ANALYSIS OF STUDENT SATISFACTION AND LIFE EXPERIENCE INDICATORS

by

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Abstract

International students provide a broad range of benefits to the global economy, their home country, their host country, and the institutions that are privileged to serve as their hosts. However, studies have found that Canada is lagging behind other Anglo-Western nations, such as Great Britain, the USA and Australia, in attracting students from abroad. Using a subset of data from a study conducted jointly by the University of British Columbia, York University, McGill University, and Dalhousie University this paper undertakes to analyze the experience of international students at those institutions.

With a view to developing a preliminary understanding of how Canadian domestic and international students vary in their academic experiences, different areas of those experiences have been explored. For female international respondents, the mean level of satisfaction with academic programs and course instructors was significantly lower than their domestic counterparts, and compared to their domestic counterparts international male respondents reported significantly less satisfaction with their course instructors. Also, I found that the determinants of satisfaction with academic programs and instructors varied between domestic and international students. When gender is introduced as a variable, results indicate that both male and female international students are less satisfied with their instructors, academic programs, and staff contacts than their domestic counterparts. The results also indicate that the determinants of satisfaction differ for male and female international students differ, and from their domestic counterparts. The fact that the differences between domestic male and female students are not mirrored in the results for international male and female participants raises a concern about whether the questions posed in the survey instrument are valid across cultures.

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Dedication

For my sons, Jonathan and Ben.

Introduction

My interest in student satisfaction began with an opportunity to hear a keynote presentation by Keith Pattinson, who spoke of his involvement with the Boys and Girls Clubs in British Columbia, and with the Search Institute of Chicago. Keith's powerful and moving stories about the experiences of young people while moving through their formative years to adulthood touched me as a father, and also stirred my curiosity about the experiences of the students that I see each day on the campus of the University of British Columbia. Out of curiosity I occasionally drop in on undergraduate lectures and an experience that stays with me is an hour that I spent in an undergraduate (engineering) lecture. I observed a wide variety of student behaviour – some students very attentive and engaged, many chatting and socializing, and some even sleeping. I was curious if each of these young men and women experience the university in the same way, and what changes in practice could enhance their learning and development. These questions prompted me to enroll in graduate school and search for a research topic that would touch on this broad theme.

In 2003, Dr. Lesley Andres of the University of British Columbia and Dr. Paul Grayson of York University undertook a study to examine the student experiences at the University of British Columbia, York University, McGill University, and Dalhousie University. The "University Experiences and Outcomes of International and Domestic Students" study collected information on the experiences of a cohort of domestic and international students from those four Canadian universities, for 2003, 2004 and 2005. The goals of the study were "to compare the goals, and university and community experiences, of international and domestic students; and … to assess the impact of these experiences on educational outcomes, such as academic achievement, generic skill acquisition, and retention" (Andres & Grayson, 2002). The ultimate

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ends of the study were to optimize the university experiences of all students. This report uses a subset of data from that survey.

The results of this study also provided me with an opportunity to explore the experiences of Canadian and international students at a time when they are going through a transition from their youth to adulthood, and also to explore aspects of higher education that touch on my own professional experience as an administrator within higher education, and my educational background, where I experienced a great deal of satisfaction as a student studying consumer behaviour and customer satisfaction. The opportunity to include the international student experience was also of particular interest because of the close friendships I have had with students from other cultures throughout my own post-secondary experiences.

This research required approval from the UBC Research Ethics Board, which was obtained on October 16, 2011. The certificate number is H11-02498.

<div align="center">**Literature Review**</div>

Introduction

   This section presents a review of some of the literature related to student satisfaction. The study of student satisfaction is important for many reasons. Astin (1993) observes that it is an indicator that covers the student's subjective experience with college, their perceptions of the value of their educational experience, and that "it is difficult to argue that student satisfaction can be legitimately subordinated to any other educational outcome" (p 273).

   Scholars have found a positive correlation between student satisfaction and alumni giving (Sun, Hoffman & Grady, 2007). Student satisfaction is important for institutions as it can be used as a performance indicator to inform the marketing and branding strategy for an institution (Douglas, Douglas & Barnes, 2006; Gatfield, Barker & Graham, 1999; Sea Law, 2010), as a student recruiting argument (Elliot & Healy, 2001; Sea Law, 2010), and as a performance indicator for external reporting where accountability to public bodies in the case of public universities.   Student satisfaction measures have also been used as a tool for improving courses, teaching, and support services (Longden & Yorke, 2009; Sea Law, 2010). Student satisfaction is also positively related to student retention (Elliott & Healy, 2001; Schertzer & Schertzer, 2004). Grayson (2007) writes that "it is important in host societies to determine factors that contribute to international student success" (p. 215).

   In some areas of study, student satisfaction has been linked to the influence and rise of business culture within higher education organizations, and in this sense the study of the phenomenon is of further importance to institutions and educators as it is a reflection of a cultural transformation within our working environment. In addition to the reasons introduced

above, I believe it is vital for educators to understand and be present to this institutional trend as it represents the "commodification" of education.

In addition to studying student satisfaction as it applies to all students, in this paper I also examine international student satisfaction. It is important to study international students as a discreet group because international students provide a broad range of benefits to the global economy, their home country, their host country, and the institutions that are privileged to serve as their hosts. Recent studies have found that Canada is lagging behind other Anglo-Western nations, such as Great Britain, the USA and Australia, in attracting students from abroad.

Definition of Satisfaction

In the *Psychological Review,* Mischel (1964) refers to constructions, such as satisfaction, as being a continuum; that is, what it is needs to be considered with what it is not. In the case of satisfaction, the concept has a satisfied - dissatisfied continuum. The author additionally defines satisfaction as an attitude, which is significant since attitudes lead to behaviour. An example in this context would be positive feelings of satisfaction leading to a high grade point average or a willingness to stay in school (Bean & Bradley, 1986). The following discussion is framed by the scope of this paper, and my curiosity about how different disciplines present satisfaction.

As an undergraduate student, I enjoyed an introductory course in basic modeling and when looking to understand any concept or phenomenon that I am either dealing with in the workplace or seeking to understand as a student, I still turn to simpler expressions of that phenomenon as a starting place. Other than the enjoyment I experience in looking for elegant explanations to social phenomena, my experience is that this approach works well for me in building a foundational understanding from which I can move to more creative models. It is also interesting to examine early research on a topic. A basic expression of satisfaction can be

derived from research on job satisfaction and computer user satisfaction in the field of industrial psychology (Bailey & Pearson, 1983; Wanous & Lawler, 1972). Bailey and Pearson (1983) propose a model that defines an individuals' job satisfaction (JS) as the sum of the user's weighted reactions to a set of job facets.

$$\text{JS}_i = \sum_{j=1}^{n} R_{ij} W_{ij}$$

Where

R_{ij} = the reaction to the factor j by individual i

W_{ij} = the importance of factor j to individual i

By extrapolation, a basic model for student satisfaction can be written as

$$\text{SS}_i = \sum_{j=1}^{n} R_{ij} W_{ij}$$

Where

SS_i = An individual student's satisfaction

R_{ij} = the reaction to the factor j by individual student i

W_{ij} = the importance of factor j to individual student

Drawing on psychological research, Bailey and Pearson (1983) define satisfaction as "the sum of one's feelings or attitudes towards a variety of factors affecting that situation" (p. 531). Student satisfaction is also defined as "a pleasurable emotional state resulting from a person's enactment of the role of being a student" (Bean & Bradley, 1986, p. 398). Following from these two examples it seems reasonable to extrapolate and combine the two definitions and further define student satisfaction as a pleasurable emotion resulting from the sum of a student's feelings or attitudes towards the factors affecting him or her being a student.

Denson, Loveday and Dalton (2010) note that there is a lack of research examining predictors of student satisfaction with courses. The authors find that while student characteristics and reasons for enrolling in a course are predictors, the majority of the variation in course satisfaction is attributable to the evaluation questions themselves. However, a review of the literature indicates that scholars have developed and tested various causal models in an attempt to describe and explain at least some of the construct's phenomena.

Theoretical Frameworks

In this section I will expand on the idea of satisfaction as a construct and provide a small selection of examples of how researchers have de-constructed the phenomenon.

Lave and March (1975) identify models as simplified representations of the real world that help us understand why things that we observe happen. While models are abstractions from reality, and cannot cover all of the complexities of the real world and human behaviour, they can help us formulate theories about human behaviour (Lave & March, 1975). This researcher appreciates models for their elegance, robustness, and efficiency in providing a visual unpacking of a concept.

The literature on student satisfaction and related topics contains a variety of models that describe the relationship between student, social and university characteristics and student satisfaction. Satisfaction has been presented as an outcome variable (Astin, 1993; Perrucci & Hu, 1995). Perrucci and Hu's model is illustrated in Figure 1 as an example. Student satisfaction has been presented as an intermediate variable contributing to a desired outcome such as retention or achievement (Mavondo, Tsarenko & Gabbott, 2004; Reason, Terenzini & Domingo, 2006) as seen in Figure 2 and 3, or as both (Bean & Bradley, 1986; Schertzer & Schertzer, 2004). Schertzer and Schertzer's model is as shown in Figure 4.

Figure 1: Conceptual Model (Perrucci & Hu, 1995)

<u>Social Status</u>	<u>Individual Resources</u>	<u>Social Resources</u>	<u>Social Context</u>
Gender	Language Skill	Exposure to	U.S Attitude towards
Marital Status	Financial Situation	U.S. Culture	Student's country
	Grades	Contact with U.S.	Discrimination
	Self-esteem	Students	
	Aspirations	Help from co-nationals	

<u>**Satisfaction with**</u>
Academic Program
Academic Appointment
Social Relations

Although this model does not show the effects of gender on teaching evaluations, in a related study (Tatro, 1995) it was shown that female students give higher ratings than male students, and higher ratings to female instructors compared to male instructors.

Figure 2: Conceptual Model of Student Satisfaction (Manvondo, Tsarenko, & Gabbott, 2004)

Resources and Capabilities					
Teaching	Learning	Technology	Library	Student Services	Student Orientation

Satisfaction

Retention
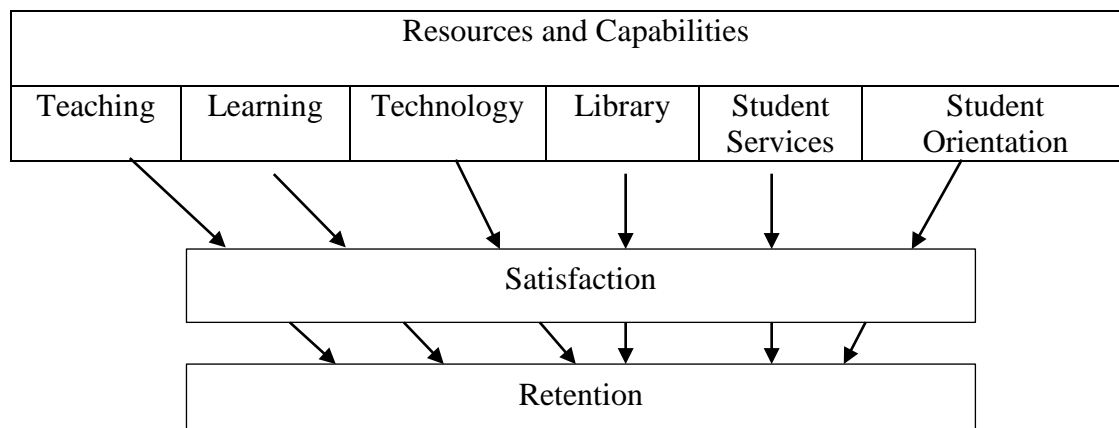
The model illustrated in Figure 2 contrasts with the Perucci and Hu (1995) framework in that Manvondo et al. (2004) emphasize factors that are related to institutional qualities, such as the quality of teaching or library resources. Reason, Terenzini and Domingo's (2006)

framework provides a very comprehensive conceptual model. The authors hypothesize that

students come to college with a range of demographic, personal, and academic characteristics

and experiences. These traits shape student's engagement with various aspects of their

institution, and those involvements, in turn, are shaped by a variety of curricular, classroom, and

out-of-class experiences and conditions. All of these dynamics occur within, and are themselves

shaped by, an often overlooked fourth domain, the institutional context, comprising and

institutions, organizational characteristics, structures, practices, and policies, and the campus's

faculty and peer cultures and environments (Reason et al., 2006, p.153).

