987). All of these indicators - going to class, doing homework, talking about course work - are meaningful examples of academic engagement, as described in the literature.

Four of the questions focussed on students' interaction with faculty members. This was an aspect highlighted by Pascarella (1984) and Pascarella et al. (1993). These questions asked students how often they: used professors' office hours; emailed teaching staff; talked to faculty or TAs before or after class; and researched with a professor. Student-faculty interaction is one of the 10 NSSE engagement indicators, making these four questions meaningful examples of academic engagement. None of these questions resulted in significant differences.

The remaining five questions in the academic engagement outcome were the questions that did have significant results. While the results of these questions did suggest differences in levels of academic engagement between the groups, they have some shortcomings. Questions 18c and 18d asked participants how often they spent time on-campus doing school work with others and alone. Both commuter and resident students were asked this question. Having asked about the activity done while on-campus did not validly compare the two groups, since one group was always on-campus. Since residents lived on-campus, they were more likely to have done all of their school work on-campus, whether they did course work with others (question 18c) or on their own (question 18d), whereas commuters had the option of doing this work at home, and thus off-campus. As such, residents responded with higher levels to both questions. The question addressing amount of time doing course work alone on-campus (18d) was the only question in the academic engagement outcome with a medium effect size, with all other effects being small. In retrospect, I do not think that questions 18c and 18d were valid questions to ask, as they did not actually compare the academic engagement of the two groups due to asking about the amount of time such activities took place on-campus. The questions that directly assess academic engagement listed above (classes attended, amount of homework completed, hours spent on school work, etc.) were better measures. Thus, although the analysis found significant

differences for questions 18c and 18d, I did not interpret the findings as meaningful in comparing the academic engagement levels of the two groups.

The three other questions showing significant differences across groups compared the use of services or facilities on-campus. These questions compared the use of help centre/peer mentoring (15d), library (20a), and computer lab (20c). Commuters used all three services more often than residents, with all three questions showing small effect sizes. Residents' less frequent use of help centres is commonsensical. Students in residence may well ask fellow residents for help with school work when needed. Particularly with this institution's residence system being organized according to students' academic program, residents could solicit help from co-residents in the same or related area of study, at their convenience, such as while they are actively working on course work. This convenient access to peer assistance may negate some of the need for help centre services for residents. While not significantly different, residents also used instructor's office hours and participated in Moodle discussions less often than commuters. The lower use of these various supports by residents may actually be offset by the higher reports of working with other students on-campus seen in question 18c, which was seen by Grayson (1995, 1997). In other words, residents' lower use of these particular services does not necessarily indicate that they were less engaged academically than commuters.

The lower use of the library and computer labs by residents could also be due to convenience. Residents could easily go to their dorm rooms between classes. Commuters needed somewhere to go during their time on-campus between classes or other activities. The library or computer lab were options of places to spend time during these on-campus breaks. Also, anecdotally, I know of commuters who use the library as a non-distracting place to study, away from interruptions at home. While residents do not have other household/family members

to distract them, they do, however, have fellow residents that may be disruptive, as pointed out by Parker (2012). The results did show that residents did make some use of the library and computer labs, potentially to avoid the diversions of the residence hall.

Taking the findings concerning the use of the libraries, computer labs, and help centres together, I interpreted the findings as inconsequential in comparing academic engagement levels. I considered the small differences to be due to the circumstantial differences resulting from the location of accommodation between the two groups.

The issues noted above with these five questions (i.e. 15d, 18c, 18d, 20a, 20c) on academic engagement did not allow drawing any valid conclusions about differences between the two groups in this study in terms of academic engagement. Combined with the other 11 non-significant results, overall, the results suggest that the two groups did not differ significantly in terms of academic engagement as measured in this study.

4.2 Social Engagement

The second research question investigated if significant differences were seen in commuters' and residents' levels of social engagement. The results can be seen in Table 4.2, for questions asking how often students spent on social engagement activities (18a, 18b, 18e, 18f, 18g, 20 b), and Table 4.3 for questions asking if students participated in specific activities (22 to 24). Question 18b asked students how much time they spent alone on-campus, thus not socially engaged, and as such can be considered as a measure of time not socially engaged. Residents showed higher levels than commuters on each of the nine questions that comprise the social engagement outcome. However, commuters did respond that they were engaging socially on-campus, for at least some of their time, particularly in spending time with friends. Residents also had higher medians and means for question 18b, time spent not socially engaging. For the

Table 4.2 *Comparison of Social Engagement Results – How Often Questions*

Question	scale	Commuters ^a					Residents ^b					<i>t</i>	<i>df</i>	<i>p</i>	<i>W</i>	<i>p</i>	
		<i>M</i>	<i>SD</i>	<i>Mdn</i>	Min	Max	<i>M</i>	<i>SD</i>	<i>Mdn</i>	Min	Max						
18a	Time with friends on-campus	5	3.08	1.11	3	1	5	4.05	0.86	4	1	5	-7.95 ^c	183.97	.00*	11925	.00*
18b	Time alone on-campus	5	2.95	1.03	3	1	5	3.97	0.86	4	2	5	-8.83 ^c	194.63	.00*	11482	.00*
18e	Time at job on-campus	5	1.56	1.19	1	1	5	1.97	1.47	1	1	5	-2.72 ^c	268.36	.01*	15773	.02*
18f	Time doing extracurriculars	5	1.91	1.13	1	1	5	2.85	1.27	3	1	5	-6.47	309.00	.00*	12770	.00*
18g	Time doing sports/physical activity on-campus	5	2.04	1.22	2	1	5	2.78	1.23	3	1	5	-5.10	309	.00*	13534	.00*
20b	Time spent in college (e.g. JCR, pub)	5	1.96	1.12	2	1	5	2.79	1.15	3	1	5	-5.99	301	.00*	12029	.00*

^a Commuter *n* range from 106 to 111. ^b Residents *n* range from 197 to 200. ^c Equal variances not assumed results reported.

* $p < .05$

Table 4.3 *Comparison of Social Engagement Results - Participation Questions*

Question	Commuters <i>n</i> =111	Residents ^a				
	<i>f</i> (%)	<i>f</i> (%)	χ^2	<i>df</i>	<i>p</i>	
22	Member of varsity team	3(2.7)	11 (5.5)	1.32	1	0.25
23	Member of student government	5 (4.5)	16 (8.0)	1.39	1	0.24
24	Member of university club	45 (40.5)	102 (51.0)	3.13	1	0.08

^a Residents *n* range from 199 to 200.

questions in Table 4.2, the differences between the means and medians are noticeable, with clearly greater differences than those seen in the academic engagement results. However, for the questions in Table 4.3, while residents did show higher levels of participation in each activity than commuters, the differences are not as noticeably large as in Table 4.2.

Table 4.4 shows the number of the extracurricular activities that students participated in. The results show that 42% of commuters and 56% of residents participated in at least one of these activities. However, when multiple activities are considered, almost twice the percentage of residents than commuters participated in more than one of the activities. Thus, while the difference between the two groups in participating in some activities is not that large, residents tended to participate in more of the activities.

Table 4.4 *Number of Extracurricular Activities Participated In by Commuter and Residence Students*

Number of Activities	Commuters $n = 111$	Residents $n = 200$
	$f(\%)$	$f(\%)$
0	64 (57.7)	88 (44)
1	42 (37.8)	96 (48)
2	4 (3.6)	16 (8)
3	1 (0.9)	0

The amount of time commuter students spent on campus outside of class time (question 17), can be seen in Table 4.5. Almost one-quarter of commuter students spent less than three additional hours outside of class per week on campus, and very few students spent more than a couple of additional hours per day (on average) on campus. These responses are consistent with The White Paper's report that less than half of first-year students spend five hours or less per week on campus outside of scheduled class time (Monahan, 2010a, p. 38).

Table 4.5 *Commuters' Time Spent On Campus Per Week, Outside of Class*

Time	Frequency	Percent
Less than 3 hours	26	24%
3 – 6 hours	29	27%
6 – 9 hours	19	17%
9 – 12 hours	12	11%
12 – 15 hours	7	6%
15 – 18 hours	0	0%
18 – 21 hours	7	6%
More than 21 hours	9	8%

As with Academic Engagement, the non-parametric tests produced the same findings as the *t*-tests. Highly significant differences were seen for each of the six frequency questions (Table 4.2), with residents showing higher levels of social engagement than commuters. Four of the six questions (18a, 18b, 18f, 20b) had medium effect sizes ($r = .42$, $r = .46$, $r = .35$, and $r = .33$, respectively), while the remaining two questions (18e, 18g) had small effects ($r = .14$, $r = .28$). However, the three ‘participation’ questions (22 – 24, Table 4.3) regarding social engagement showed no significant differences between groups.

These results show that there was a relationship between location of housing and the outcome of social engagement. Significant differences were found in six of the nine questions related to social engagement. However, two of the questions in this outcome with significant differences had some issues. Questions 18a and 18b asked how much of on-campus time was spent with friends and alone. As seen in the Academic Engagement section above, comparing responses to these questions was not meaningful since residence students spent their time almost entirely on-campus. Time spent hanging out with friends would likely predominantly occur on-campus for residents, but not necessarily so for commuters. Also, this question did not

accurately measure what the nature of the activities was while spending time with friends on-campus. Student engagement, of which social engagement is a component, is defined as time and effort on educationally purposeful activities. Thus, residence students watching television together does not necessarily contribute any more to social engagement just because it is on-campus than commuter students watching television at home with friends, who are potentially student peers, or family members. However, it is reasonable to assume that when students spend time with other students, they are likely to turn their attention to school matters at some point. But the format of this question does not allow us to know if commuters spent the same amount of their time off-campus with other students, and thus presumably discussing academic topics the same amount of time. Nonetheless, the effect size ($r = .42$) was fairly high for this question. Taking the environmental circumstances into consideration, it seems that there is a meaningful difference in the amount of time residents spent socializing with other students; however we cannot determine how the students spent such time and if it was related to the outcomes considered in this study.

Question 18b, time spent alone on-campus (but not on doing school work), can be seen as a reverse coded question. Time spent alone is, by definition, not time spent socially engaging with others (although some students may be physically alone, but virtually socializing with others online). Residents showed significantly higher amounts of time spent alone, with the highest effect size seen in this study of $r = .46$. Once again, this was due to the design of the instrument not taking into account the context of the differences between residents and commuters.

Residents showed slightly, yet still significantly, higher rates of having on-campus employment than commuters. While it is presumed that on-campus jobs are primarily a method

to earn income, they are also an example of social engagement. On-campus work positions give students the experience of working, and thus interacting, with campus administrators, and often faculty, as well as other students. Astin (1993) found that having an on-campus part-time job was positively associated with degree attainment, self-reported cognitive and affective growth, being a member of student government, and tutoring other students. Anderson's (1981) study found a relationship between on-campus employment and retention. It seems reasonable that more residents reported more time at an on-campus job than did commuters. Commuters have the option to take a job off-campus, close to their home, potentially jobs from prior to university, while residents' options are more limited. As noted in the Participants section, some residents did have off-campus jobs as well as off-campus volunteer positions.

Of all of the questions on social engagement with significant differences, question 18f, was the most meaningful. This question asked about the proportion of time spent doing extracurricular activities on-campus. Resident students had higher levels than commuters, with a medium effect size ($r = .35$, the third highest seen in this study). On-campus extracurricular activities are exemplars of social engagement activities. In theory, residents could have responded with lower proportions of time spent on these activities since they were always on campus (e.g. more time sleeping and eating equals less of a proportion of time on extracurriculars). Yet, residents responded as participating in extracurricular activities significantly more frequently. In other words, the data indicated that residents did indeed participate in extracurricular activities more often than commuters.

Residents responded that they spent more of their time on-campus working out or doing physical activities (question 18f) than did commuters. The reasons for this finding are likely similar to that of on-campus jobs. Commuters have the choice to do these activities on-campus,

or in their community. For residents, their local community is the campus. Members of the university community are the predominant users of the athletic facilities at this institution: students, faculty and staff. Although some physical fitness activities are solitary, most are social in nature. For example, playing any sport requires participating with or against others. Even individual fitness activities, such as doing weights or yoga, involve a social component as there are other people in the facility. Thus, participating in athletic and fitness activities on-campus provides opportunities for interacting with other students and campus community members.

Commuters also spent less time than residents in York's affiliated College locations (question 20b). Examples of these locations include Junior Common Rooms (JCRs) and pubs. York's residences are partnered with the Colleges, and most residences are physically connected to the College building. Thus, it is not unexpected that residents would spend more time there than commuters, following the same logic as that for on-campus jobs and using the athletic facilities.

The remaining three questions concerning the social engagement outcome did not result in significant differences. These questions asked if students participated in varsity team sports, student government, and student clubs. These three activities are quintessential examples of extracurricular activities. Thus, it is interesting that when specifically asked about participation in these activities, there were no significant differences between the groups. However, when the number of activities participated in was considered (Table 4.4), it was shown that close to twice the percentage of residents than commuters participated in more than one of these extracurriculars. Also, when proportion of time spent on extracurriculars was considered (question 18f), residents were seen to spend substantially more of their time ($r = .35$) participating in these activities than did commuters.

Considering the results from the nine questions concerning social engagement together, residents showed higher levels of social engagement than commuters. It was seen in Table 4.5 that most commuters spent less than six hours on-campus per week outside of class; thus these lower levels of social engagement are congruent. Nonetheless, residents were no more prone than commuters to be on a varsity team, student government, or a member of a university club. Thus, it seems that commuters were not disengaged socially, but rather that residents spent more of their time participating in student life, often in a greater number of activities. As such, residents seem to be more socially engaged than commuters (as defined in this study as a component of student engagement), spending more of their time on the activities examined here.

4.3 Student Satisfaction

The third research question compared the satisfaction levels of resident and commuter students. Table 4.6 shows the results for questions concerning students' ratings of their experience (28 to 30). Students in both groups, on average, responded that they would probably continue in the same program the following year (question 28), and rated their overall experience between fair and good (question 29). However, when asked if they would return to the same institution if they were to make the choice again (question 30), almost half (48%) of commuters responded that they definitely or probably would not, while only a quarter (26%) of residents responded the same. Residents had higher means than commuters on each of these three questions, although the difference is very small for question 28 ($M = 3.42$ for commuters and $M = 3.46$ for residents).

Question 27 asked if students were in their program of choice (27). Residents had higher rates of being enrolled in their program of choice (79.5%) than commuters (71.2%).

Table 4.6 *Comparison of Student Satisfaction Results - Ratings Questions*

Question		Commuters ^a						Residents ^b						<i>t</i>	<i>df</i>	<i>p</i>	<i>W</i>	<i>p</i>
		scale	<i>M</i>	<i>SD</i>	<i>Mdn</i>	Min	Max	<i>M</i>	<i>SD</i>	<i>Mdn</i>	Min	Max						
28	Plan to continue in same program	4	3.42	0.85	4	1	4	3.46	0.97	4	1	4	-0.35	290	.73	14900	.18	
29	Evaluation of experience at York	4	2.59	0.78	3	1	4	2.93	0.76	3	1	4	-3.72 ^c	221.44	.00*	14665	.00*	
30	Would return to York again	4	2.56	1.00	3	1	4	3.01	0.86	3	1	4	-3.91 ^c	202.57	.00*	14328	.00*	

^a Commuter n range from 107 to 111. ^b Residents n range from 185 to 200. ^c Equal variances not assumed results reported.

* $p < .05$

Residence students evaluated their overall experience at the institution significantly better (question 29, $M = 2.59$) than did the commuters, ($M = 2.93$). Residents also responded more positively that they would return to York University, if they could start over again (question 30, $M = 3.01$) than did the commuters ($M = 2.56$). Both these questions had small effect sizes ($r = .21$ and $r = .22$, respectively). The third rating question, asking if students planned to continue in the same program the following year, did not result in significant differences. For question 27, no significant differences were found between commuters and residents and whether they were enrolled in their program of choice $\chi^2(1) = 2.76, p = .1$.

The results of the third research question, comparing levels of student satisfaction, indicate that residents had higher levels of satisfaction than commuters. The two questions (29 and 30) adapted from the NSSE instrument showed significantly higher levels of satisfaction for residents, although with small effect sizes ($r = .21$ and $r = .22$).

The two other questions in the student satisfaction outcome were not as direct measures as those discussed above, asking students if they were in their program of choice (question 27), and if they planned to continue in the same program the following year (question 28). Neither of these questions showed significant differences. However, these were indirect measures of satisfaction. For example, a student may not have been in their first choice program, but were satisfied with their experience. Along the same line, a student may have been quite dissatisfied but did not plan to change programs, for any number of reasons.

As questions 29 and 30 were adapted from the NSSE instrument, and results to these NSSE questions are published by the University, a comparison could be made between surveys. Since NSSE is a well-established survey, considering the same outcomes as this study, it was appropriate to compare results. Figure 4.1 through Figure 4.4 show the results from this research

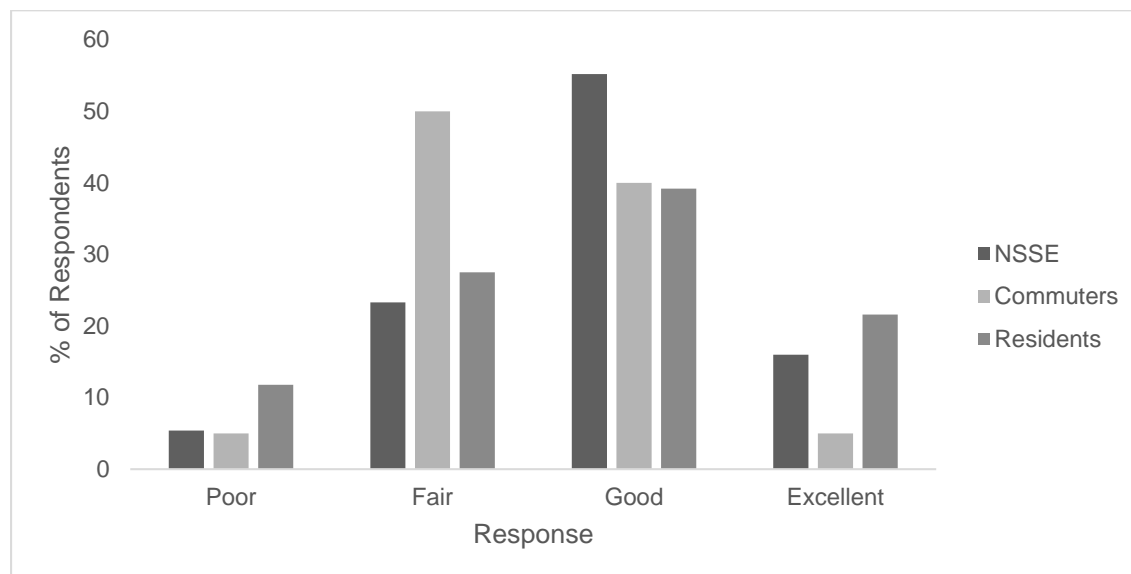


Figure 4.1 Comparison of first-year students' responses to questionnaire and NSSE 2011-12 "How would you evaluate your entire educational experience at this university?" item.

Note: The sample size for these NSSE results are not published. However, results published for other items in the same NSSE survey list sample sizes as ranging from 3,235 to 3,835 (<http://oira.info.yorku.ca/files/2013/01/NSSE-2011-Benchmarks-York.pdf>, retrieved April 27, 2014).

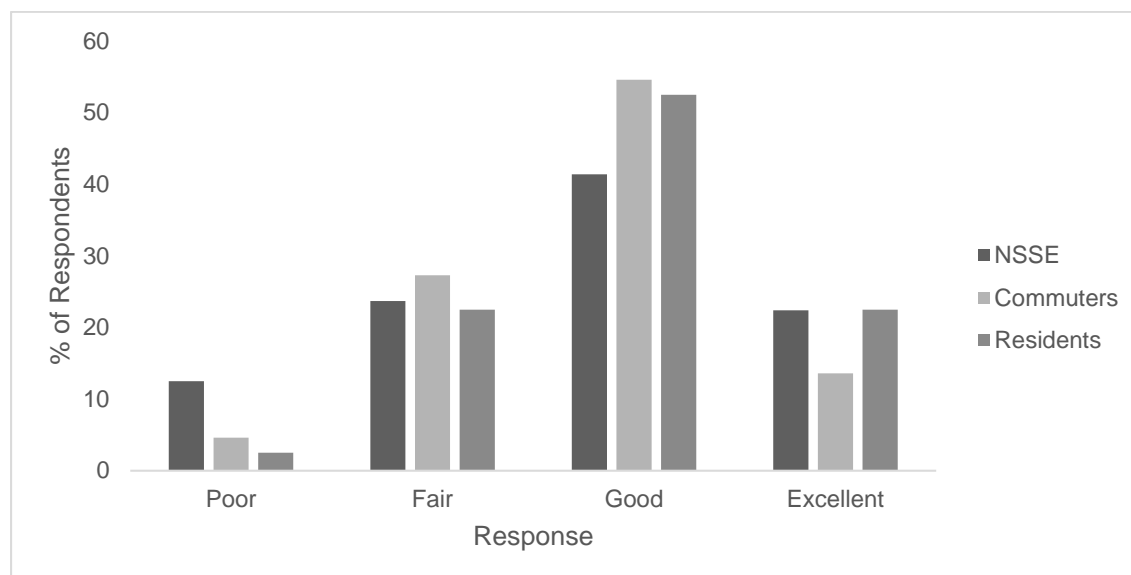


Figure 4.2 Comparison of fourth-year students' responses to questionnaire and NSSE 2011-12 "How would you evaluate your entire educational experience at this university?" item.

study along with the published York University 2011-12 NSSE results. NSSE is administered solely to first- and fourth-year students, and thus the results presented in Figures 4.1 to 4.4 are only for these two particular year levels. Appendix E lists the results for the entire residence and commuter groups, as well as for the first and fourth year subgroups.

The differences between commuters and residents are striking when compared with York's published NSSE results. In the experience rating question (29), Figures 4.1 and 4.2, the most positive profile is seen by fourth-year residents, while the least positive is from first-year commuters. None of the subgroups in this sample follow the general pattern of the York distribution. At the first-year level, both residents' and commuters' ratings are below the NSSE York results. Conversely, both fourth-year commuters and residents show higher ratings than the York NSSE data. This indicates that the samples of these two studies may not have been similar.

The differences between the residence and commuter groups were even more pronounced in the return again question (Figure 4.3 and Figure 4.4). First-year commuters had a noticeably negative pattern. Fourth-year commuters had a strikingly different, and negative, pattern from all other subgroups. In this question, however, the sample has some similarities with the NSSE data. First-year residents and York first-year are largely similar. Yet, first-year residents did have a fairly high percentage of definitely no responses, along with definitely yes responses, showing satisfaction levels at the extremes. Fourth-year residents follow a similar pattern to York fourth-year. While the purpose of this study was not to compare results to NSSE findings, it is interesting to see these differences and similarities between surveys.