Figure 3: A Comprehensive Model of Influences on Student Learning and Persistence (Reason, Terenzini & Domingo, 2006)
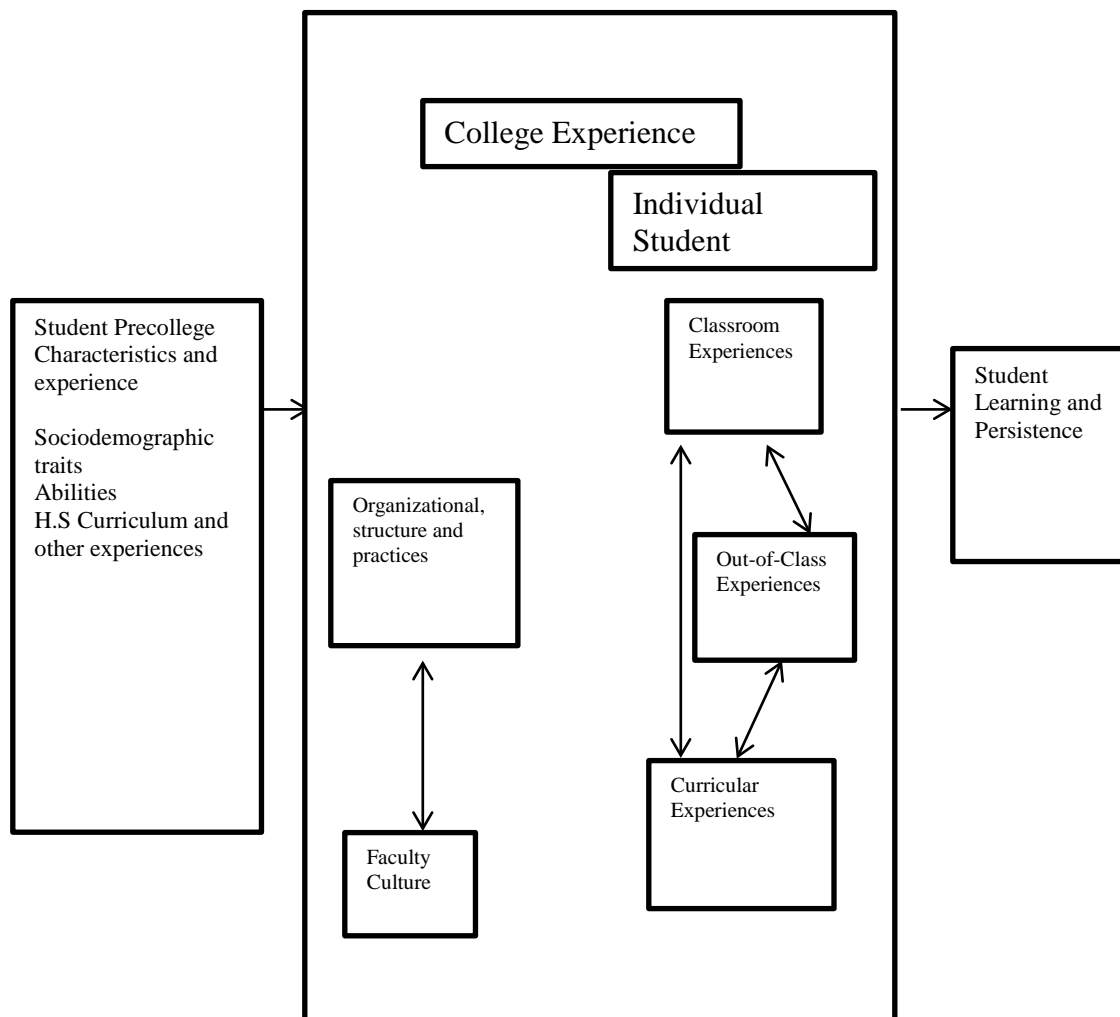
Schertzer and Schertzer's (2004) model of retention is centered on academic fit, and is also interesting as it differs from other models by showing satisfaction as ultimately being influenced by values. As mentioned above, this model also differs conceptually from the others in that it appears to depict satisfaction in more of a dual role. It could be seen as an outcome variable, also as an intermediate variable influencing both institutional commitments, which would be useful for fundraising initiatives, and for student retention.

Figure 4: Conceptual Model of Factors Affecting Student Retention (Schertzer & Schertzer, 2004)
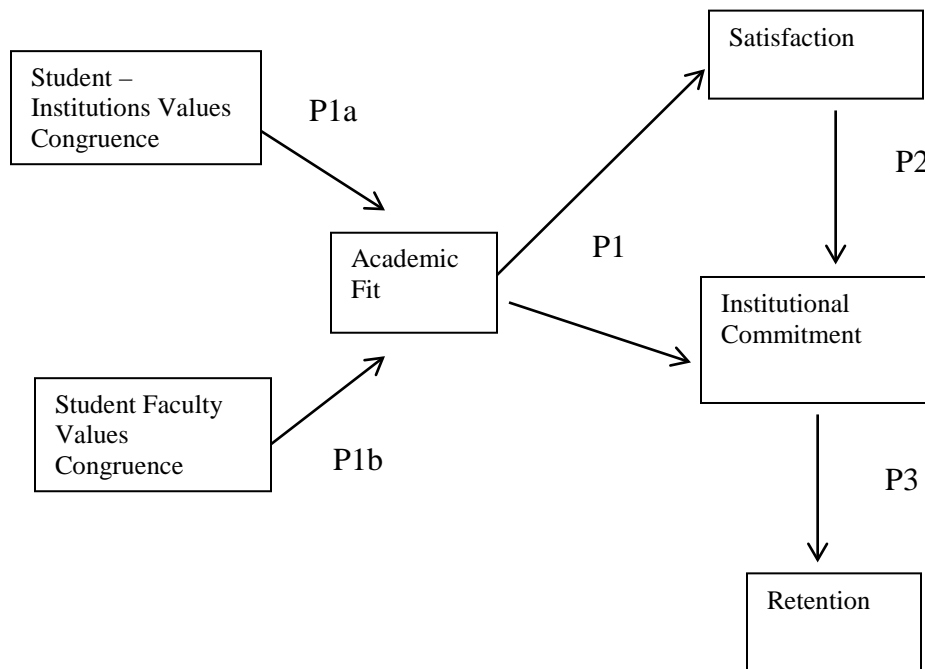
The authors further describe the workings of their model in five propositions:

1. Proposition 1: Academic "fit" is positively related to student satisfaction and commitment to the institution;

2. Proposition 1a: Student-institution values congruence is positively related to academic fit;

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3. Proposition 1b: Student-faculty values congruence is positively related to academic fit;

4. Proposition 2: Student satisfaction is positively related to institutional commitment; and

5. Proposition 3: Institutional commitment is positively related to retention.

All of these models are appealing in that they provide robust but different opportunities for generating hypotheses. Of these models, the Perrucci and Hu (1995) framework shown in Figure 1 with its depiction of social status, social resources, and individual resources is a good match with the data available from the Andres and Grayson Student Experience Survey.

Importance of Student Satisfaction.

As mentioned in the outline to this literature review, student satisfaction with university experience is important for many reasons, to society, educational institutions, and students. The study of why student satisfaction has increased in importance is also of interest to educators and administrators. We can look at differences between students and why satisfaction may be significantly different between genders, and between domestic and international students, and why it is important to consider each subgroup of students as a discrete group. The following discussion touches on these differences.

For students.

In his definitive work on student's college experience, *What Matters in College: Four Critical Years Revisited*, Alexander Astin (1993) states that student satisfaction is an indicator that "covers the student's subjective experience during the college years and perceptions of the value of the educational experience" (p. 273). Astin continues to say that "it is difficult to argue that student satisfaction can be legitimately subordinated to any other educational outcome" (p

273) and that "one way to reduce an institution's drop-out rate is to focus more attention on student satisfaction as an *intermediate outcome*" (p. 278).

Satisfaction ratings can assist in choosing an institution to attend. Satisfaction is a prevalent measure in the popular rankings of universities, such as the Maclean's annual ranking. Student satisfaction indicators can also be used by students in selecting courses and teaching staff, and as a source of data for research on teaching (Marsh, 1987). Scholars have found that student satisfaction has a positive causal correlation with student GPA (Bean & Bradley, 1986) and student retention (Astin, 1993; Schertzer & Schertzer, 2004).

Differences between domestic and international students in their satisfaction.

It is important to examine international students as a separate group from their domestic counterparts because of the nature of the psychological challenges that they can face, for the significant impact they can have on the economies of the host nations and institutions, and for the cultural benefits they can bring to society.

It is also clear that international students face different challenges and stresses when leaving home to study abroad and these can affect their level of satisfaction. In a longitudinal study of adjustment and strain among domestic and international student sojourners, Hechanova-Alampay, Beehr, Christiansen, and Van Horn (2002) find that international students experience greater difficulty in adjusting to campus life than do domestic students. Researchers have identified irritability, impatience, depression, loss of appetite, poor sleep, and vague physical complaints as symptoms of the culture shock new students face (Church, 1982; Sumer, Poyyrazli, & Grahame, 2008).

From a student satisfaction point of view, there are a number of differences to be considered between international and domestic students. For example, Gatefield, Barker, and

Graham (1999) find that while domestic Australian students and international students possess a similar hierarchy of "quality factors" such as campus life and academic instruction, international students place a higher relative importance on computer and library facilities. The authors conclude that this implies that for international students teaching and learning should include more substantial computer and library usage, although what they mean by substantial is not clear from their discussion.

In their study of satisfaction among international graduate students, Perrucci and Hu (1995) identify contact with domestic students, language skills, and perceived discrimination as contributing to academic satisfaction, while gender is not relation to satisfaction. The authors also argue that part time students are less satisfied than full time; male students tend to be more satisfied with their academic programs, when only a partial model is tested, and that what is important for enhancing satisfaction with course related items are clear aims, helpful feedback, challenging and interesting course, opportunities for participation, clear assessment information, and opportunities for developing thinking skills. Although these results are not conducted in a Canadian context, and refer to findings on studies carried out with graduate rather than undergraduate students, the findings can help form a direction for analysis.

Gender.

Because of the changing gender make-up of higher education, the changing mix of domestic and international students, and the continued search to engage students and ensure that their student experiences are positive, these issues continue to be of interest to scholars and higher education practitioners in Canada and throughout the world (Birchard, 2005).

Perrucci and Hu (1995) report that "the gender of international graduate students does not consistently affect satisfaction" (p. 505), when inclusively tested overall aspects of their

theoretical framework, and hypothesize that this may have been due to an increased level of

maturity and confidence with academic qualifications.   However, the authors state that male

international graduate students are more likely to be satisfied with their academic programs than

female graduate students when that part of their model is tested independently.