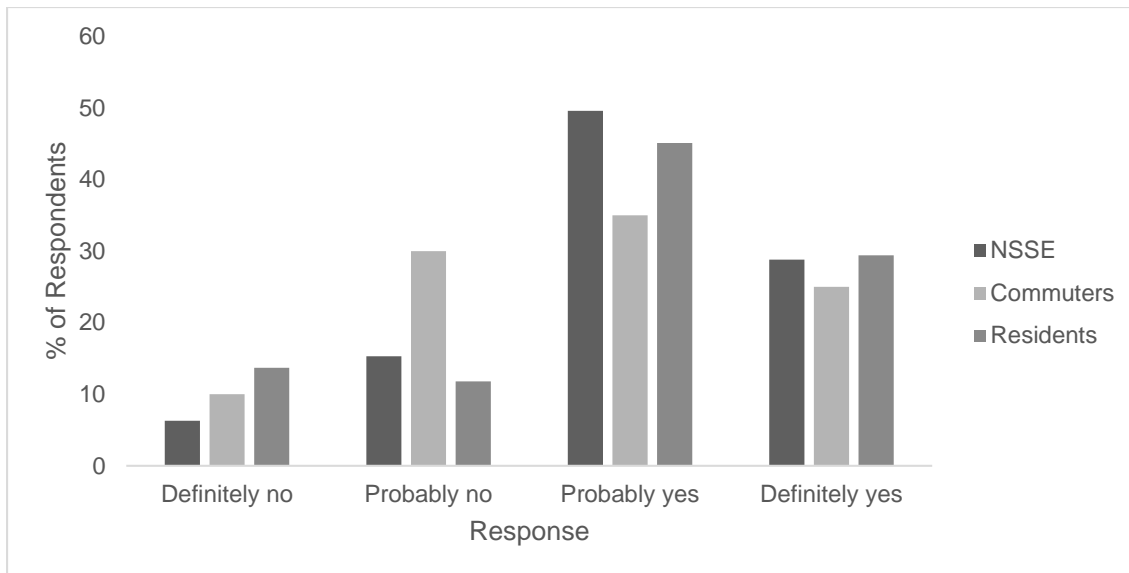


Figure 4.3 Comparison of first-year students' responses to questionnaire and NSSE 2011-12 "If you could start over again, would you go to the same institution that you are now attending?" item.

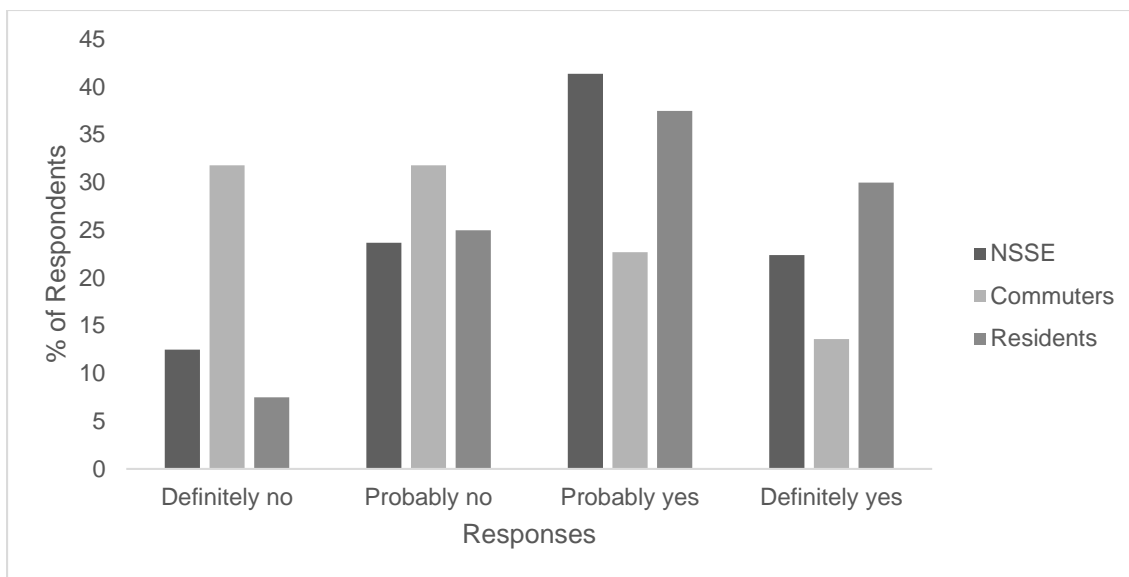


Figure 4.4 Comparison of fourth-year students' responses to questionnaire and NSSE 2011-12 "If you could start over again, would you go to the same institution that you are now attending?" item.

When the results to question 27 (enrolled in program of choice) are compared to those from question 30 (return again, frequencies and percentages available in Appendix E), an interesting pattern appears. Of commuters, 71% responded that they were in the program that they wished to be in when they applied to university, while 80% of residents replied the same, a difference of only 9%. Yet 74% of residents said they would return to York (when the probably yes and definitely yes responses are summed), but this was only 52% for commuters. This is a difference of 22%, which is almost 2.5 times greater than the difference seen in question 27. So while a similar proportion of commuters as residents were not in their program of choice, a notably higher percentage of residents would choose to return to the same institution, if given the choice again.

Further investigation was done to determine if being enrolled in their program of choice acted as a moderator variable, or an Input in the I-E-O model. Students' responses to question 27 (yes or no) was used as a grouping variable, and comparisons were made on the other satisfaction outcome variables (questions 28 to 30). The results of this analysis can be seen in Table 4.7. The data was then further subdivided using the commuter and residents groups. These results can be seen in Table 4.8 for commuters and Table 4.9 for residents.

When considering how enrolment in the program of choice impacted satisfaction for all participants, higher levels of satisfaction were seen for those in their program of choice. While this pattern continued when the commuter and resident subgroups were considered, the difference between means was not as large for residents. When all participants were considered together, each of the three questions concerning satisfaction had significant results, on both parametric and non-parametric tests. When data for the commuter subgroup was analysed, question 29, evaluate experience at York, resulted in significance differences of $p < .05$ on the

Table 4.7 *Enrolment in Program of Choice as Moderator Variable For All Participants*

Question	In program of choice ^a						Not in program of choice ^b						<i>t</i>	<i>df</i>	<i>p</i>	<i>W</i>	<i>p</i>
	scale	<i>M</i>	<i>SD</i>	<i>Mdn</i>	Min	Max	<i>M</i>	<i>SD</i>	<i>Mdn</i>	Min	Max						
28 Plan to continue in same program	4	3.63	0.75	4	1	4	2.87	1.17	3	1	4	5.09 ^c	87.7	.00*	7351	.00*	
29 Evaluation of experience at York	4	2.87	0.75	3	1	4	2.60	0.85	3	1	4	2.38 ^c	109	.02*	9974	.00*	
30 Would return to York again	4	2.94	0.94	3	1	4	2.56	0.93	3	1	4	3.06	308	.00*	9222	.00*	

^a *n* range from 222 to 238. ^b *n* range from 70 to 73. ^c Equal variances not assumed results reported.

* *p* < .05

Table 4.8 *Enrolment in Program of Choice as Moderator Variable in Commuter Group*

Question	scale	In program of choice ^a					Not in program of choice ^b					<i>t</i>	<i>df</i>	<i>p</i>	<i>W</i>	<i>p</i>
		<i>M</i>	<i>SD</i>	<i>Mdn</i>	Min	Max	<i>M</i>	<i>SD</i>	<i>Mdn</i>	Min	Max					
28 Plan to continue in same program	4	3.59	0.73	4	1	4	3	0.97	3	1	4	3.44	105	.00*	1233	.00*
29 Evaluation of experience at York	4	2.68	0.78	3	1	4	2.34	0.75	2	1	4	2.11	109	.04*	1512	.05
30 Would return to York again	4	2.7	0.97	3	1	4	2.23	1.02	2	1	4	2.26	108	.03*	1406	.03*

^a *n* range from 76 to 79. ^b *n* range from 31 to 31.

* *p* < .05

Table 4.9 *Enrolment in Program of Choice as Moderator Variable in Resident Group*

Question	scale	In program of choice ^a					Not in program of choice ^b					<i>t</i>	<i>df</i>	<i>p</i>	<i>W</i>	<i>p</i>
		<i>M</i>	<i>SD</i>	<i>Mdn</i>	Min	Max	<i>M</i>	<i>SD</i>	<i>Mdn</i>	Min	Max					
28 Plan to continue in same program	4	3.64	0.76	4	1	4	2.77	1.31	3	1	4	4.00 ^c	45.1	.00*	2596	.00*
29 Evaluation of experience at York	4	2.96	0.72	3	1	4	2.8	0.87	3	1	4	1.14	198	.26	3870	.40
30 Would return to York again	4	3.06	0.91	3	1	4	2.8	0.78	3	2	4	1.67	198	.10	3476	.04*

^a *n* range from 146 to 159. ^b *n* range from 39 to 41. ^c Equal variances not assumed results reported.

* $p < .05$

t-test ($p = .04$); however the Wilcoxon rank-sum result was non-significant ($p = .05$), with the small effect size of $r = .18$. The other two variables in the commuter subgroup analysis also did show significant differences on both types of tests. Thus all three variables resulted in significant differences.

In the residents subgroup analysis, question 30 resulted in significant differences between tests. The *t*-test produced a non-significant value of $p = .1$, while the Wilcoxon rank-sum test results in a significant difference at $p = .04$. Question 28 resulted in significant differences on both tests, while question 29 had non-significant differences. Thus, the only significant finding is for question 28, which is an indirect measure of satisfaction. The two most valid variables (question 29 and 30) did not result in significant differences for the residents subgroup.

These findings indicate that enrolment in preferred program acted as a moderator variable to student satisfaction; however, the impact appears to have been greatly mitigated for residents.

4.4 Further analyses

In addition to analyses to address the research questions, the data was further analysed to examine if there was a relationship between other input characteristics, or moderator variables, and the three outcomes. The sample in this study was compared to findings in the literature. Additional analyses of the relationships between first generation post-secondary attendance as well as household income and the three outcomes were considered. Unfortunately, the data did not allow for meaningful analysis of these questions, as the sample sizes in the groups were too small. The commuter group was subdivided into two groups: those living with family (at home) and those renting accommodation for the purpose of attending university. The resulting subgroups included small and unequal samples (75 and 25, respectively). Even so, *t*-test and chi-square were performed using these two subgroups for each of the outcome variables. Only two

variables resulted in significant results (time with friends on-campus, 18a, and researching with a professor, 18h). Given the minimal difference between the subgroups, and the less than ideal sample sizes, it was decided to not pursue this analysis further.

Sufficient data was available for two additional analyses. These concerned the impacts of commute time and housing preference, as inputs, on the outcomes of academic and social engagement and student satisfaction.

4.4.1 Travel time.

The wider PSE literature has considered students' distance from institutions and their participation rates (e.g. Hoy, Christofides, & Cirello, 2001; Frenette, 2002); however only one study was found that has examined the relationship between time spent commuting and satisfaction, while none were found concerning the relationship with engagement. Astin (1993) found that the longer a student's commute was, the less satisfied she or he was in all areas queried with the exception of campus facilities. In terms of the relationship of travel time with engagement, the most similar study found was by Kuh, Gonyea and Palmer (2001). Their study used NSSE data to create walking commuter and driving commuter subgroups. The lack of research into the impacts of commute times is surprising since the literature often states that commuters are likely to be less engaged since they have less time to be engaged due to the time they spend commuting. Since commute time data was gathered in this study, it was decided to investigate if travel time had a moderator effect on each of the students' outcomes considered.

One additional questionnaire item was included in this analysis. This was question 17, time spent on-campus outside of class. This question was only seen by commuter students, thus it was not included in the previous analyses comparing commuter to resident groups. The amount of time commuter students spent on campus outside of class time (question 17) can be

seen in Table 4.10. Almost one-quarter of commuter students spent less than three additional hours outside of class per week on campus, and very few students spent more than a couple of additional hours per day (on average) on campus. These responses are consistent with The White Paper's report that less than half of first-year students spend five hours or less per week on campus outside of scheduled class time (Monahan, 2010a, p. 38).

Table 4.10 *Commuters' Time Spent On Campus Per Week, Outside of Class*

Time	Frequency	Percent
Less than 3 hours	26	24%
3 – 6 hours	29	27%
6 – 9 hours	19	17%
9 – 12 hours	12	11%
12 – 15 hours	7	6%
15 – 18 hours	0	0%
18 – 21 hours	7	6%
More than 21 hours	9	8%

The commute time data was collected in question 7, in time ranges of 30 minutes up to three hours. Pearson's correlation coefficient was used for the parametric analysis, and Kendall's tau was selected for the non-parametric analysis. Kendall's tau was appropriate as it is a non-parametric test for bivariate correlation, particularly useful when the data has many scores with the same rank. Pearson's correlation coefficient and chi-square were used to estimate the relationship between travel time and the categorical level questions. The full results of these analyses can be seen in Table 4.11 for the 'how often' questions, and Table 4.12 for the 'participation' questions.

Table 4.11 *Relationship Between Travel Time and How Often Questions*

Outcome	Question	Pearson's Correlation Coefficient		Kendall's tau		
		<i>R</i>	<i>p</i>	τ	<i>p</i>	
Academic Engagement ^a	10	Interest level in courses	-.04	.68	-.06	.46
	11	Proportion of classes attended	-.05	.64	-.03	.68
	12	Proportion of homework completed	-.08	.43	-.05	.52
	13	Hours spent doing school work	-.07	.50	-.04	.59
	14	Frequency doing extra school work	-.03	.78	-.01	.87
	15a	Frequency of use of prof/TA office hours	-.17	.07	-.14	.08
	15b	Frequency of emailing professor/TA	-.16	.10	-.14	.08
	15c	Frequency of talking to professor/TA	-.09	.37	-.05	.48
	15d	Frequency of use of Help Centre	-.14	.16	-.12	.15
	15e	Frequency of joining Moodle discussions	.04	.70	.03	.70
	16	Frequency of discussing course topics outside class	-.09	.35	-.06	.44
	18c	Time on-campus doing group work	-.03	.73	-.03	.66
	18d	Time on-campus doing work alone	.08	.43	.05	.55
	18h	Frequency of research with professor	.05	.60	.05	.55
	20a	Time spent at library	-.08	.40	-.07	.37
	20c	Time spent at computer lab	.06	.57	.02	.85
Social Engagement ^b	18a	Time with friends on-campus	-.03	.77	-.02	.75
	18b	Time alone on-campus	.21	.03*	.16	.04*
	18e	Time at job on-campus	-.00	.99	-.04	.61
	18f	Time doing extracurriculars	-.18	.06	-.13	.10
	18g	Time doing sports/physical activity on-campus	-.13	.18	-.11	.17
	20b	Time spent in college (e.g. JCR, pub)	-.07	.49	0.08	.35
Satisfaction ^c	28	Plan to continue in same program	.11	.25	.12	.14
	29	Evaluation of experience at York	-.10	.30	-.09	.27
	30	Would return to York again	-.19	.05 ^e	-.15	.06
SE ^d	17	Time not in class spent on-campus	-.13	.20	-.09	.25

^a *n* range from 106 to 111. ^c *n* range from 107 to 111. ^d *n* = 111 ^e The SPSS output was .049, therefore this was flagged as significant by SPSS.

* $p < 0.5$

Table 4.12 *Relationship Between Travel Time and Participation Questions*

Question		Chi-Square analysis				Pearson's r analysis	
		χ^2	df	FET	p	r	p
Social Engagement							
22	Member of varsity team	6.81 ^a	6	6.12	.22	-.15	.11
23	Member of student government	4.65 ^b	6	3.30	.82	.18	.06
24	Member of university club	7.61 ^c	6	8.00	.24	.11	.23
Satisfaction							
27	Enrolled in program of choice	3.36 ^d	6	3.34	.79	-.06	.23

Note. $n = 112$

There were 26 questions considered in this analysis. All but six of these questions (15e, 18d, 18h, 20c, 18b, 28) showed that students with shorter travel time had higher levels of the outcome being considered (seen from the negative values of r and τ). It should be noted that two of these six questions considered time spent alone, and thus time not socially engaging (questions 18d and 18b). These questions showed higher rates of time spent alone for those with longer travel time. However, none of the correlation values was very strong, with none of the values being greater than $r = .21$ or $\tau = .16$. The results to question 17, time on-campus outside of class, showed that those with longer commutes did spend less time on campus. The parametric Pearson's analysis for the time at on-campus job (question 18e) resulted in no relationship whatsoever, with $r = -.00$, indicating that travel time did not impact time at an on-campus job at all.

Of all of the questions, the amount of time commuters spent travelling to school had a significant difference with only one question, in both parametric and non-parametric tests. This was question 18b, frequency of time spent alone while on-campus. Commuters with longer travel times spent more time alone on-campus not doing school work, than those with shorter

travel times ($r = .21$, $\tau = .16$, $p < .05$). This question can be seen as a reverse coded question, measuring proportion of time not socially engaged. It is notable that there was not a significant relationship between commute time and time spent doing academic work alone; the only significant difference was for time spent casually alone. Question 30, return again to York, did have a significant difference from the parametric test output with the unrounded value of $p = 0.049$. No other questions had significant differences. Thus, the results concerning the relationships of commuters' travel time to the three outcomes of academic engagement, social engagement, and student satisfaction, showed that amount of time spent commuting was not related to the outcomes for this sample.

4.4.2 Housing preference.

Participants were asked in the questionnaire where they would most prefer to live for university, if factors such as expense or program location were not an issue (question 33). The rationale for including this question was not as a direct result from literature readings. Rather, it was included as an extension of the satisfaction construct, relating to the student's housing preference. Since this study investigated where students lived and deemed to make judgements on the locations of housing, it seemed appropriate to ask about students' preferences in this regard, thus providing the opportunity to consider if preference was an input variable. The means and frequencies of the responses to question 33 were compared for the two groups.

Commuters and residents showed noticeably different preferences, which can be seen in Table 4.13. Both groups indicated about the same degree of preference in having their own place (i.e. not with the family) for school, with 37% of commuters and 39% of residents selecting this choice. However, many more commuters preferred living at home (33%) than residents (9%). Further, many more residents preferred residence (53%) compared to commuters (28%). It is

interesting to note that the majority of residents (53%) preferred residence, their current accommodation, while the most popular option for commuters (74% of whom lived at home) was renting accommodation (37%), the implication being that this would not be with family. In other words, the majority of residents were living in their preferred location, while most commuters were not. Yet, the most popular housing option for commuters was off-campus but not in residence.

The chi-square test was used to determine if the differences in housing preference were significant. The test did result in a significant result, with a medium sized effect of $r = .33$. These findings regarding choice of housing indicate that the basic preferences of commuter and resident students were quite different.

Table 4.13 *Comparison of Preferred Location of Housing of Commuter and Residence Students*

Location	Commuters	Residents	χ^2	<i>df</i>	<i>p</i>
	<i>f</i> (%)	<i>f</i> (%)			
With parents/family	35 (33)	17 (9)	33.94 ^a	2	.00*
University residence/on-campus	30 (28)	106 (53)			
Rent place for attending university, on own or with others	40 (37)	77 (39)			
Other (homeowner)	2 (2)	0			

The next chapter will summarize and discuss these findings in relation to the literature, and their implications for practice and future research.

Chapter 5 Discussion and Conclusions

This study sought to investigate if there was a relationship between students' location of residence (i.e. whether they live on-campus or commute to school) and student outcomes, namely academic and social engagement, and satisfaction, at a large, urban university in Southern Ontario. Using Astin's I-E-O model, the two groups were compared in terms of their levels of academic engagement, social engagement, and satisfaction. Further analyses were conducted concerning the relationship of commuter students' travel time, as well as participants' preferences regarding housing, with student outcomes.

This chapter begins by summarizing the key findings of the study, discusses the study's contributions to the literature, and concludes with a discussion on its implications for policy and practice in post-secondary education.

5.1 Academic engagement

The results showed that there was no significant relationship between students' place of housing and their levels of academic engagement. In relation to the more recent literature, these results are consistent with the findings of Kuh, Gonyea and Palmer (2001) that commuters did not have lower levels of academic engagement. However, these results are in contrast with Pascarella and Terenzini's (2005) findings that residence students had more interaction with faculty members. As described in the literature review chapter, the findings in the literature regarding the gaps between commuters and residents have been shrinking over time, as students and institutions have changed. It is possible that the contrast to Pascarella and Terenzini's (2005) findings are due to an emphasis on commuter students at the institution where this study was conducted, providing for more student-faculty interaction than what Pascarella and Terenzini saw in the early 2000s. These results also differed from Grayson's (1995, 1997)

findings that commuters had higher levels of classroom involvement than residents. Grayson measured classroom involvement by using the percentage of classes attended and number of visits to the library. In this study, it was found that while residents did attend more of their classes, it was not by a large or significant amount, but that commuters spent considerably and significantly more time at the library. Had this study measured classroom involvement in the same way as Grayson, it is possible that commuters would have demonstrated higher levels. However, in this study, there were no significant differences in levels of academic engagement between the two groups.

Nevertheless, a very important finding from this study is that, overall, academic engagement did not differ between residence and commuter groups. This finding supports other recent studies (i.e. 1980s to current day) reviewed that considered this outcome and also reached this conclusion (e.g. Grayson 1995, 1997; Kuh, Gonyea & Palmer, 2001). Together, these studies suggest that we need to challenge the notion that commuters are an 'at-risk' group academically.

Given this institution's high percentage of commuting students, this finding that commuter students appeared to be not in a position of academic disadvantage is good news. This is particularly affirming when the demographic differences between the groups are taken into account. Research has shown that students with higher levels of engagement tend to come from families with higher levels of parental education (Hu & Kuh, 2002), SES, and the related amount of time spent working during school (Sax & Harper, 2011). Since the students in the residents group in this study tended to come from wealthier households, with higher levels of education, and spent less of their time working, it could be expected that they would show higher levels of academic engagement. However, the commuters in this study did not have lower levels of

academic engagement than residents. An area of future research is to consider if levels of parental education and income continue to influence academic engagement as previous studies have indicated.

5.2 Social engagement

The findings from this study are consistent with previous research regarding social engagement. All studies that compared levels of social engagement across these groups found that residents had higher levels (e.g. Anderson, 1981; Grayson, 1995, 1997; Kuh, 2001). Further, Pascarella and Terenzini (2005) found that residence had a “clear bearing on *the extent to which* (emphasis added) students participate in extracurricular activities” (p. 604), which is in line with the findings of this study. Together, these findings suggest that the convenience of being on-campus allows for higher levels of social engagement for residents. However, it is possible that other variables such as student characteristics, and an inherent bias towards providing social programming to residents (e.g. activities with a cost that commuters may not be able to afford) may also play a role in this relationship.