Other researchers have produced conflicting findings. Gender has been identified in the

literature as having an effect on student satisfaction with online courses (Kirtley, 2002).

Although Arbaugh (2000) reports that in the case of on-line MBA courses gender does not have

a significant impact on student satisfaction, Kirtley (2002) finds a significant relationship

between female students and satisfaction with on-line courses. It appears from this brief review

of the literature that gender can have an effect on student satisfaction, but the results are

inconclusive and have varied depending on the context of the study.

Although the satisfaction of any group of students should be important, it stands to reason

that the experiences of the largest group of students (females) in the system should be of

particular interest to administrators, for the reasons discussed above (e.g. leveraging fundraising

efforts, and the greatest influence on university ranking feedback). In addition, if male students

are becoming underrepresented in higher education, it should also be of interest to society to

understand and reverse this trend, as it is possible that as males slowly become marginalized

within the school system, and are therefore less able to become productive members of society,

they seek fulfillment in other, anti-social sub-cultures, such as organized crime, the drug

subculture, and misogynistic behaviour. Over the last 10 years, the ratio of female to male

students has gradually shifted, and female students have been in the majority in higher education

in Canada, although questions about the degree of integration across all programs remain

(Andres & Adamuti-Trache, 2007). Andres and Adamuti-Trache (2007) cite statistics that place

the overall proportion of female enrolment in Canada at 58% in 2004. At the University of British Columbia, for example, the ratio of undergraduate students in 2009 was 55 % female undergraduate and 45% male (UBC, n.d.). This discrepancy continues to increase. However, they go on to demonstrate their enrolment in university undergraduate programs is highly gendered.

For institutions.

Scholars have found a positive correlation between student satisfaction and alumni giving (Sun, Hoffman & Grady, 2007). Student satisfaction is important for institutions as it can be used as a performance indicator to inform the marketing and branding strategy for an institution (Douglas, Douglas & Barnes, 2006; Gatfield, Barker & Graham, 1999; Sea Law, 2010), as a student recruiting argument (Elliot & Healy, 2001; Sea Law, 2010), and as a performance indicator for external reporting where accountability to public bodies in the case of public universities. Student satisfaction measures have also been used as a tool for improving courses, teaching, and support services (Longden & Yorke, 2009; Sea Law, 2010). Student satisfaction is also positively related to student retention (Elliott & Healy, 2001; Schertzer & Schertzer, 2004). Grayson (2007) writes that "it is important in host societies to determine factors that contribute to international student success" (p. 215).

In some areas of study student satisfaction has been linked to the influence and rise of business culture within higher education organizations, and in this sense it is of further importance to institutions and educators. I believe it is vital for educators to understand and be present to this institutional trend as it represents the "commodification" of education. From this perspective, where the student is viewed as a client or customer of the university and education as a commodity to be consumed, and in what has also been characterized as a marketing and

performance culture (Sea Law, 2010), "commodification" means an emphasis on the vocational aspects of education, and the language of education becomes the language of business. The student is a customer of the university (Denson et al, 2010; Sea Law, 2010) and in this sense student satisfaction is synonymous with customer satisfaction. Scholars have argued that to cope with the development of mass post-secondary education the conception of quality as transformation should assume a more central role (Harvey & Knight, 1996; Sea Law, 2010) and more attention should be paid to the student experience (Tam, 2001) in general, and student learning (Richardson 2005) in general. However, the implications for higher education of "the student as customer" touches on key university values, and a discussion of the impact of this paradigm would go beyond the scope of this paper.

In their SSHRC grant application Andres and Grayson (2003) list five benefits to universities that are brought about by the presence of international students:

1. By acquiring knowledge in highly reputable universities, international students return to their home countries with skills and knowledge that will enable them to contribute to the development of their home society and economy;

2. The networks that international students develop while studying in Canada could facilitate economic and trade links between Canada and international student's countries of origin;

3. International students studying in Canada benefit from their acquisition a first class education;

4. In their interactions, both international and Canadian students acquire insights into different cultures and develop potential networks that may endure long after the completion of studies; and

5. International students bring to universities financial resources that otherwise would be unavailable.

A report from the Canadian Bureau for International Education (CBIE) (Bartlett, 2002) illustrates that although Canada benefits from the presence of international students at universities, it is falling behind other countries in attracting international students. In one example CBIE research indicates that in 2002 Canada had 6,000 fewer Asian international students than 10 years ago, which is significant because Asia is the primary source region for international students (Bartlett, 2002). The author also reports that Canada had fallen from fourth to sixth place as a provider of international post-secondary education, although this includes all international students, K-12 and post-secondary. A 2010 report from Statistics Canada (Statistics Canada.) shows that international students made up about 5% of the college population in 2006 and 9% of the university population in 2007, which could be taken as an indication that the number of international students in Canada is increasing, reflecting a trend in North America, Europe, and Australia. In 2009 there were 196, 227 international students including all students from K -12 and post-secondary (Statistics Canada, 2010). This reflects significant growth, up 17.4% from 2005, and 72.0% from 2000. This compares to Australia, a county with a similar cultural make-up to Canada, which reported 227,230 international students in the higher education sector and a total of 469,619 foreign students in 2010 (Studies in Australia, n.d.). However, there is no indication that Canada is regaining its place as one of the

top attractive countries for international students (Ministry of Advanced Education and Labour Market Development (2010).

Student satisfaction is often tied to measures of student engagement, which has emerged as a key metric for higher education institutions (Kuh, 2003a; Wood, 2007). Pike (2004) reports that engagement has been shown to be an important factor in student learning and success, and positively related to achievement test scores. The most prevalent student engagement instrument is the National Survey of Student Engagement (NSSE), designed to measure student's behaviours and perceptions of the college environment. Although it is not a student satisfaction survey like the Canadian University Survey Consortium or the yearly Globe & Mail "University Report Card" (Wood, 2007), student satisfaction is one of those perceptions and is measured through two questions: "How would you evaluate your educational experience at this institution?" and "If you could start over again, would you go to the same institution you are now attending?" (Kuh, 2003b, p.2). This illustrates the relationship between student satisfaction and student behaviour and shows that satisfaction is related to engagement.

For society.

International students continue to be sought for their beneficial impact on local economies and the revenue that they can provide for universities and colleges (Turner & Robson, 2007). For example, in a recent posting the Ministry of Advanced Education in the Province of British Columbia (n.d.) describes expanding the international reach of our post-secondary institutions by promoting British Columbia as a destination for international students, and justifies this policy primarily through showing a strong argument for the business and economic advantages of hosting international students. The government estimates that international students at public post-secondary institutions in B.C. spent about $510 million in 2005, and

generated an estimated 6,000 jobs (Ministry of Advanced Education, n.d.). In another example, the Federal government notes that the number of international post-secondary students in Canada is estimated to contribute more than $6.5 billion to the Canadian economy every year (Citizenship and Immigration Canada, n.d.).

Gatefield, Barker and Graham (1999) also note that international students typically pay higher fees, and that international education creates a pool of potential immigrants who can help ease labour shortages.

International students can contribute other less transactional but equally important benefits to society. They can help foster cross-cultural relations between the host country and their country of origin, and across organizations, and at a micro level within institutions, where students and individual faculty members can benefit international students (Barron, Gourlay & Gannon-Leary, 2010). Hechanova-Alampay et al. (2002) cite the benefits of cross-cultural relations as a more homogenous and stable world and an increase in international business activity. In another study the author lists the benefits brought to faculty members by international students by providing an international perspective within the unit, representing highest quality students (the brightest of the bright), filling research assistant vacancies, bringing work experience, helping faculty members establish international ties, enhancing the department's international reputation and providing American [domestic] students with a more accurate perception of their life circumstances (Trice, 2003).

Other factors.

Shevlin, Banyard, Davies and Griffiths (2000) find that student ratings are positively influenced by the charisma of the teacher - their personal view of the lecturer rather than the lecturing ability of the teacher or course attributes. Researchers also identify inclusive and

affirming institutional environments, and institutional environments where expectations for performance are clearly communicated and set at reasonably high levels as being positively related to student satisfaction (Elliott & Healy, 2001; Kuh, 2003a). Kuh (2003a) states that "the more exposure to diversity, the more likely it is that students are involved in active and collaborative learning and the more satisfied they are with their college experience" (p 31). Astin (1993) finds that satisfaction is positively affected by the number of years completed, and leaving home to attend college. The author also points to other variables having a positive effect on satisfaction as an institutional emphasis on diversity, a positive faculty, and majoring in education. Astin (1993) also identifies lack of student community and majoring in Engineering correlated with dissatisfaction.

Summary

 Student satisfaction is a construct measured on a satisfied/dissatisfied continuum, composed of the students' reaction to the factors that make up their experience of being students, weighted by the importance of those factors to them. Each student brings with them their own unique background experiences, and these are included in and influence their experience. Satisfaction is an important indicator in higher education because of the influence it has on educational outcomes that are important to students, institutions, teaching faculty, and society. Student satisfaction is also positively related to student success factors, such as grade point average, and retention, and to factors that are important to universities, such as alumni giving.

From an institutional marketing point of view a highly satisfied student body can boost the reputation of an institution and help maintain high enrolment, and thus help the institution to continue to attract the best students. A good international reputation will attract international

students, who in turn provide revenue for the institution, and also bring positive economic benefits to the local economy.

International students can be viewed as unique group because of the nature of the psychological stresses that they face. They have also been shown to be a group that can make significant and desirable economic contributions to the country in which they sojourn, and enrich society by bringing perspectives from their own culture to the host country. International students can make desirable economic contributions by remaining in the host country and contributing as part of the workforce, or returning to their home better educated. My own experience as an undergraduate student was enriched by the presence of students from the near and far east, the United States, and Norway. As an undergraduate student at Simon Fraser University I had grown up in a predominantly mono-cultural area of the lower mainland and my time as an undergraduate was my first real exposure to other cultures. In addition to hearing international perspectives during class discussions or while working with international students, there was the opportunity to socialize and hear about daily life in other countries on a personal level.

This review of the literature touched on some studies that concern the topic of student satisfaction. Despite the importance of satisfaction as an outcome of the educational process, Richardson (2005) observes that satisfaction continues to be a complex and poorly articulated concept. However, higher education scholars writing from marketing, fundraising, pedagogical, and counseling perspectives all consider student satisfaction key continuous improvements in their respective fields, and have devoted considerable energy to researching the subject.

When reviewing the literature from a Canadian lens, it appears that although student satisfaction has been researched in other Anglo-Western countries, there are few examples of

published research on student satisfaction in a Canadian context. Much of the literature

originates in the United States or Australia and to a lesser extent the United Kingdom. The

Perrucci and Hu (1995) model provides a framework within which to study student satisfaction

in a Canadian context and explore the differences in experiences between domestic and

international students and male and female students.

Research Questions and Methodology

Research Questions

The research questions forming the basis for this study are informed by the preceding literature review, and concern differences in student satisfaction between male and female domestic and international students in the context of aspects of their students experience and their satisfaction with their academic programs and instructors. The study focuses on international and domestic students at four Canadian universities. My three research questions are as follows:

1. Are there significant differences between the level of satisfaction between domestic and international students with respect to

   a. academic programs;

   b. instructors;

   c. contact with Faculty; and

   d. TAs, lab demonstrators, studio technicians, and non-academic staff.

The first hypothesis of this study is that satisfaction with each of these areas will be significantly higher for domestic students when compared to international students.

2. How do the following areas of student experience contribute to domestic and international student's satisfaction with their academic program?

   a. satisfaction with instructors;

   b. ability to get good grades;

   c. fluency in English writing;

   d. the ability to make friends at University;

   e. experiencing financial problems;

f. problems with school workload;

g. problems getting into their preferred program, or courses; and

h. work habits and study skills.