Both Anderson (1981) and Grayson (1995, 1997) cautioned that too much social involvement by residents can negatively impact their academic achievement and performance. The findings here did not indicate a negative impact on residence students related to the social environment, or increases in hedonism, to use Astin’s (1976, 1993) term. While residents did exhibit higher levels of participation in social activities, they still attended more classes, completed more homework, and spent more of their time doing course work, than commuters, although not significantly so. While this study did not investigate hedonistic behaviours directly, it does not appear that the higher levels of social engagement exhibited by residents had a negative impact on their levels of academic engagement.

The findings from this study support the conclusions from the literature that on-campus social interactions play an important role in the student experience. A student's interpersonal experiences shapes their environment; the people, whether teaching staff or other students, around them and the quality of the interactions with those people play an important role in the student's environment. As Pascarella and Terenzini (2005) proposed, these interactions promote socialization to the institution's attitudes and normative values, and help to create a bond between the student and the institution. The findings of this study strongly indicate that there is a relationship between the higher levels of interactions seen in the social engagement outcome, as well as satisfaction. Feeling connected and belonging to an institution would, presumably, greatly impact satisfaction with that institution.

This point was reinforced in some of the comments submitted in the study questionnaire.

"I only found out about the [clubs/events] I'm interested in through friends. But what about those who come into York without any friends. How will they be able to meet other students at York in a non-educational setting... [If more students were aware of opportunities], then more new students would be able to join clubs/associations/intramural teams in order to fully experience York U." (commuter)

"My time at university is worthwhile because of my extracurriculars. I spend 85% of my days doing things for/at or with people from [extracurricular group]". (resident)

"My experience at York has been enriched SOLELY by my involvement. These clubs and activities made ALL the difference in my york experience." (resident)

"I think extracurriculars, and educational experience has largely influence my experience at York." (commuter)

"Friendship wise the experience was great!!" (commuter)

"Looking forward to getting more engaged with extracurricular activities and clubs" (commuter)

These comments illustrate students appreciating the contribution of social engagement activities toward their student experience, as well as how valuable their interactions with other students were for them.

While both residents and commuters expressed their appreciation of social engagement on-campus, it is important to note that this study found that the background characteristics, or

inputs, of the students in the two groups showed vast differences. Commuters were seen to have jobs at much higher rates than residents, and lower family incomes. Time spent at a job is time that cannot be spent on-campus in student activities, with the caveat that on-campus jobs can be considered as facilitating social engagement. Thus, the findings here suggest that social engagement on-campus was more challenging for commuters given their obstacles of available time and access to campus.

However, it is important to note that consideration of the social engagement outcome in this study was limited to activities that took place on-campus. A more thorough investigation of social engagement would not limit to activities only occurring on-campus. For example, the NSSE instrument includes questions regarding attending cultural events, regardless of location. As already pointed out, querying social time with fellow students, regardless of location, would have more validly measured this outcome.

5.3 Student satisfaction

The results of the third research question, comparing levels of student satisfaction, showed that, overall, residents were more satisfied than commuters. The two questions (29 and 30) adapted from the NSSE instrument, showed significantly higher levels of satisfaction for residents, although with small effect sizes ($r = .21$ and $r = .22$). These two questions were unambiguous measures of satisfaction, directly asking students to rate their experience and if they would return to the same institution if they could turn back time.

While this study did not investigate students' retention, the literature did show a relationship between low levels of satisfaction and attrition (i.e. Astin, 1993, Sanders & Burton, 1996). Thus, a concern from this finding is that students in the commuter group were at risk for attrition due to their significantly lower levels of satisfaction.

The responses to the question about enrolment in program of choice (question 27) showed that while similar rates of commuters as residents were not in their program of choice, a notably higher percentage of residents would choose to return to the same institution. The further analysis showed that there was a relationship between enrolment in preferred program and satisfaction level, but that the effect was greatly mitigated for residents. This finding suggests that the environmental factor of the residence experience did improve the level of student satisfaction.

It was not in the scope of this study to further compare groups of students who were enrolled in their program of choice with those that were not. Since the satisfaction results were significantly different for these groups, it can be assumed based on the findings from this study that social engagement would have been as well. This is an area for further research.

In the literature, levels of student satisfaction were found to be higher for residents by Astin (1993), Pascarella and Terenzini (2005) and Pascarella, Terenzini and Blimling (1994). The findings here were consistent with this literature. These findings were contrary to Sanders and Burton's (1996) finding of no difference in satisfaction between residents and commuters. As discussed in the literature review, it was not apparent why Sanders and Burton's findings differed from others, and the authors did not address this.

The findings from this study were also consistent with previous findings that social engagement and satisfaction are related (Fischer, 2007), with residents showing higher levels on both outcomes than commuters. Further, and importantly, these findings indicate that satisfaction did not influence academic engagement.

In relation to the analysis of enrolment in program of choice, Astin (1993) found that students attending their institution of highest choice were more satisfied than those enrolled at

their lower choice college. He also found that satisfaction was primarily influenced by the institution's environment, rather than by the student's entering characteristics. The results of this study are consistent with both of these findings. First, the students in this study enrolled in their program of preference tended to be more satisfied. Secondly, residence students not in their program of preference were significantly more satisfied than their commuting peers, suggesting that the environment they experienced, which included that of residence, had an impact, more so than their inputs, on satisfaction. In addition, this study has provided some findings not previously seen in the literature, as this study went further in the analysis than Astin (1993). Here it was found that living in student housing seemed to mitigate the negative impact on satisfaction for students not in their program of choice. Importantly, this finding suggests that the environmental factor of the residence experience can improve the level of student satisfaction and indicates a subject for future study.

Consideration of the satisfaction outcome in this study was limited to three global measures. As discussed in the literature review, this type of measurement is considered to be less thorough than attribute-style measurement. A more comprehensive investigation of satisfaction would include questions considering multiple areas of the student experience. Specifically, it would be worthwhile to consider the levels of satisfaction with academic and social activities, given the differences seen in the levels of engagement between groups. It is possible, for example, that commuters were satisfied with the academic component of their student experience, but not with the social, mirroring their levels of engagement in these outcomes.

5.4 Commuters' travel time

The results for the further analysis of the relationship of commuters' travel time to the three outcomes of academic engagement, social engagement, and student satisfaction, showed that, overall, the amount of time spent commuting did not impact the outcomes for this sample. While those with longer commute times responded that they spent less time on-campus outside of class, the differences were not significant. However, commuters with longer travel times, compared to those with shorter commutes, did spend a significantly higher proportion of their time on-campus alone, neither academically nor socially engaging. This finding suggests, therefore, that students with longer commutes were not engaging as much as those with shorter travel times, either academically or socially, during their time on-campus. Future research could examine what these students are spending their time doing. However, no significant differences were seen in overall levels of academic or social engagement and satisfaction based on travel time.

These findings support Kuh, Gonyea and Palmer's (2001) results that driving commuters put as much time and effort into some academic engagement variables as those that live on or near campus. However, the results from this study are contrary to Kuh, Gonyea and Palmer's (2001) finding that students coming from further were less likely to make use of resources on campus. The discrepancy between findings may be due to study design, population or context. Kuh, Gonyea and Palmer grouped participants into one of three groups: residents, walking commuters, and driving commuters, comparing short and non-short commute times. They did not analyse the same relationship as this study which had seven time ranges of commute times. Their data was drawn from the 2000 and 2001 NSSE database. Further, the entire NSSE database would include a number of residential based institutions. It is possible that at this

commuter institution resources were implemented to be conveniently accessible to those with longer travel times, thus mitigating this negative effect.

The results from this study are also contrary to Astin's (1993) finding that the longer the travel time students living off campus had, the less satisfied they were, with no significant differences found on this outcome. Like Kuh, Gonyea and Palmer (2001), Astin's sample included students at more than 300 institutions, which would include a number of predominantly residential universities. Similarly, this commuter institution's deployment of services may have played a role in diminishing this effect, as similar levels of satisfaction were seen regardless of travel time. Nevertheless, the sheer fact of being a commuter did result in significantly lower levels of satisfaction than for the resident group. These findings suggest that the length of the commute did not influence levels of satisfaction, or social engagement; rather, simply being a commuter did. This finding questions whether the convenience of being on-campus and time available were the primary variables impacting levels of social engagement and satisfaction for students, as it would logically follow that those with the shortest commutes (i.e. less than 30 minutes) would then be more socially engaged and satisfied than students with the longest commutes (i.e. three hours and longer), but this is not what was found here.

5.5 Housing preference

The further analysis regarding housing preference indicated that the basic preferences of the students in each of the groups were quite different. There is a common conception that most students would chose to move away from home (to residence or close to school), if they were able to, to what the literature often described as the "normative" university experience, and that commuters who remain in the family home while in university do so predominantly for financial reasons. The commuters' responses in this study indicate that this assumption is incorrect, and

that many students do prefer to remain at home. Fully one-third of commuters wished to live with family, while 92% of residents preferred to not live at home.

Sax and Harper (2011), in discussing the I-E-O model, emphasize the importance of students' input characteristics to the model since:

“the predispositions that students bring with them to college lead them to select certain environments when they arrive on campus. If these background factors are not accounted for, it is impossible to determine the extent to which student characteristics at the end of college are attributable to what the students did *during* college versus what these students were like *before* they enrolled in college.” (p. 503)

The findings from this research showed that there was a difference in the predispositions of the commuter and resident student groups. The foundational literature from the 1970s made it clear that the point was less about the effects of residence and more about who lived in residence. Then it was characteristics such as household income, parental education, and educational preparation that were found to be the driving input characteristics of differentiation in outcomes, but that these were also differences found between students living in residence and commuters. The students in this study also showed differences in levels of household income and parental education. Almost three times as many commuters than residents were first generation PSE participants in their family. Nonetheless, an argument that can be made from these findings is that today's students have another input – that of having the option or preference to live at home, and thus making the active choice to do so. Certainly, if a student prefers to continue living in the family home during their university studies, and has the option to (e.g. due to increased access, urbanization), then they are not likely to choose to move out and live in student housing. Future studies could investigate the relationship between students' characteristics, and their

housing preference. For example, with this institution's diverse student population, it is predicted that this preference could vary by cultural group, with some groups having strong family emphasis, which may lead these students to prefer to live in the family home during their university studies.

Additionally, it seems that some students today are not attracted to the environment of traditional residence facilities with single-sized beds, shared rooms, and large communal washrooms, as many are used to having their own rooms and often washrooms at home (Atchison, 2010).³ A comment submitted by a resident student participant reinforces the point that the residence environment is not to every person's liking. This student commented: "Residence was a horrible experience. There were people breaking rules and even LAWS... complaints were submitted and less than nothing was done about them. I will never consider living in a York University residence, nor will I ever recommend it to anyone." This student clearly made the point that they would not be a part of the residents group in future years. The findings in this study indicate that the students comprising the two groups of residents and commuters have differing wants, needs and expectations, and consequently actively make different choices regarding their accommodation. Further, these findings question assumptions made about students' preferences regarding housing.

5.6 Summary of key findings

The findings of this study revealed that levels of academic engagement did not differ between commuters and residents. Differences were seen between the two groups in the social engagement and satisfaction outcomes, with residents exhibiting higher levels of both outcomes

³ It is notable that institutions are responding to this change in student expectations by adding new facilities with apartment-style design, often with amenities such as fitness centres, housekeeping and high-end meals (Atchison, 2010).

than commuters. Further analysis indicated that enrolment in program of choice increased levels of satisfaction for all students, but that, importantly, living in residence minimized the negative impacts of non-choice enrolments. The length of time that commuters spent on their commute did not have consequences in terms of the engagement and satisfaction outcomes. Finally, it was found that commuters and residents differed in their housing preferences, with commuters significantly more likely to prefer to live at home than residents, and residents actively seeking other accommodations.

5.7 Contributions to the Literature

The results from this study support the overarching conclusion in the literature that place of residence has an impact on student outcomes. Nonetheless, a very important finding from this study is that academic engagement did not differ between residence and commuter groups, supporting the literature from more recent time periods (i.e. 1980s to current day). The findings here indicate that commuters are not disadvantaged when it comes to academic engagement. However, differences were seen between groups in levels of social engagement. Here too commuters were engaged, just not to the same extent as residents. The most striking difference between the two groups was in their levels of satisfaction. These results also support the literature reviewed regarding place of accommodation and social engagement and satisfaction, with residents having higher levels than commuters, as well as highlighting the link between social engagement and satisfaction. A key finding in this study was that the background characteristics, or inputs, of the students in the two groups continued to show vast differences, as seen in many previous studies (e.g. Pascarella, 1984; Schudde, 2011), as well as the new important finding of differences of housing preferences. Thus, in addition to these contributions to the literature, the results here raise a number of new questions.

Although the findings of this study challenge the perception that living on-campus is part of the normative student experience, the positive impacts of the residence environment cannot be denied. Specifically, the impacts of the residence environment found in this study were that the residence environment increased social engagement and satisfaction, and mitigated the negative effect of enrolment in non-preferred program on satisfaction, yet did not impact academic engagement. Thus, a question raised is what aspect(s) of the residence environment caused these impacts. The literature indicated that elements of the residence environment include the immersive environment and peer influence, separation from the family home, convenience and time available, as well as intentional programming provided by the institution in residence facilities. The question raised by this study's findings concerns the role these aspects play in these findings. In other words, what is it about the residence environment that cultivates higher levels of satisfaction and social engagement? As well, while it is clear that students in the residence group were more satisfied than those in the commuter group, the question must be asked if this is a direct relationship due to the residence environment. Could the differences be directly related to higher levels of social engagement, with residence simply being an indirect influencer? A better understanding of the mechanisms contributing to the positive influences seen in this study could be applied to better support commuters to achieve higher levels on these outcomes.

The results of this study suggest that continuing to investigate the characteristics of students who choose to live in residence and those that stay home is warranted. In the K-12 sector, it is well established that the better outcomes seen in students in the private or separate school systems, compared to public schools, is greatly impacted by the demographic characteristics of the students in the differing schools. In PSE, this type of research has not been

undertaken in the Canadian environment. Although the commuter group had levels of parental education and income lower than residents, this did not appear to impact their levels of academic engagement, as previous studies have found. Thus, it is time to revisit the relationship between student characteristics, environments, and educational outcomes. These student characteristics should include factors that include preference in terms of housing and their commitment to academic and social activities, two aspects highlighted in the study's findings.

Furthermore, could the differences between groups in levels of satisfaction and social engagement lie in the input characteristics of the students, such as their expectations of their student experience, but also time spent working and potentially stress related to finances, and family experience with education (i.e. first-generation students, levels of education of parents)? For example, are students who choose to live in residence more interested in social activities? In other words, is there an Input characteristic to residence students that inclines them to social engagement? If higher levels of social engagement were due to a matter of sheer convenience and extra time available, wouldn't it be logical that residents also have higher levels of academic engagement? Could the lower levels of social engagement for commuters be related to their lower household incomes, in that they may not be able to afford to participate in social activities? As well, the two groups in the study differed greatly demographically (Table 3.1), and in terms of program of study (Table 3.4); could these potentially be input factors influencing satisfaction?

The findings concerning student satisfaction indicated a relationship between enrolment in program of choice and satisfaction, but that the effect was significantly weaker for residents. Since universities enrol students who have differing aspirations, a topic of future research would be to better understand the mechanisms causing this relationship, if this finding was to be replicated. Deepened knowledge on this subject could be used to support these students.

For example, this institution does enrol a number of students not in their first choice program, most notably those given offers of admission to alternate programs, if the student is not admitted to their program of application. A number of students do register in these alternate-offer programs. The university knows who these students are and could implement intervention strategies to improve their satisfaction and potentially other outcomes. If future research can determine the factors of the residence environment that impact students with these characteristics, it is possible that some other program could mimic the positive environmental effect seen for residence.

Hence, having a better understanding of why students are making their choices regarding housing and who these students are demographically, combined with research on how and why the residence environment positively impacts these and other student outcomes, would empower institutions, and potentially the PSE sector (through government or consortium programs and policies⁴), to better serve all students.

Another question raised is whether technology is an agent of change in student outcomes. As this study was conducted in the 21st century, and the vast majority of participants were digital natives⁵, it is probable that the contradictory findings from the earlier research could be due, at least in part, to the influence of technology on the student experience. With the ability to connect at any given time through social media and the prevalence of mobile devices, it is possible that the social immersion environment of residence is being mimicked digitally. Actually, this has already been occurring on the academic front via online learning communities

⁴ For example, it is my understanding that OSAP considers distance between home and the institution to determine if residence fees are an allowable financial need. If residence is deemed to be beneficial, then this criteria could be removed.

⁵ Digital natives are defined as anyone who has lived their entire lives with digital technology, in other words, anyone born since the last decades of the 20th century (Prensky, 2001). Table 4.2 shows that all but three of this study's participants were born since 1980.

and applications such as Moodle (which commuters were, on average, seen to use more frequently than residents). In fact, in NSSE's 2014 annual results, social media was identified as an opportunity to engage students. The results of an experiment with almost 14,000 NSSE participants at 44 institutions showed that many of the participating institutions substantially used social media to connect students to each other and with organizations on campus, and, to a lesser extent, to provide students with information about institutional services or to interact with faculty. However, approximately one-third of students reported being substantially distracted from their academic activities by social media (National Survey of Student Engagement, 2014). Thus, it is shown that the knife of technology cuts both ways. As well, in this study, it does not appear that technology was able to bridge the gap between residents and commuters in levels of satisfaction. Nevertheless, the findings of this study and from NSSE indicate the use of technology as an area of opportunity to increase engagement.

At the same time that technology has provided individuals with new ways to connect, it has also created opportunities for institutions to connect with their surrounding communities. Consequently, a new question raised is that of student engagement off-campus. The findings in this study showed students engaging in their communities; why are those engagements not recognized? Has an important factor in student development been neglected simply because it is not occurring on our campuses? Is there not value in the university interacting with its surrounding community, rather than being segregated? For example, as touched upon in the literature review, research has shown the negative impacts on students working at off-campus jobs. However, what students are gaining at these positions has not been considered in relation to their student engagement. The research on on-campus jobs identifies the positive outcome of building relationships with university members. Arguably students working off-campus can

build relationships positive to their personal learning, development, and advancement as well, it just may not relate as directly to their current academic work. The same logic extends to other time commitments commuters may have, such as household and family responsibilities. While not learning outcomes traditionally considered part of PSE, the argument can be made that the expansion of life skills are also of value in a student's development. Further, has the benefit that the community receives from having post-secondary students in their places of business been fully recognized? Of the participants in the study, 33% did volunteer work off-campus (40% of commuters and 29% of residents). Clearly these organizations benefited from these students not isolating themselves to the institution.

In fact, this institution's Provostial White Paper (2010a, 2010b) has proposed that York become a more engaged university. In this instance, the term university engagement was defined as the collaboration between the institution, which includes its student members, and its larger communities (local, regional, national, and global) "for the mutually beneficial exchange of knowledge and resources in a context of partnership and reciprocity" (Monahan, 2010b, p. 8). This strategic direction shows that the institution recognizes the university's role in the community. What needs to be researched further is how to incorporate and assess student success in their off-campus involvements as it relates to student engagement.

The findings here draw attention to the relationship between the outcomes considered and academic achievement. How do the levels of academic and social engagement and satisfaction of the resident and commuter groups impact their academic achievement? Of particular interest is how much of an impact does satisfaction have on academic achievement? Based on the wide gap on this outcome seen in this study, if satisfaction does indeed impact academic achievement as commonly found in the literature, the implication is that commuters would have lower

achievement than residents, potentially even with similar levels of academic engagement. A thorough analysis of this would need to include and account for variables such as year-level and program of study. With the universities conducting regular NSSE surveys, which collect student identification information, this analysis could be done using institutional data. More in-depth research would involve measuring students' learning and development and comparing the results with academic achievement and engagement and satisfaction for the two groups.

Holdsworth's (2006) research is a good example of study design to be considered to examine this issue further. Her study compared how students who lived at home and moved out (but not limited to those in residence) went about 'fitting in' at university. This study employed mixed-method design incorporating a questionnaire and interviews to gather more in-depth data.

A final question raised concerns about how student engagement is conceptualized. Student engagement is described in the literature as a holistic, multidimensional construct. The literature regarding student engagement and student involvement maintained that the more engaged/involved a student is in the higher variety of activities, the better it is for student outcomes, and further, that the different acts of engagement reinforce each other. This perspective is not necessarily supported by the findings of this study, with levels of academic engagement being similar across the groups, but highly significantly different for social engagement. Does one type of engagement influence and/or reinforce the other, as indicated by Pascarella & Terenzini (2005), or are academic and social engagement independent of each other? The findings of this study suggest that there is not a clear relationship between academic and social engagement, or between academic engagement and satisfaction. Thus, the results from this study challenge our notions on what matters in relation to the student experience regarding engagement and satisfaction.

5.8 Limitations

This study has some limitations. First, this study used a causal comparative design, and thus results cannot be interpreted as proof of a cause-and-effect relationship between the variables in this study. This study design does not allow us to definitively determine if differences seen between groups are due to residence status or to student characteristics. Second, a questionnaire, while an efficient method of data collection, has limitations of not providing in-depth or explanatory information. Interviews or focus groups with students are needed to gather this type of information. Data collection via questionnaire has the limitation of reliance on subjective, self-reported responses, and in this study, this data cannot be verified with objective measures. Further, this questionnaire was developed for the sole purpose of this study. While care was taken to produce a high quality instrument, as noted above, some questions did not elicit valid information. Third, sample size and representativeness are issues here. Fourth, this study did not measure learning and development, and findings should not be interpreted as such. Finally, the data is specific to this institution, at this particular time. It is assumed that the findings can be transferable to institutions with similar student populations to this institution. However, research is needed at other institutions to see if the results compare across the PSE sector.

5.9 Implications for Policy and Practice

Since Chickering (1974) and Astin's (1977) seminal works, the post-secondary education landscape has witnessed great changes. Most notably, massification of the system has increased access, allowing more students previously deemed to be non-traditional to enrol. The Toronto area has grown substantially, with considerable immigration, resulting in an increasingly diverse student population. At the same time, the PSE landscape has seen the rise of accountability and a culture of student consumerism. Institutional priorities have changed to have a focus on

student success that is greater in scope than simple degree attainment. Today's institutions are vested in the learning, engagement and satisfaction of their students. As well, institutions are increasingly linked to their local community. These changes have implications for policy and practice.

The higher usage of help centres, libraries and computer labs by commuters seen in this study has implications for institutional resources. If commuters are more likely to use these resources, it is incumbent upon institutions to adequately provide the resources to fully support commuters, and to regularly review that the services offered are continuing to meet commuters' needs. In addition, on-campus jobs and athletic facilities are examples of activities that commuter students could be more strongly encouraged to participate in, as they could be contributing towards their social engagement, thus potentially improving their student experience. This is crucial because these kinds of services are inherently provided in residence, administered by professional staff. Thus it is important to be equitable in providing resources to both student groups.