The second hypothesis of this study is that each of these attributes will make an equal contribution to satisfaction with an academic program.

3. How do the following qualities of an instructor and of a student's university experience contribute to domestic and international student satisfaction with their academic program?

Internal to the instructor

a. use of good teaching techniques;

b. knowledge of their subject matter;

c. responsiveness to the class;

d. caring about students in the class;

e. sense of humour; and

f. organizational skills.

Internal to the student

a. student's ability to handle the workload;

b. student's emotional preparedness for university; and

c. students' work habits and study skills.

The third hypothesis of this study is that each of these elements will be equally significant in determining student satisfaction with their instructors.

The desired end result of the analysis is a basic conceptual framework that explains student satisfaction.

Research Design

The following discussion of the survey methodology is taken from a Social Sciences and Humanities Research Council (SSHRC) proposal submitted in 2002 by Andres and Grayson (2002), and a paper published on the same study by Grayson (2008).

The study was carried out at the University of British Columbia, York University, McGill University, and Dalhousie University. These institutions were chosen for inclusion in as they enrol approximately 20% of Canada's international students (Bartlett, 2002).

While this paper concentrates on data collected during the first year, the study itself spanned three years. Data were collected through surveys which were mailed to potential respondents in each of the three years of the study. These annual mail-out surveys were carried out as follows: First, the institutional research department at each university generated a list of first year international and domestic students and sent them to the Institute for Social Research at York University. Then, all international students thirty years of age and younger were mailed a questionnaire and the same number of randomly selected domestic students were also included. In total 4872 students were invited to participate in the survey (Grayson, 2008). After four contacts, 1543 students responded, for an overall response rate of 31.7%.

Two main types of data collection were utilized in the study to track students over three years of university education: focus group meetings and the mail-out surveys Focus groups were conducted with different groups of students in each of the three years. Data collection by mail out surveys was longitudinal in nature, following the same students over the first three years of university education (Andres & Grayson, 2002). For this study only information from the first year mail-out surveys to the four universities are employed; this study does not draw on any of

the focus group results. The data used for this paper was provided by Dr. Lesley Andres, of the UBC Faculty of Education, and used with her kind permission.

Data Analysis

Data from the survey were analyzed using the statistical program SPSS. T-Tests were conducted on the differences between means to explore the first research question and test the first hypotheses. The second and third research questions were explored using standard linear regression analysis to determine the fit of each independent variable to the model in question. For all analysis gender and student type were used to modify the data, using the "select cases" function. Each group was selected using the corresponding variable in the data, either gender or student type.

The analysis was carried out in two stages. In the first stage gender and student type were treated as separate groups, while in the second stage a combination of the selection criteria was used to obtain a more detailed picture of the differences in student types. In other words, the initial analysis on satisfaction was conducted on male students separate from female students, and these two groups included both domestic and international students who were either male or female. In the second level a more detailed analysis shows the results for male students delineated by domestic and international status, and female students delineated in the same way. Table 1 shows the independent variables for the analyses on the question "All things considered, how satisfied or dissatisfied are you with your academic program at this university?", which was measured on a five point scale, with 1 equivalent to "very dissatisfied" and 5 corresponding to "very satisfied." As can be seen in Table 1, this corresponds to the scales for the questions used as dependent variables, where an answer of 1 is equivalent to very dissatisfied and 5 is very satisfied.

Table 1: Variables Contributing to Student Satisfaction with Academic Programs

	We would like to get some indication of what difficulties, if any, you might have experienced so far this academic year. Below is a list of possible problems. Please circle the number that best describes how problematic each item has been for you <u>over the past academic year.</u>						
		Very Problematic				No Problem	N/A
a)	Making friends at university	1	2	3	4	5	9
b)	Getting enough money to meet the expenses involved in attending university	1	2	3	4	5	9
f)	Handling the work load	1	2	3	4	5	9
g)	Getting good grades	1	2	3	4	5	9
i)	Getting into the courses or program that I wanted	1	2	3	4	5	9
	Please circle the number which best reflects your degree of agreement or disagreement with the following statements. There are no 'right' or 'wrong' answers						
		Strongly Disagree				Strongly Agree	Don't Know
c)	I was prepared for university in terms of work habits and study skills	1	2	3	4	5	8
f)	It is easy for me to write course essays or reports in English	1	2	3	4	5	8
		Very Dissatisfied				Very Satisfied	
A3	How satisfied are you with the instructors in the courses in which you are currently enrolled?	1	2	3	4	5	

Table 2 shows the independent variables used for the analysis on the question "How satisfied are you with the instructors in the courses in which you are currently enrolled?". As in the previous procedure, there is a positive relationship between the scales used to measure the responses. A positive correlation between any of the independent variables and the dependent variable would indicate that "more" of the item being measured or fewer problems with the item corresponds to a higher level of satisfaction.

Table 2: Variables Contributing to Student Satisfaction with Instructors

	What percentage of the instructors in the courses <u>in which you are currently enrolled</u> would you say:	0%	1%-25%	26%-50%	51%-75%	76%-99%	100%
a)	Use good teaching techniques (e.g., go at the right speed, use good examples)	0	1	2	3	4	5
b)	Know their subject matter well	0	1	2	3	4	5
c)	Are responsive to the class (e.g., encourage questions, listen to what students have to say)	0	1	2	3	4	5
d)	Care about students in the class (e.g., convey warmth, are easy to talk to, are considerate of students' circumstances, etc.)	0	1	2	3	4	5
e)	Have a sense of humour	0	1	2	3	4	5
f)	Are well organized	0	1	2	3	4	5

We would like to get some indication of what difficulties, if any, you might have experienced so far this academic year. Below is a list of possible problems. Please circle the number that best describes how problematic each item has been for you <u>over the past academic year</u>.

		Very Problematic				No Problem	N/A
f)	Handling the work load	1	2	3	4	5	9
g)	Getting good grades	1	2	3	4	5	9

Please circle the number which best reflects your degree of agreement or disagreement with the following statements. There are no 'right' or 'wrong' answers

		Strongly Disagree				Strongly Agree	
b)	I was emotionally prepared for university	1	2	3	4	5	8
c)	I was prepared for university in terms of work habits and study skills	1	2	3	4	5	8

Findings

Demographics

Table 1 illustrates the breakdown of responses by university, and by domestic and

international students.

Table 3: Domestic and International Response Rates by University

	Domestic		International		Total	
University	N	%	N	%	N	%
UBC	264	52	247	48	511	33
York	486	72	143	28	629	41
McGill	187	68	62	32	229	15
Dalhousie	119	68	55	32	174	11
Total	1036	67	507	33	1543	100

The data reveal that York University had the greatest number of respondents, while the

University of British Columbia had the highest ratio of international students to domestic

students as respondents.

Figure 5 illustrates the gender breakdown of domestic and international respondents. In

both cases female respondents outnumbered male participants; however, the difference is more

marked for domestic students, with a ratio of almost 3 to 1. In total 73% (755) of domestic

respondents were female and 27% (276) were male, while 60% (301) of international

respondents were female and 40% (203) were male. Altogether, 68% (1056) of respondents

were female and 31% (479) were male.

Figure 5: Domestic and International Students by Gender
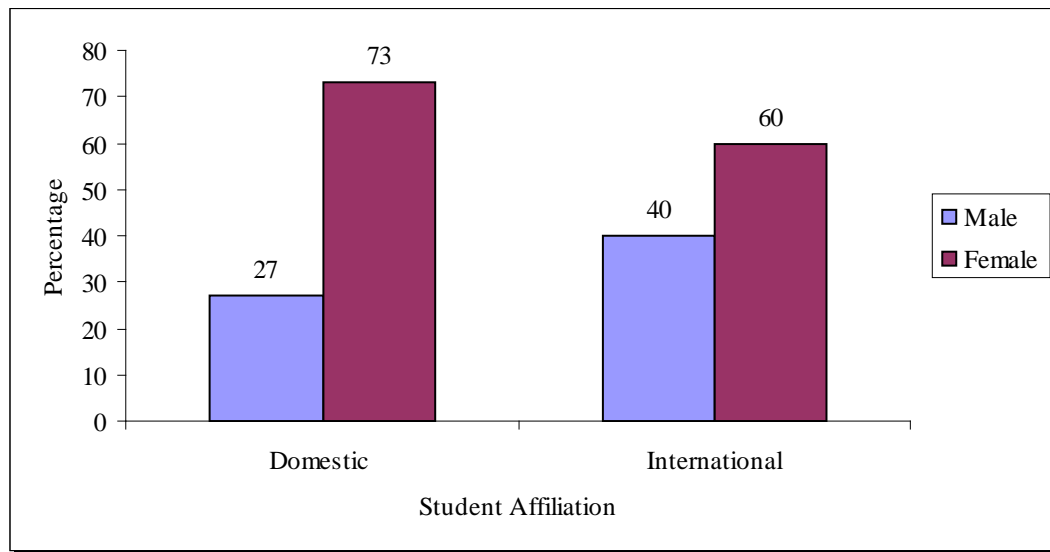
Figure 6 illustrates the anticipated grade point average for first year domestic and international students. Students were asked "What do you think your grade point average will be for this year (Sept. to April)?". A t-test conducted on the means of the two groups showed that the anticipated grade point average for domestic students was significantly higher than that of international students (72.8 vs. 70.9, t = 2.1, p<.05).

Figure 6: Anticipated Grade
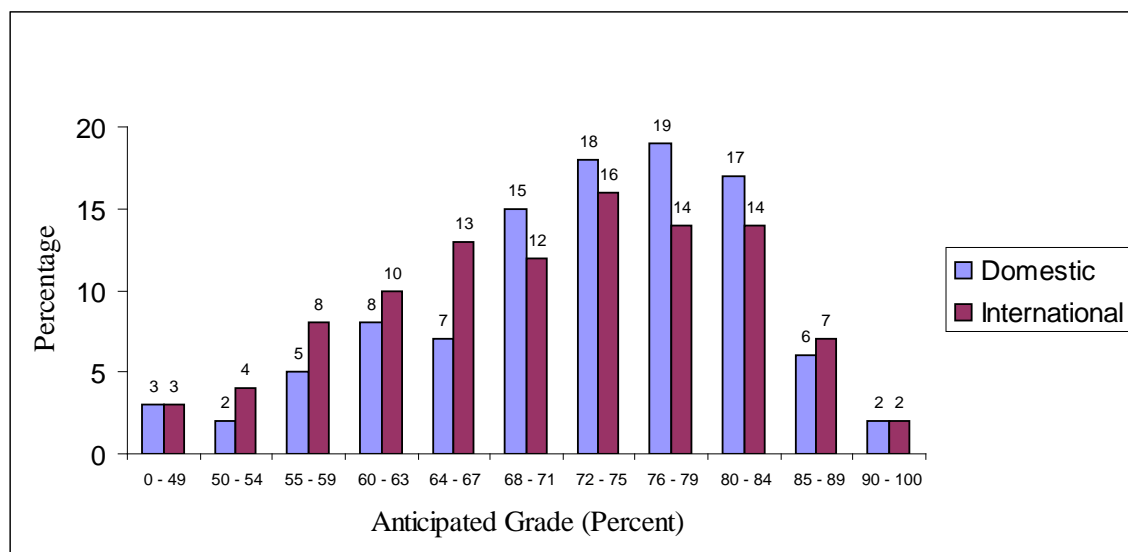
Figure 7 illustrates the ethnic breakdown of the first year student respondents. As can be seen from the illustration, the majority of students (41% across both groups) identified themselves as white. The majority of domestic students (46%) identified themselves as white, while the majority of international students (35%) identified themselves as Chinese. The reverse is true for second position in each group: the second largest international group identified themselves as white, and the second largest domestic group identified as Chinese.