As discussed above, an area that has implications for the PSE sector is that of the role of technology in student experience and success. Institutions need to utilize these tools however possible, and also provide or assist with access to the equipment for students, if technology has acted as an equalizing agent between the traditionally disparate groups examined here.

Another topic discussed above concerns the influence student engagement and satisfaction have on academic achievement. However, this line of questioning raises a related policy issue. As similar levels of academic engagement were seen for the two groups in this study, let's assume that their levels of academic achievement were similar. Does this mean that commuters are progressing academically, and graduating, thus successfully completing their

studies, but are essentially unhappy for the duration of their studies? If so, is this acceptable to institutions? It is recognized that institutions are vested in levels of satisfaction due to accountability measures. However, beyond accountability, the policy implication is what is an institution's responsibility for satisfaction, particularly if achievement or retention goals are met? If students are indeed progressing academically and meeting learning outcomes, how much resources should institutions be allocating to increasing levels of satisfaction?

Another implication relates to the role of the university in its wider community. The residence mythology is rooted in the concept of the university being its own distinct community. This is evidenced by institutions having gates at entrances (which the institution in this study does not have), and from the concept of 'town and gown'. The earlier research's support of full immersion into this distinct community through separation from home and living absorbed in the university community as the most fruitful ways to develop and experience university life derives from this concept. Thus, the policy implication from this study's findings is that of the role of this type of university in its surrounding community and society, and its subsequent impact on student engagement and the overall student experience. While it is commonly recognized that today's universities are not cosseted institutions, and do have porous borders within the surrounding community, the mythology of the immersive residential experience prevails. Research supporting the value of community interaction to student engagement and the student experience is needed to shatter this mythology. Such findings would allow an institution of the type here, and the students who choose to attend, to hold their heads high that they are a 'commuter school'.

The strongest implication from this study's findings challenges the PSE community for a philosophical shift. The findings of this study defy the negative stigma of commuter students

and institutions that is often seen in the literature and commonly heard. The commuters in this study do not merit at-risk designation, although it is acknowledged that lower levels of satisfaction are associated with attrition. Commuters' levels of academic engagement were as high as those of residents, and commuters were found to be utilizing services such as help centres, libraries, and Moodle discussions at higher rates than commuters. These are examples of services (and in the case of Moodle, pedagogical tools) arguably directed at those not living on-campus with their student peers. The commuters in this study were as interested in their courses and discussed course topics outside of class almost as much as their resident peers. These findings indicate that these commuters were just as vested in their academic success and experience as residents, dissuading the assumption that commuters are apathetic about their studies. Commuter students displayed similar rates of participating in key extracurricular activities as residents. Finally, these findings indicate that the family home environment is not an impediment to academic engagement, and that there is not one model of preference for students in how to go about their PSE. These findings should act to counter the prevailing discourse that leaving home is the 'right way' to attend university.

Unfortunately, this stigma was evidenced even among the participants in this study. A resident student commented that it "would be better if more students lived on campus. York is known as a commuter school and so perhaps does not provide the same university experience as other universities." This participant's comment highlights an interesting contradiction. Although it is students who do the engaging in the activities, it is commonly the institution that receives the reputation. So while it is logical that at institutions with higher proportions of residents that levels of social engagement would be higher, this does not necessarily mean that predominantly commuter institutions offer less engaging opportunities for their students.

It is laudable that the NSSE instrument measures both these student-action and institutional-offerings factors, and in doing so, attempts to detangle the assessment of which party is responsible for the university experience, while emphasizing the importance of both parties' roles. Ultimately, institutions need to understand their students and be responsive in regard to their needs and interests. Implicit in this statement is the responsibility of institutions to their students at that time. Decisions regarding policy and resources should not be based on Chickering and Astin's sample students (who are now at retirement age), or amalgamated profiles which only serve to stigmatize particular groups, such as commuters.

The results of this study suggest that future research be implemented that helps PSE institutions better understand the characteristics, preferences and expectations of today's students. Commuters, being the vast majority of today's students, deserve to have as engaging and satisfying educational experience as their residence peers.

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Appendix A: Student Engagement and Satisfaction Questionnaire

*1 Informed Consent

The purpose of this questionnaire is to measure your level of engagement and satisfaction with your university. This questionnaire is a part of my Masters of Education thesis, in which I am studying students' engagement and satisfaction with the university. Findings from the study will help in understanding students' experiences, which may lead to improved student services. By completing the questionnaire, you will be providing information about your experiences, which will then be a part of these findings.

One student participant will be selected randomly to win a \$50 iTunes gift card.

Please select the response that best applies to you for each question. It will take approximately 5-10 minutes to complete the questionnaire. You must be at least 18 years of age to complete this questionnaire. Please do not complete this questionnaire more than once.

I do not foresee any risks or discomfort from your participation in this research. The decision to not participate or stop participating will not affect your relationship with York University, now or in the future. You can refuse to answer any or all of the questions in the questionnaire. If you withdraw from the research study, all data collected will be destroyed wherever possible. All responses and information will be kept confidential to the fullest extent of the law. The questionnaires are not labelled in any way that identifies you. Contact information collected for the gift card draw will be in a separate list, and not connected to questionnaire responses in any way. Questionnaire data will be stored on my personal computer, and will be confidentially destroyed within five years. I will retain the data files (e.g., SPSS) in a secure location. I may present the findings in papers and/or publications presented in classes at York and in other research contexts.

If you have questions about the research in general or about your role in the study, please feel free to contact me, Katrina Angel (Katrina_Angel@edu.yorku.ca) or my Graduate Supervisor - Dr. Khaled Barkaoui either by telephone at (416) 736-2100, extension 21003 or by e-mail (kbarkaoui@edu.yorku.ca). You may also contact my Graduate Program – Education Graduate Program Office, 282 Winters College, Tel: 416-736-5018. This research has been reviewed and approved by the Human Participants Review Sub-Committee, York University's Ethics Review Board and conforms to the standards of the Canadian Tri-Council Research Ethics guidelines. If you have any questions about this process, or about your rights as a participant in the study, please contact the Sr. Manager & Policy Advisor for the Office of Research Ethics, 5th Floor, York Research Tower, York University (telephone 416-736-5914 or e-mail ore@yorku.ca).

Legal Rights and Consent:

I consent to participate in the Student Engagement and Satisfaction Questionnaire conducted by Katrina Angel. I have understood the nature of this project and wish to participate. I am not waiving any of my legal rights by consenting to participate. Clicking 'I agree' indicates my consent.

Please choose only one of the following:

- I agree
- I do not agree

2 Thank you for your time.

Please exit by closing your browser window or by leaving this web page.

(Only seen if the following conditions were met: Answer was 'I do not agree' at question '1 [Informed Consent]')

*3 Are you an undergraduate student at York University?

(Only seen if the following conditions were met: Answer was 'I agree' at question '1 [Informed Consent]')

Please choose only one of the following:

- Yes
- No

*4 Are you at least 18 years of age?

(Only seen if the following conditions were met: Answer was 'I agree' at question '1 [Informed Consent]')

Please choose only one of the following:

- Yes
- No

5 Thank you for your time. Due to the nature of this research, only undergraduate students at York University over 18 years of age are eligible to complete this survey.

(Only seen if the following conditions were met: Answer was 'No' at question '3 [status]' (Are you an undergraduate student at York University?))

6 Thank you for your time. Due to the nature of this research, only those over 18 years of age are eligible to complete this survey.

(Only seen if the following conditions were met: Answer was 'No' at question '4 [age]' (Are you at least 18 years of age?))

*Questions marked with an asterisk were mandatory questions.

Please respond to the questions based on your circumstances and experience during the past academic year (September 2010-April 2011). (repeated at top of each screen to question 27)

7. ⁶On average, how long did you spend commuting to and from university on a typical day (total combined travel time round trip).

Provide your total travel time per day (both ways) on a typical day

- Not applicable, as I lived on-campus
 Less than 30 minutes
 30 – 60 minutes
 1 – 1.5 hrs
 1.5 – 2 hrs
 2 – 2.5 hrs
 2.5 – 3 hrs
 More than 3 hours

- 8 How frequently did you travel to York by the following methods:

	Always	Frequently	Sometimes	Rarely	Never
8a Drive	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8b Transit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8c Car pool with parent	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8d Car pool with others	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8e Walk/bike/inline skate, etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8f Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(Only seen if the following conditions were met: Answer was NOT 'Not applicable, as I lived on-campus' at question '7')

- 9 Please describe other form of transportation

(Only seen if the following conditions were met: Answer was 'Rarely' or 'Sometimes' or 'Frequently' or 'Always' at question '8 [2]' (How frequently did you travel to York by the following methods: (Other)))

Please write your answer here:

- 10 Have you found your courses at York University interesting?

- Always no
 Mostly no
 Mostly yes
 Always yes

⁶ Questions displaying response options with a highest to lowest range were recoded to reverse the order. Thus the lowest frequency or least positive option has a value of 1 which the highest frequency or most positive option had the highest value. The results reported are based on the reversed values.

11 How many of your classes did you attend in a typical week? (Classes include lectures, tutorials, and labs.)

This includes all components of scheduled class times, including lectures, tutorials, labs, seminars, etc.

- All
 Most
 Some
 Few
 None

12 How much of your assigned homework did you complete in a typical week? (Assigned homework includes readings, answering questions, etc.)

This includes work assigned by professor, TA, or listed in course outline. It does not include optional work, or additional work done such as extra problem sets.

- All
 Most
 Some
 Little
 None

13 How many hours did you spend doing school work in a typical week? (School work includes reading, studying, working on assignments, preparing for class, etc.)

This includes all time spent doing course work for university studies, including non-assigned work.

- Less than 3 hours
 3 – 6 hours
 6 – 9 hours
 9 – 12 hours
 12 – 15 hours
 15 – 18 hours
 18 – 21 hours
 more than 21 hours

14 How often did you do extra school work, in a typical week? For example, optional homework or additional readings.

- Always
 Frequently
 Sometimes
 Rarely
 Never

15 How often did you:

	Frequently	Sometimes	Rarely	Never
15a Use professors' or TAs' office hours	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15b Email your professors or TAs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15c Talk to your professor or TA before or after class	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15d Use Help Centres/Peer Mentoring	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15e Participate in Moodle discussions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

16 How often did you discuss class material outside of class, with other students, professors, or family and friends, in a typical week?

- Very Often
 Often
 Rarely
 Never

17 How many hours in a typical week do you spend on-campus, outside of class time?

- Less than 3 hours
 3 – 6 hours
 6 – 9 hours
 9 – 12 hours
 12 – 15 hours
 15 – 18 hours
 18 – 21 hours
 more than 21 hours

(Only seen if the following conditions were met :Answer was NOT 'Not applicable, as I lived on-campus' at question '7)

18 In a typical week, how often did you do the following activities while on-campus but not in class:

	Always	Frequently	Sometimes	Rarely	Never
18a Spend time casually with friends	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18b Spend time casually on your own	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18c Work with other students on course work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18d Work on course work alone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18e Work at a job on-campus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18f Doing extra-curricular activities on-campus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18g Work out/Play sports/Physical activities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18h Work with professor on research	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18i Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

19 Please describe other on-campus activities

20 In a typical week, how often did you spend your time on-campus outside of class at the following locations:

	Always	Frequently	Sometimes	Rarely	Never
20a The library	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20b College location (e.g., JCR, pub)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20c Computer lab	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20d In residence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20e Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

21 Please describe other location

22 Were you on a varsity sports team?

Yes No

23 Were you a member of student government? Yes No

24 Were you a member of a university club? Yes No

25 In a typical week, how many hours did you spend working at a job off-campus?

- I do not have an off-campus job
- Less than 3 hours
- 3 – 6 hours
- 6 – 9 hours
- 9 – 12 hours
- 12 – 15 hours
- 15 – 18 hours
- 18 – 21 hours
- more than 21 hours

26 In a typical week, how many hours did you spend doing volunteer work off-campus?

This refers to volunteer work done off-campus. Paid work is not included in this question, as it is included in the previous question. Volunteer work done on-campus is included in other questions.