Figure 7: Respondent's Ethnicity
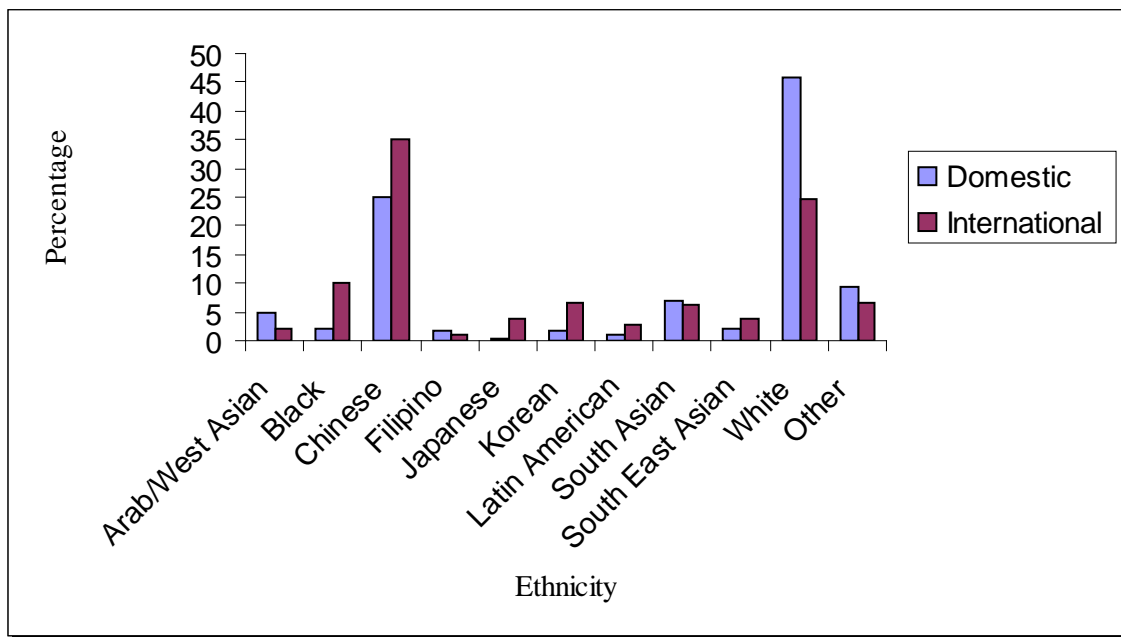
Student Satisfaction – Differences in Means for Gender and Student Type

Participant satisfaction was measured on a five-point Likert Scale. In this case a value of 1 equals very dissatisfied and 5 equals very satisfied. It is desirable from an institutional perspective to have mean satisfaction levels above 3 – and the closer to five the better. Participants were asked to respond in five areas: 1) satisfaction with their academic program; 2) satisfaction with their instructors; 3) satisfaction with faculty contacts; 4) satisfaction with TA/

Lab demonstrator/studio technician contact; and 5) satisfaction with staff contact. In all cases participants responded positively about their level of satisfaction in these areas. It should be noted that in all cases the mean level of satisfaction was above 3; even when there were significant differences between groups satisfaction was still positive overall.

Initial t-tests conducted on the differences in satisfaction between domestic and international respondents and illustrated in Table 4 show a significant difference between the two groups at the 0.05 level in the instance of satisfaction with their academic program, instructors and staff contacts. In each of these instances, domestic students were more satisfied than international students. After this initial analysis, the data file was split into domestic and international student groups, and t-tests were then conducted between male and female respondents in each of the two groups, so that male and female domestic respondents and male and female international respondents were compared (Tables 5 and 6).

Table 4: Domestic and International Student Satisfaction

Satisfaction with	D	I	Difference	t	Significance
Academic program	3.84	3.74	0.13	2.56	**0.01**
Instructors	3.83	3.67	0.16	3.45	**0.00**
Contacts with TAs/ Lab demonstrators/Studio Technicians	4.41	4.36	0.05	0.48	0.64
Staff contacts	5.17	4.85	0.32	2.28	**0.02**
Faculty contacts	4.39	4.32	0.07	0.59	0.55

T-tests illustrated in Tables 3 and 4 show homogeneity between gender for domestic and international groups. The differences that appeared in the first table are not present for the two groups when they are split by gender.

Table 5: Domestic Male and Domestic Female Student Satisfaction

Satisfaction with	M	F	Difference	t	Significance
Academic program	3.81	3.85	-0.04	-0.56	0.58
Instructors	3.78	3.85	-0.07	-1.11	0.27
Contacts with TA's/ Lab demonstrators/Studio Technicians	4.40	4.42	-0.02	-0.13	0.90
Staff contacts	5.29	5.13	0.16	0.84	0.40
Faculty contacts	4.58	4.32	0.26	1.84	0.07

Table 6: International Male and International Female Student Satisfaction

Satisfaction with	M	F	Difference	t	Significance
Academic program	3.70	3.71	-0.01	-0.18	0.86
Instructors	3.59	3.73	-1.14	-1.75	0.08
Contacts with TAs/ Lab demonstrators/Studio Technicians	4.45	4.30	0.15	0.76	0.45
Staff contacts	4.92	4.81	0.10	0.45	0.65
Faculty contacts	4.26	4.37	-0.11	-0.59	0.56

Further tests were conducted by splitting the entire data file by gender, and conducting tests on the differences between male domestic and international students, and female domestic and international students. Tables 7 and 8 illustrate the significant differences between both male domestic and male international students, and female domestic and female international students in satisfaction with their instructors. In all cases where there were significant differences, domestic students reported higher satisfaction than their international counterparts.

Table 7: Male Domestic vs. Male International Students

Satisfaction with	D	I	Difference	t	Significance
Academic program	3.81	3.70	0.11	1.24	0.22
Instructors	3.78	3.59	0.19	2.27	**0.02**
Contacts with TAs/ Lab demonstrators/Studio Technicians	4.40	4.45	-0.05	0.24	0.81
Staff contacts	5.29	4.92	0.37	1.57	0.12
Faculty contacts	4.58	4.26	0.32	1.63	0.11

Table 8: Female Domestic vs. Female International Students

Satisfaction with	D	I	Difference	t	Significance
Academic program	3.85	3.71	0.14	2.09	0.37
Instructors	3.85	3.73	0.12	2.10	**0.04**
Contacts with TA's/ Lab demonstrators/Studio Technicians	4.42	4.30	0.12	0.40	0.08
Staff contacts	5.13	4.81	0.32	1.17	0.08
Faculty contacts	4.32	4.37	-0.06	-0.43	0.67

It appears that while the mean level of satisfaction with staff contacts is also lower for international female respondents, this finding is not significant. However, it may be this difference that was responsible for the significant results that were present in the domestic/international analysis, but overall there are few significant differences.

Determinants of Student Satisfaction with Academic Program

In this section I report the results of the regression analysis on selected elements of student experiences with the question "All things considered, how satisfied or dissatisfied are you with your academic program at this university?".

Table 9 shows the results of regression analysis conducted on all students, domestic students only, international students only, male students only and female students only. For each regression analysis performed, the R for the regression was significantly different from zero ($p<.05$). The adjusted R^2 explained by the models varied from a low of 30% for domestic students to a high of 39% for international students. The correlation matrix for the regression analysis on all students is found in Appendix A.

For each model tested, the variable "satisfaction with instructors" was consistently the most highly correlated with the variable "satisfaction with academic program" with a regression coefficient between 0.490 and 0.512 depending on the sub –group and a probability of less than

0.000. "Problems making friends at university", "Problems getting good grades" and "Satisfaction with instructors" were also significant at the 0.05 level.

Student type.

When domestic and international students are compared, "Problems getting good grades" reported as significant ($p<.05$) for both groups, while international students who had less difficulty writing course reports in English were more likely to be satisfied with their academic program. Ability to write in English was not significant for domestic students.

Table 9: Regression Analysis of Satisfaction with Academic Program

Independent Variables	All Students		Domestic Students		International Students		Male Students		Female Students	
	β	sig	β	sig	β	sig	β	sig	β	sig
Problems making friends	.089	**.000**	.091	**.002**	.073	.079	.122	**.005**	.066	**.024**
Problems getting enough money to meet university expenses	-.022	.354	-.028	.354	-.019	.639	-.029	.495	-.008	.775
Problems handling the workload	-.006	.848	.013	.742	-.062	.267	.076	.177	-.050	.199
Problem getting good grades	.124	**.000**	.104	**.009**	.167	**.003**	.067	.237	.145	**.000**
Problems getting in the course or program that I wanted	.090	**.000**	.090	**.003**	.076	.070	.115	**.008**	.082	**.007**
Prepared for university in terms of work habits and study skills	.006	.799	.044	.171	-.049	.236	-.032	.47	.033	.284
Easy to write course reports or essays in English	.038	.115	-.016	.583	.133	**.002**	.054	.210	.033	.250
Satisfaction with Instructors	.474	**.000**	.449	**.000**	.512	**.000**	.490	**.000**	.467	**.000**
R	.576		.549		.631		.619		.559	
R^2	.331		.301		.398		.383		.312	
Adjusted R^2	.327		.295		.386		.370		.306	
Std. Error	.776		.775		.773		.777		.770	
Sum of squares regression	390.54		228.11		165.35		146.15		242.55	
Residual	798.45		529.23		250.05		235.84		533.76	
Total	1179.00		757.34		415.19		381.99		776.32	
F	80.99		47.47		34.5		30.29		51	
significance	.000		.000		.000		.000		.000	

This result seems a bit surprising, and further research to test grades against writing skills for all students would be interesting, as domestic students with poor writing skills should also have the same problems getting better grades as international students. The international student

group also differed from their domestic counterparts in that neither the ability to make friends nor problems getting into their preferred course or program was significantly correlated with academic program satisfaction at the 0.05 level.

Gender.

When male and female students are compared, the analysis indicates that "Ease with making friends", "Getting into the courses or programs that they prefer," and "Satisfaction with instructors" are all common and significant determinants of satisfaction with their academic program ($p < 0.05$) while problems getting good grades is significant at the 0.05 level for female students only. This may imply that if female students encounter difficulty in obtaining what they perceive to be good grades, they will be less satisfied with their academic program, while for male students satisfaction cannot be predicted based on the perceived degree of difficulty in getting good grades – if they get a good grade but have had to work hard (more difficulty) they will more satisfied than female students in the same situation. One consideration is that difficulty may be perceived differently between men and women.

Gender and student type.

Table 10 displays the regression results by gender and student type. The results of this more detailed analysis are interesting as they indicate that gender differences exist within and between student type, and that "Satisfaction with instructors" is the only consistent predictor of a student's satisfaction with their academic program for this group of dependent variables. For male domestic students the only other significant variable was "Problems getting into their desired courses or programs." For domestic female students, "ease in making friends" and "getting good grades" were the other two variables that were significantly correlated at the 0.05 level with academic program satisfaction. Both groups of international students shared "ease in

writing course reports and essays in English" and "satisfaction with instructors" as significant

determinants of academic program satisfaction.