- I did not do any off-campus volunteer work
- Less than 3 hours
- 3 – 6 hours
- 6 – 9 hours
- 9 – 12 hours
- 12 – 15 hours
- 15 – 18 hours
- 18 – 21 hours
- more than 21 hours

27 Is the major/program that you are currently enrolled in the program that you wished to be in when you applied to universities?

For example, did you wish to be in a different program, but were not offered admission to it, or were not able to attend your program of choice due to financial circumstances.

Yes No

28 Do you plan to continue in the same major/program next year?

Do you hope to change your major to another program? This does not include hoping to leave your current program for admission to professional programs such as law, medicine, etc

- Definitely yes
- Probably yes
- Probably no
- Definitely no
- Graduating/Not returning next year

29 How would you evaluate your entire educational experience at this university?

- Excellent
- Good
- Fair
- Poor

30 If you could start over again, would you go to the same university that you are now attending?

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

31 Where did you live during the academic year (September 2010 – April 2011)?

- With parents/family
- University residence/on-campus
- Rent place for attending university, own or with others
- Other _____

32 Where did you live on-campus?

- | | | |
|--|------------------------------------|---|
| <input type="checkbox"/> Assiniboine | <input type="checkbox"/> Atkinson | <input type="checkbox"/> Calumet |
| <input type="checkbox"/> Founders | <input type="checkbox"/> Hillard | <input type="checkbox"/> Norman Bethune |
| <input type="checkbox"/> Passy Gardens | <input type="checkbox"/> Pond Road | <input type="checkbox"/> Stong |
| <input type="checkbox"/> Tatham | <input type="checkbox"/> Vanier | <input type="checkbox"/> Wood |
| <input type="checkbox"/> Winters | | |

(Only seen if the following conditions were met: Answer was 'University residence/on-campus' at question '31')

33 Where would you most prefer to live while attending university, if you were able to? For example, if expense or program location were not an issue.

- Continue to live where I did during the academic year
- With parents/family
- University residence/on-campus
- Rent place for attending university, own or with others
- Other _____

34 Where do you expect to live next year?

- Continue to live where I did during the academic year
- With parents/family
- University residence
- Accommodation specific for attending university, but not with parents/family or residence
- Graduating/Not returning next year
- Other _____

To finish this questionnaire, here are some questions about you.

35 What is the highest level of education that your parent(s) completed?

Father Mother

- | | | |
|--------------------------|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | Did not finish high school |
| <input type="checkbox"/> | <input type="checkbox"/> | Graduated from high school |
| <input type="checkbox"/> | <input type="checkbox"/> | Attended college, but did not complete program |
| <input type="checkbox"/> | <input type="checkbox"/> | Completed college diploma, certificate |
| <input type="checkbox"/> | <input type="checkbox"/> | Attended university, but did not complete program |
| <input type="checkbox"/> | <input type="checkbox"/> | Completed university degree |
| <input type="checkbox"/> | <input type="checkbox"/> | Completed a graduate degree (Master's or PhD) |
| <input type="checkbox"/> | <input type="checkbox"/> | Completed a professional post-graduate degree (i.e. BEd, MD, LLB/JD, MBA, Physiotherapy, etc.) |

36 Do you consider yourself to be a member of a visible minority? Yes No

37 Do you have a disability? Yes No

38 What year were you born in? (Years listed from 1950 to 2000)

39 What is your gender: Female Male

40 Is your permanent residence in Canada?

This does not refer to immigration status. Do you live in Canada aside from attending school?

Yes No

41 What is your Postal Code at your permanent address

Your permanent address refers to your on-going addresses, such as your family home, as opposed to you local address if you have moved to attend school

(Only seen if the following conditions were met: Answer was 'Yes' at question '40')

42 What is the country of your permanent address? _____

(Only seen if the following conditions were met: Answer was 'No' at question '40')

43 What is your program(s) of study: _____

What is your major?

44 What is your level of study?

What year of study are you in?

- 1st
- 2nd
- 3rd
- 4th

45 What was your educational background when you applied to York University?

What was the previous educational institution you attended?

- Canadian High School
- International High School
- College
- Other University
- Mature Student

46 Is there anything that you would like to add about your experiences as a student at this university?

Submit your survey.

Thank you for completing this survey.

Thank you for your participation in this survey.

Click [here](#) to enter the draw for a \$50 iTunes gift card.

Entry for Incentive Draw

Thank you for your participation in the Student Engagement and Satisfaction Questionnaire.

Enter your first name and email or phone number to be entered in the random draw for a \$50 iTunes gift card.

Your information is being entered into a separate database from the questionnaire responses, and will not be connected to your responses. Your questionnaire responses will remain anonymous.

The winner of the random draw will be contacted by August 31st, 2011.

There are 4 questions in this survey

Your contact information

*1 Your first name:

*2 You wish to be contacted by:

email

phone

3 Your email address:

4 Your phone number:

Thank you for your participation in the Student Engagement and Satisfaction Questionnaire.

The winner of the random draw will be contacted by August 31st, 2011.

Submit your survey.

Thank you for completing this survey.

Appendix B: Requests to Distribute a Questionnaire Submitted in Ethics Proposal

Email to be sent to departments/offices

Subject line: Request to Distribute Student Engagement & Satisfaction Questionnaire

Hello/Dear [name or title]

I am writing to request that you distribute information on a questionnaire to undergraduate students in your department. The questionnaire is part of the data collection I am conducting for my Masters of Education thesis. My thesis project has received ethics approval. My thesis investigates students' levels of engagement and satisfaction. A \$50 iTunes gift card is being randomly given to one student participant.

I am asking if you can send an invitation to complete the questionnaire on your department listserv, or other method of communication you may have with students. Also, can you please pass this request on to faculty in the department to inform students in their classes?

I have provided a text to be sent out, for your convenience, however please modify it as you see fit. If possible, please cc me on the email sent.

I will be happy to share results from the questionnaire with anyone interested.

Thank you very much for your help,
Katrina Angel
MEd candidate, York University

Email text:

Student Engagement & Satisfaction Questionnaire

All York undergraduate students over 18 years of age are invited to participate in this survey. I am studying students' engagement and satisfaction with the university for my Masters of Education thesis project.

One student participant will be selected randomly to win a \$50 iTunes gift card.

The questionnaire is anonymous, and your professors will not know if you have, or have not, completed it. It will only take approximately 15 minutes to complete the questionnaire.

If you have any questions, please contact me by email at Katrina_Angel@edu.yorku.ca.

Your participation is extremely valuable to me. I am grateful of your generous donation of time towards my thesis project, which will provide insight into our student community. Please forward this email request to any York undergraduate students that you know.

To complete the survey, please open this link:

<http://www.katrinaangel.com/limesurvey/index.php?sid=15741&lang=en>

Thank you,

Katrina Angel

MEd candidate, York University

Email to be sent to faculty members

Please note that this message is to be sent to faculty members I am familiar with, who have expressed interest in my graduate studies.

Subject line: Questionnaire for my thesis

Hello [name],

As you are aware, I am pursuing a Masters of Education, specializing in Post-Secondary Education. I am now working on my thesis, and have reached the data collection stage. My thesis investigates students' levels of engagement and satisfaction. I am writing to request that you distribute information on my questionnaire to students in your undergraduate classes. One student participant will be selected randomly to win a \$50 iTunes gift card.

I am hoping you can post the link to the online questionnaire on your course web/Moodle page, and make a short announcement in class regarding it. I will be gathering data for the remainder of the term. I have provided the questionnaire title and url below. It will only take approximately 15 minutes to complete the questionnaire.

My thesis project has received ethics approval. I feel it would be most appropriate if you did not mention in your announcement that I am a staff member at the University. Also, as per good ethical practice, I suggest you state that there is no preference given on your part to students who complete the questionnaire, and that you (nor I) do not have any method of tracking who does complete it. The questionnaire is anonymous.

If you know of other faculty members who you think would be willing to distribute my questionnaire in their classes, please let me know or pass on this email.

I am more than happy to share results from this questionnaire, and my thesis. If you are interested, let me know.

Thank you very much for your help,

Katrina

Questionnaire URL:

Student Engagement & Satisfaction Questionnaire

<http://www.katrinaangel.com/limesurvey/index.php?sid=15741&lang=en>

Appendix C: Non-Canadian Country of Permanent Residence

Country	Number of Commuters	Number of Residents
Australia	0	1
Bangladesh	0	1
Barbados	0	2
Botswana	0	1
China	3	4
Columbia	0	1
Guyana	0	1
India	1	2
Jamaica	0	1
Japan	0	1
Kazakhstan	1	0
Malaysia	0	1
Niger	0	1
Pakistan	0	2
Saudi Arabia	2	0
South Korea	0	1
Swaziland	0	1
Taiwan	0	2
Thailand	0	1
Trinidad and Tobago	0	3
UAE	0	2
USA	0	4
Zimbabwe	0	1
Total	7	34

Appendix D: Residence Building at York University Resident Respondents Lived In

Residence Building Name	<i>f</i> (%)
Assiniboine	1 (.5)
Calumet	22 (11)
Founders	12 (6)
Hillard (Glendon campus)	15 (8)
Norman Bethune	17 (9)
Pond Road	35 (18)
Stong	10 (5)
Tatham Hall	28 (14)
Vanier	18 (9)
Wood (Glendon campus)	13 (7)
Winters	27 (14)

Appendix E: Comparison of Questionnaire Responses to NSSE Responses

Question		Commuters ^a	Residents ^b	NSSE 1 st Year ^c	Commuters 1 st Year ^d	Residents 1 st Year ^e	NSSE 4 th Year	Commuters 4 th Year ^f	Residents 4 th Year ^g
	response	<i>f</i> (%)	<i>f</i> (%)	%	%	%	%	%	%
29 Evaluate experience at York	Poor	8 (7.2)	8 (4.0)	5.4	5.0	11.8	12.5	4.6	2.5
	Fair	42 (37.8)	41 (20.5)	23.3	50.0	27.5	23.7	27.3	22.5
	Good	49 (44.1)	109 (54.5)	55.2	40.0	39.2	41.4	54.6	52.5
	Excellent	12 (10.8)	42 (21.0)	16.0	5.0	21.6	22.4	13.6	22.5
30 Return to York, if do over	Definitely no	18 (16.4)	13 (6.5)	6.3	10.0	13.7	12.5	31.8	7.5
	Probably no	35 (31.8)	38 (19.0)	15.3	30.0	11.8	23.7	31.8	25
	Probably yes	34 (30.9)	83 (41.5)	49.6	35.0	45.1	41.4	22.7	37.5
	Definitely yes	23 (20.9)	66 (33.0)	28.8	25.0	29.4	22.4	13.6	30

^a Commuters *n* range from 110 to 111. ^b Residents *n* = 200. ^c York University results from 2011-12 NSSE survey (<http://oira.info.yorku.ca/reports/common-university-data-ontario-york-university-2012/>, retrieved January 18, 2014) ^d Commuter 1st Year *n* = 20 ^e Residents 1st Year *n* = 51 ^f Commuters 4th Year *n* = 22 ^g Residents 4th Year *n* = 40