Table 10: Regression Analysis of Satisfaction with Academic Program by Student Type and Gender

Independent Variables	Domestic Male		Domestic Female		International Male		International Female	
	β	sig	β	sig	β	sig	β	sig
Problems making friends	.089	.119..	.087	**.013**	.148	**.031**	.007	**.893**
Problems getting enough money to meet university expenses	.005	.934	-.032	.360	-.088	.156	.063	.244
Problems handling the workload	.135	.090	-.032	.486	-.019	.820	-.128	.099
Problem getting good grades	.011	.894	.129	**.005**	.121	.152	.186	**.018**
Problems getting in the course or program that I wanted	.165	**.006**	.066	.066	.043	.509	.111	.051
Prepared for university in terms of work habits and study skills	.059	.358	.051	.169	-.110	.077	.022	.703
Easy to write course reports or essays in English	-.011	.848	-.020	.549	.138	**.037**	.143	**.010**
Satisfaction with Instructors	.447	**.000**	.452	**.000**	.527	**.000**	.497	**.000**
R	.594		.541		.671		.619	
R^2	.353		.293		.450		.383	
Adjusted R^2	.329		.284		.423		.362	
Std. Error	.769		.772		.777		.761	
Sum of squares								
regression	69.97		160.45		81.38		86.52	
Residual	128.30		386.98		99.61		139.43	
Total	198.77		547.43		180.94		225.96	
F	14		33.69		16.85		18	
significance	.000		.000		.000		.000	

In addition, "Ease in making friends" was significantly correlated with satisfaction for

international male students, but not for domestic males, while international female students were

similar to their domestic counterparts in that "Problems getting good grades" was significant, but

dissimilar in that "Ease in making friends" was not a significant predictor of their satisfaction

with their academic program. This raises the question of why similarity exists between domestic female students and international male students, and domestic male students and international female students when it comes to friendship. I would assume that these two groups would be the most diverse in their experiences as they are separated by both gender and student type.

Determinants of Student Satisfaction with Instructors

Table 11 shows the results for the regression analysis conducted with "Satisfaction with instructors" as the dependent variable with all students and by domestic and international groups, and Table 12 shows the results for female and male student groups. The analysis in the previous section indicated that "Satisfaction with instructors" is the most significant predictor of a student's satisfaction with their academic program. In light of this it is important to explore which characteristics or attributes of an instructor contribute to student satisfaction, and if these characteristics are consistent across all groups.

The results displayed in Table 11 show that the most consistently significant determinants of satisfaction with instructors is the "Use of good teaching techniques" and "Being well organized". These were common across student type and gender.

Student type.

Two interesting differences emerged between domestic and international students when these groups are compared. In the first case, "Instructors' knowledge of their subject matter" was a significant predictor of satisfaction for international students, but not for domestic students. "Being emotionally prepared for university" was also significantly correlated with satisfaction for international students. Other common determinants for domestic and international students were "Caring about students" and "Having a sense of humour."

Table 11: Regression Analysis of Satisfaction with Instructors, All Students and Student Types

Question	All Students β	All Students sig	Domestic β	Domestic sig	International β	International sig
Use good teaching techniques	.307	**.000**	.549	**.000**	.243	**.000**
Know their subject matter well	.069	**.004**	.045	.114	.090	**.042**
Are responsive to the class	.029	.298	.023	.478	.041	.424
Care about students in the class	.110.	**.000**	.103	**.003**	.121	**.019**
Have a sense of humour	.107	**.000**	.087	**.006**	.142	**.003**
Are well organized	.158	**.000**	.176	**.000**	.118	**.013**
Problems handling the workload	.040	.161	.041	.224	.067	.211
Problems getting good grades	.039	.171	.049	.146	-.012	.829
Emotionally prepared for university	.076	**.001**	044.307	.091	.133	**.002**
Prepared for university in terms of work habits and study skills	-.016	**.013**	-.010	.741	.067	.211

	All Students	Domestic	International
R	.635	.661	.599
R^2	.403	.437	.359
Adjusted R^2	.398	.431	.344
Std. Error	.658	.634	.693
Sum of squares			
regression	425.78	306.48	124.85
Residual	630.98	395.13	222.60
Total	1056.76	701.81	347.44
F	89.38	76.32	23.61
Sig.	.000	.000	.000

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Gender.

As illustrated in Table 12, "caring about students in the class" and "having a sense of

humour" are still significant at the 0.05 probability level for all female students, but drop from

significance for male students. Significant determinants of satisfaction for both female and male

students that are related to instructors are "Using good teaching techniques," and "Being well organized." The significant student attribute for both groups was the student feeling that they were emotionally prepared for university. For female students "Being prepared in terms of work habits and study skills," "Caring about students in the class" and "Having a sense of humour" are also significant, while the instructor's subject matter expertise was the only other significant predictor for male students.

Table 12: Regression Analysis of Satisfaction with Instructors by Gender

Question	Male β	Male sig	Female β	Female sig
Use good teaching techniques	.307	**.000**	.307	**.000**
Know their subject matter well	.131	**.001**	.047	.116
Are responsive to the class	.091	.060	.001	.988
Care about students in the class	.084	.110	.118	**.001**
Have a sense of humour	.027	.542	.139	**.000**
Are well organized	.227	**.000**	.131	**.000**
Problems handling the workload	.000	.993	.062	.075
Problems getting good grades	.013	.787	.059	.095
Emotionally prepared for university	.091	**.032**	.080	**.004**
Prepared for university in terms of work habits and study skills	-.074	.080	-.063	**.035**
R	.682		.620	
R^2	.466		.384	
Adjusted R^2	.454		.378	
Std. Error	.661		.652	
Sum of squares				
regression	169.39		264.25	
Residual	194.45		433.25	
Total	383.84		687.49	
F	38.77		62.12	
Sig.	.000		.000	

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Gender and student type.

Table 13 sheds some light on the differences between gender and student type that

emerge in Table 11. "Use of good teaching techniques" remains a significant predictor for all

groups, and was highly related to the dependent variable for domestic students.

Table 13: Regression Analysis: Satisfaction with Instructors by Student Type

Question	Domestic Male β	Domestic Male sig	International Male β	International Male sig	Domestic Female β	Domestic Female sig	International Female β	International Female sig
Use good teaching techniques	.364	**.000**	.234	**.002**	.336	**.000**	.273	**.000**
Know their subject matter well	.113	**.032**	.147	**.027**	.023	.505	.071	.224
Are responsive to the class	.046	.468	.153	.055	.019	.624	-.039	.561
Care about students in the class	.095	.172	.046	.591	.105	**.009**	.153	**.017**
Have a sense of humour	.056	**.**340	-.022	.760	.098	**.010**	.255	**.000**
Are well organized	.199	**.000**	.279	**.000**	.164	**.000**	.015	.814
Problems handling the workload	.009	.884	-.004	.964	.056	.156	.104	.149
Problems getting good grades	.017	.795	-.007	.937	.068	.089	.008	.912
Emotionally prepared for university	.089	.098	.110	.123	.052	.112	.156	**.004**
Prepared for university in terms of work habits and study skills	-.027	.628	-.142	**.043**	-.014	.694	-.183	**.002**

	Domestic Male	International Male	Domestic Female	International Female
R	.716	.641	.642	.609
R^2	.513	.410	.412	.371
Adjusted R^2	.494	.378	.403	.347
Std. Error	.643	.686	.632	.603
Sum of squares regression	110.14	59.35	199.89	73.084
Residual	104.55	85.30	285.60	125.49
Total	214.69	144.67	485.41	199.37
F	26.65	12.60	50.03	15.84
Sig.	.000	.000	.000	.000

"Knowing their subject matter well" and "Using good teaching techniques" remained as significant determinants of satisfaction for domestic male students, and this was mirrored by their international counterparts, who also identified being "Emotionally prepared for university" as a significant contributor to their level of satisfaction.

In contrast to both groups of male students, neither the female domestic nor female international groups placed significant weight on "Knowing their subject matter well"; instead, they did give significant weight to "Caring about students in the class" and "Having a sense of humour." International females students rated "Being prepared for university in terms of work habits and study skills" as important, similar to their international male counterparts but dissimilar their domestic female counterparts, and were unique across all groups in that "Emotional preparedness for university" was significant at the 0.05 level. International female students were also unique in that "Being well organized" was not significantly correlated with the dependent variable. This is a rather interesting result in this element was so significant for the other three groups.

Summary and Discussion

The purpose of this paper was to examine the similarities and differences between international and domestic student satisfaction in areas related to their academic experiences.

Previous research on international graduate students had identified a weak relationship between gender and satisfaction. Scholars have also identified international students as a group that experiences greater emotional turmoil in their lives than domestic students because of the degree of change that they experience in their lives studying away from home and in a language and culture other than their own. Based on the results from this study, it would appear that first year international respondents differ from their domestic counterparts in being less satisfied with their academic program and course instructors, and in the case of female international respondents with their contact with university staff. More detailed analyses seem to indicate that it is the dissatisfaction felt by female international participants that is "pulling down" the scores with course instructors.

The demographics of the international respondents also raise questions of cultural homogeneity. Whereas a large proportion of the international respondents self-identified as "white" the majority identified as "Asian." Reflecting back on the model of satisfaction and retention by Schertzer and Schertzer (Figure 4), I am curious if these two groups share identical values, or if the self-identified "white" international students could be assumed to share values similar to domestic Canadian students, and would score closer to domestic students on student satisfaction and life experiences indicators. If this were to be true, it is possible that the responses from this group of students served to skew the results and if controlled for in the analysis the differences between the Asian international students and domestic students could have been more significant. This line of thinking could lead to a much more detailed exploration

of the data, as it would be necessary to conduct tests with as much variation in respondent ethnicity or cultural identity as was possible given the survey demographics (or conduct a new survey). Grayson (1998) found that race was a predictor of involuntary withdrawal from university but not of voluntary withdrawal. However, this study did not compare domestic and international students or touch explicitly on satisfaction.

On the other hand, there is a point where too fine a breakdown becomes unworkable from a policy and practice point of view – the marginal return of additional analysis is limited. Regardless, knowing the differences between males and females and student types could help student advisors, counselors, and instructional skills designers develop strategies to better reach different types of students.

Conceptual Framework of Student Satisfaction with Academic Programs

In this study I explored how models of student satisfaction might look for two specific aspects of student experience: satisfaction with academic programs and satisfaction with instructors.   Using related questions from the Andres/Grayson Student Experiences Study as independent variables, I conducted regression analyses to test which of the selected variables were significant determinants. The results indicate that in both cases the models for satisfaction differ between gender and student type. The more respondents are segmented by gender and student type, the more interesting the differences in the segments become, and it is apparent that satisfaction is constructed in a unique way for each group of students, domestic male, domestic female, international male and international female. Although a generic model of student satisfaction would be most robust, policy makers could also work with frameworks that would be relevant to each of the specific student groups used in this study.

Satisfaction with Academic Programs

A model of student satisfaction with academic programs for all students is represented in Figure 8. This model and those that follow need to be qualified in that they do not explain all of the reasons for variance in satisfaction. In each case a truer but less elegant representation would contain an attribute representing the other unknown elements that account for the remaining variance.

Figure 8: Model of Student Satisfaction with Academic Programs

Making friends	Problems getting good grades	Problems getting the course or program that I wanted	Satisfaction with instructors

Satisfaction with Academic Program
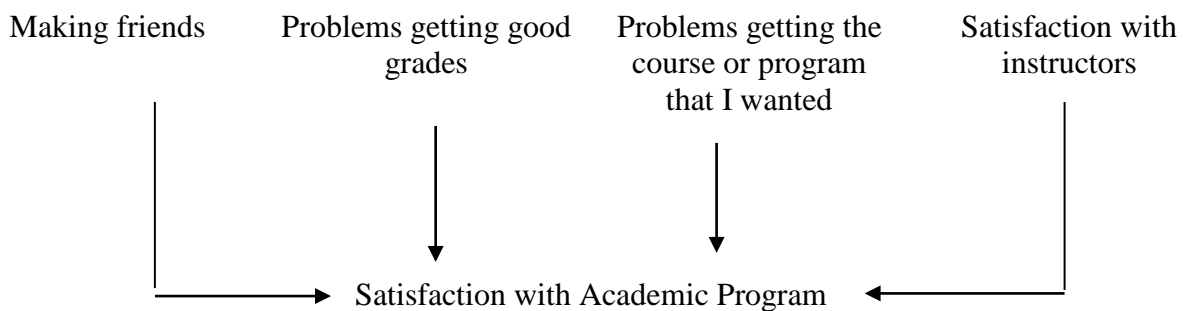
This model holds true for domestic students, but international student satisfaction is more accurately represented as follows (Figure 9), with the inclusion of the language variable and exclusion of the social aspect:

Figure 9: Model of International Student Satisfaction with Academic Programs

Problems getting good grades	Ease with writing course reports or essays in English	Satisfaction with instructors

International Student Satisfaction with Academic Program
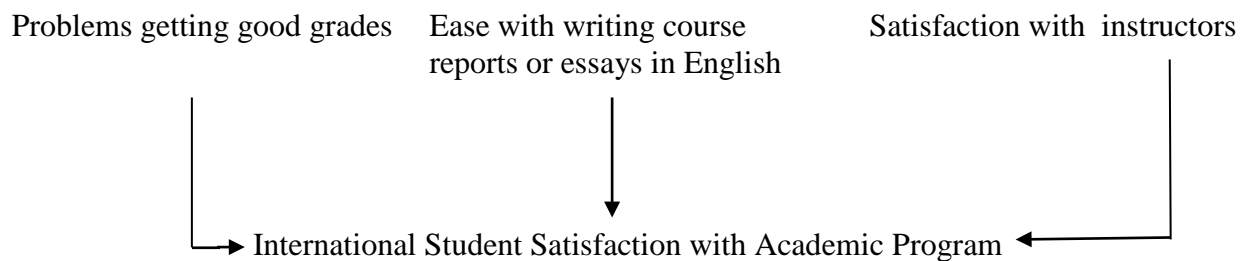
Figures 10 and 11 illustrate the differences for male and female international students. Based on the results of the analysis in the previous section, making friends is a significant predictor of satisfaction for male international students only, whereas "Problems getting good

grades" is significant only for female students.   Satisfaction for both groups is also determined

by "Ease in writing course reports or essays in English," and "Satisfaction with instructors."

Figure 10: Model of International Male Satisfaction with Academic Programs

Problems making friends   Ease with writing course   Satisfaction with instructors
                                 reports or essays in English

Male international student
satisfaction with academic
program
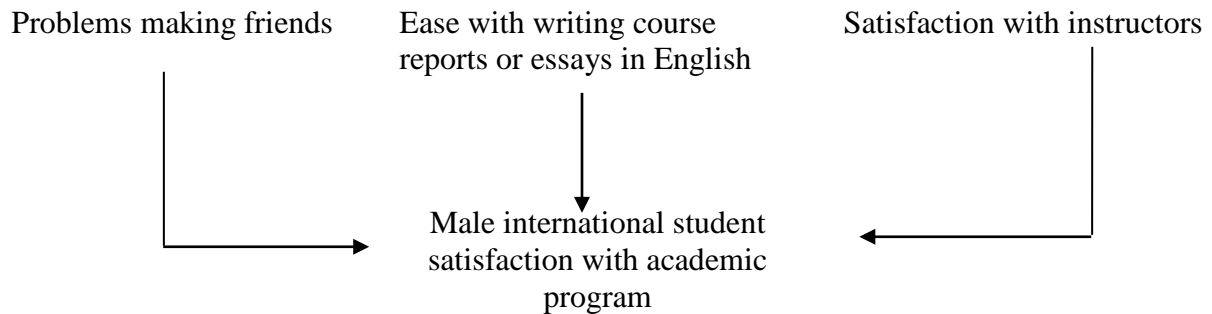
Figure 11: Model of International Female Student Satisfaction with Academic Programs

Problems getting   Ease with writing course   Satisfaction with instructors
good grades   reports or essays in English

Female international student
satisfaction with academic
program
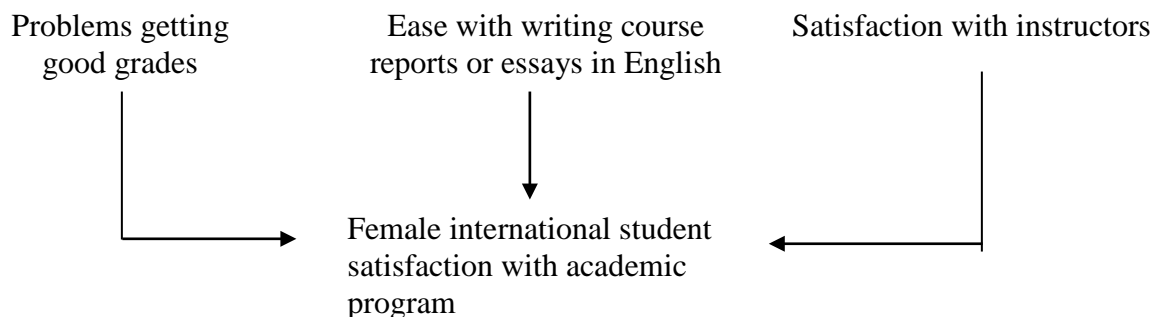
Although male and female domestic students also exhibit some variation, their combined

profile is identical to the profile for all students. One omission that I find interesting is

"Problems handling the workload." Although not explicitly mentioned in the literature I would

have thought that would have been a contributor to student dissatisfaction. The one common

element to all students, and hence of all the models is "Satisfaction with instructors." If a student

tells us that they are very satisfied with their instructors, we can be confident that they will most

likely be satisfied with their academic program.

Satisfaction with Instructors

I have divided the determinants that comprise the conceptual framework for student

satisfaction with instructors into two types. The first type are those that are related to their

instructor, and over which either the instructor or the institution have some control by focusing

policy (such as hiring policy) or practice. The second type are those that are related to the

student and can also be influenced by the institution, through student recruitment and

development and support initiatives. The instructor's teaching techniques or sense of humour is

an example of the former, and the student's self-assessed emotional preparedness for university

is an example of the latter.

Figure 12: Model of Student Satisfaction with Instructors

Instructor Attributes   Student Attributes

Teaching   Subject   Caring about   Emotional   Work habits and
techniques   matter   students   Sense of   preparedness   study skills
               knowledge   humour   for
                                                            university

Satisfaction with
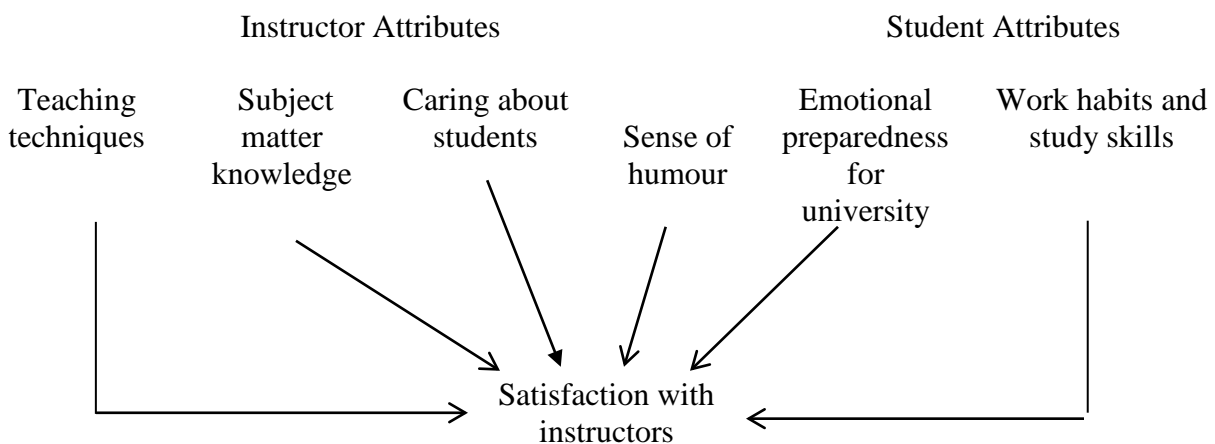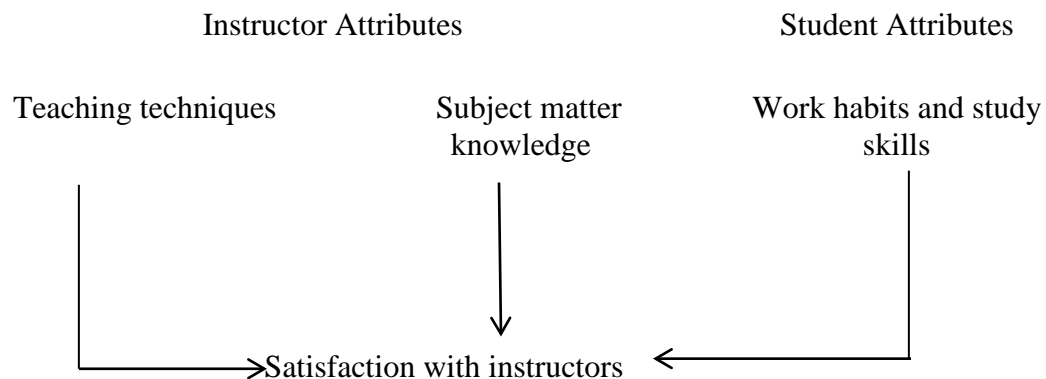instructors

Figure 13 illustrates the model for satisfaction with instructors for international female

students, which is the same as the above model with the exclusion of subject matter knowledge.

The model for domestic female students (not presented here) is identical to Figure 13 with the

addition of "being well organized" as an instructor attribute and neither of the two student

attributes.

Figure 13: Female International Student Satisfaction with Instructors

Instructor Attributes   Student Attributes

Teaching techniques   Caring about students   Sense of humour   Emotional preparedness for university   Work habits and study skills

Satisfaction with instructors
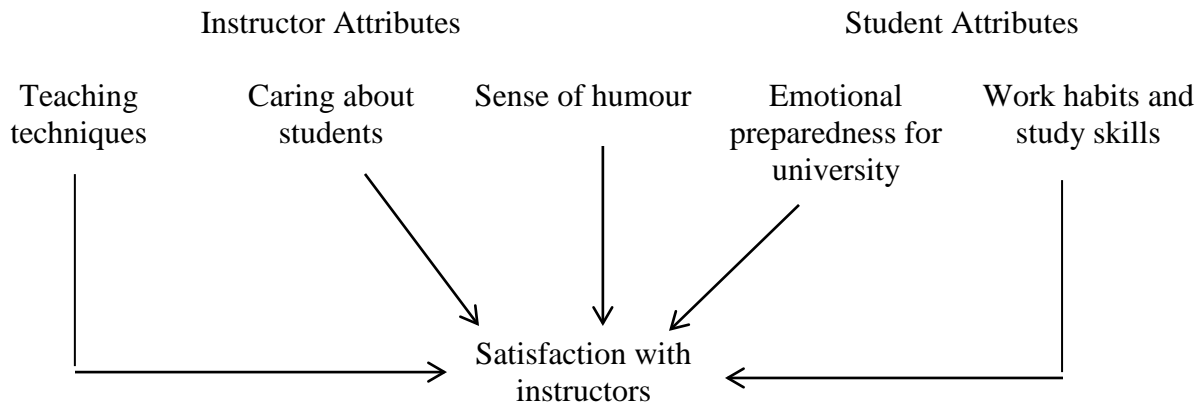
In the case of international male students, the "Caring/feeling attributes" drop off and the determinants are more pragmatic. This model is similar to domestic males with the exception of "Being prepared for university in terms of work habits and study skills."

Figure 14: Male International Student Satisfaction with Instructors

Instructor Attributes   Student Attributes

Teaching techniques   Subject matter knowledge   Work habits and study skills

Satisfaction with instructors

Extended Model of Satisfaction with Academic Programs

Figure 15 illustrates the combination of the model for student satisfaction with instructors and the model for student satisfaction with academic programs. It would be interesting, but out of scope for this paper, to pursue how students construct the other three attributes for Satisfaction with Academic Programs, and the predictive attributes for instructor satisfaction. This would result in an interesting complex, and relevant framework.

Figure 15: Extended Model of Satisfaction with Academic Programs

Instructor Attributes

Student Attributes

Teaching techniques   Subject matter knowledge   Caring about students   Sense of humour   Emotional preparedness for university   Work habits and study skills

Satisfaction with instructors

Problems making friends   Problems getting the course or program that I wanted   Problems getting good grades

Satisfaction with academic program
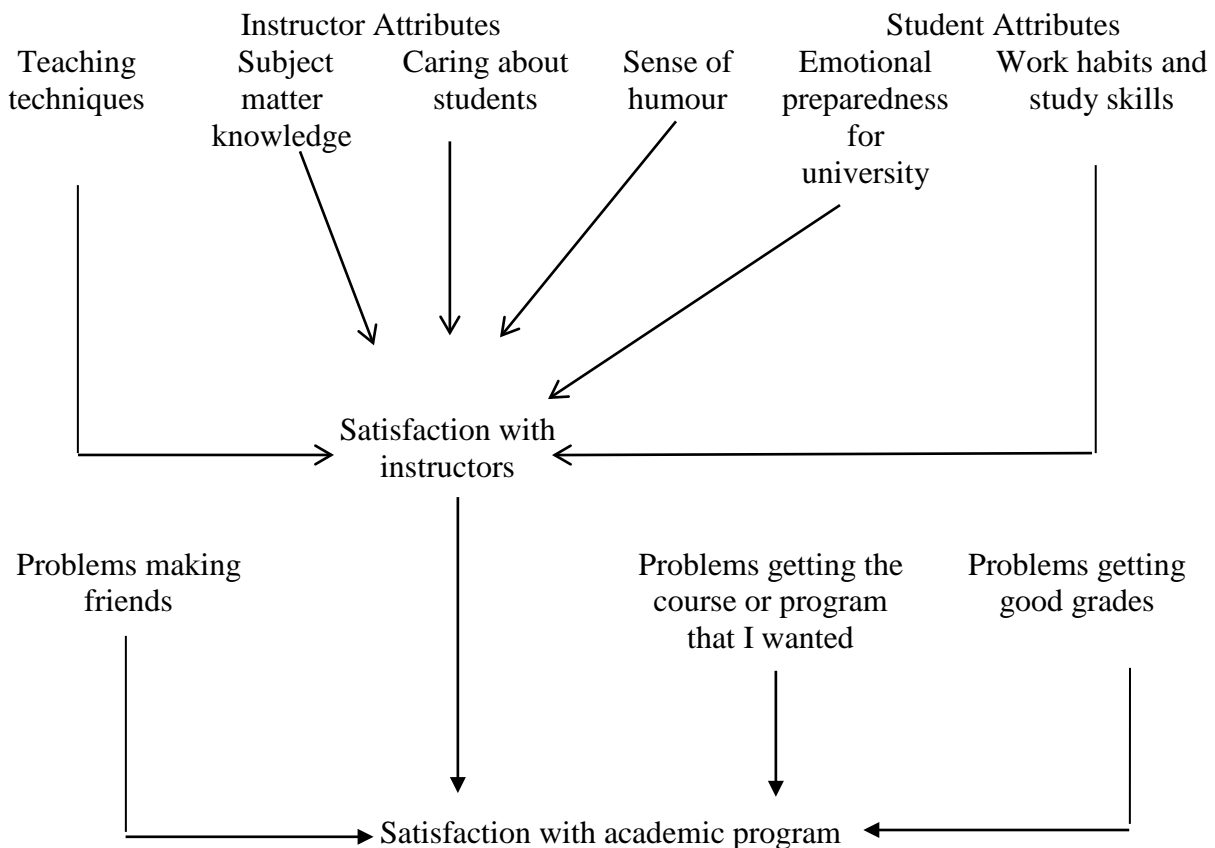
Use of good teaching techniques is a rather subjective measure, as good teaching techniques could be defined differently by different individuals, and also by different experts in the field. However, it is a predictor that seems to have resonated with the study group.

The implications of this model is that we can indirectly influence student satisfaction with their overall academic program by determining how we influence satisfaction with instructors, and that we can influence student satisfaction with instructors in a number of ways.

Assuming this to be the case, then we would expect universities to have a high rate of student satisfaction among first year students if they have a strong development and selection

process for instructors – an emphasis on teaching techniques and as much as on research, and hiring criteria that included emotional intelligence (empathy, humour and the ability to relate to people) as well as pure subject matter knowledge. Since by observation it would seem that a greater percentage of students are female this would affect this population. I would also expect that universities that emphasized students and teaching, as opposed to universities that emphasized the quality of their research programs, to have better overall results for student satisfaction.

Although this model applies only to first year students, I would expect that as students to become more satisfied as they progress through their sophomore, junior and senior years and acquire better work habits and study skills. It would be interesting to do an analysis of students in their freshmen year to see what influences work habits and study skills – if these are traits that are more prevalent among domestic or international students, if students from the private school system have an advantage, or if students in athletic programs, or who hold down part-time jobs while attending school have better study skills and work habits. I would expect that the higher the entering grade point average of a student, the better their work habits and study skills, and the higher their satisfaction with their instructors and their academic program. These students may also experience an easier time getting into the courses or programs they want, and this would also influence their satisfaction with their academic program.

It may be possible that students in residences (or fraternities), or with strong affiliations to university clubs have more friends, and will thus be more satisfied than students who are not. If this is the case I would expect to find "commuter" universities where students have less of an opportunity to form lasting relationships of this sort to have lower student satisfaction than universities with a strong residential aspect, and that actively encourages student participation if

all other aspects of the model were equal. One quality of universities that is not measured here is class size – I would predict that student satisfaction would be higher in cases where class size is smaller, and there is room for more intimate interaction with faculty, and fellow students, which I would assume would lead to more friendships and satisfaction with instructors. If this were true, as classes get smaller from freshmen through to the senior years, and in graduate school, student satisfaction should increase. I would also expect student satisfaction to be higher in smaller universities than larger, more impersonal ones – for example the University of British Columbia Vancouver campus compared to the University of British Columbia Okanagan campus or to a smaller university such as compared to Mount Allison University in New Brunswick.

Faculty was not included in this study but as noted earlier Astin (1993) indicates that students in the Faculty of Education tend to be most satisfied and engineering students least satisfied. Possible reasons for this, if we use our model, could be that instructors in the Education Faculty are able to present themselves as knowing more about their subject matter, and being more caring and tuned in to their students than instructors in Applied Science faculties. I would also assume that instructors in the Education Faculty have access to cutting edge pedagogical techniques, and are more likely to value and use those techniques than an engineer – whose subject matter expertise is another field. It is also possible that there is a larger proportion of international students studying in the applied sciences fields, and this, combined with the other factors discussed could lead to lower satisfaction among students in that faculty.

The tests in the preceding section found that domestic students tend to be more satisfied with their instructors, and perhaps another reasons for this is because perceptions of caring for students and sense of humour differ between cultures. If this were the case, an area for future

research would be to test if international students are more satisfied with international instructors (from similar cultures) than domestic students.

Another variable to consider is the ease with which students are able to enroll in the courses or programs that they would like. Since it is more difficult to get into Applied Science courses it if the model holds true, Applied Science Students should be less satisfied. Again, this is borne out by Astin (1993). It is also possible that first year undergraduate international students also experience more difficulty in getting the programs they want, because of their status and competition from domestic students, and possibly because there is a greater tendency to prefer the applied sciences.

Recommendations and Conclusion

Limitations and Recommendations for Future Research

Limitations

One of the limitations or potential problems with of this study concerns the timeliness of the data. Student attitudes and demographics may have changed since 2003, and because institutions may have enacted programs to address student's needs – improved teaching practices, language training, social programs to promote friendship and camaraderie, increased residential space, other student needs or issues may have surfaced which would make the findings and recommendations dated. It would be interesting and worthwhile to conduct a follow-up survey.

The scope of this paper is a self-imposed limitation. The models of student satisfaction that I have explored only partially explain the phenomenon, and a more extensive analysis would uncover more factors and provide a model that explains more of the variance. There is also an opportunity for more precise mathematical modeling, for a researcher whose abilities and interests are so inclined.

Future Research

The Andres/Grayson study contains a rich database of information – a cohort study that took place for three years, at four different universities. A study on the full data set would shed insight into how student attitudes towards elements of their university experience, such as satisfaction with academic programs, instructors, and other teaching and support staff change over time, and how they change with different universities. These changes could be compared to policy and practice changes at each institution. At the very least the opportunity exists for another researcher to expand the scope of the analysis to include the complete three year cohort.

There is an opportunity for future research into if international students are more satisfied with international instructors (from similar cultures) than domestic instructors.

The results of the focus groups conducted to complement this survey would serve to shed some light on the differences between gender and student types, and more insight on how policy and practice could improve student experience.

The results on student satisfaction show that first year international students differ from their domestic counterparts in that they are less satisfied with their academic program and course instructors. Further research may be conducted to shed more light on the reasons for the differences in satisfaction between domestic and international students, as it is clear that in some areas there are significant differences in the experience of these two groups in a Canadian context. Further research may also uncover differences between ethnic or national groups within the international student population (Gatefield, et al., 1999). It is further recommended that more research be undertaken on the similarities and differences in the causes of satisfaction between male and female students. This research could be conducted with a view to developing policies and practices that would enhance the international student experience and enhance Canada as an option for international students.

More research needs to be conducted on the reasons for the differences in life experiences for female domestic and international students. Are we using the right measures to capture the way international students feel? If we are asking questions based on a North American world view we may be missing an opportunity to create a more fulfilling and satisfying experience for all students.

Recommendations for Institutions

Cross-cultural awareness.

I recommend that cross- cultural awareness building programs be implemented with a view to clarifying expectations and academic outcomes. These programs should be available to faculty, students and staff and would benefit all groups in increasing satisfaction with their roles. As an example, the International House at the University of British Columbia is part of an international organization that serves to support international students in their host institution, and bring domestic and international students together. The presence of an International House on campus is encouraging, but their effectiveness is proportionate to their funding, so while it may seem redundant to recommend an institution that is already present at most universities it is worthwhile to recommend that the scope and effectiveness be examined in light of the needs of the international student community. The end result of a highly effective international house will be satisfied alumni, and the benefits of increased donations and prestige.

Programs for improving English language skills.

International students whose second language is English will also benefit from practical English language skills development as well as the opportunity to practice those skills with domestic students through mentoring or buddy programs. This would have the added benefit of providing an enriched cultural experience for domestic and international participants (Colvin & Jaffar, 2007).

The student experience of both domestic and international students would be enhanced by programs to bring these groups of students together. My personal experience as both a student and staff member at the University of British Columbia is that campus institutions such as

International House can facilitate this exchange of cultures. Cultural awareness building could also extend to university staff.

In the case of international students it is possible to apply research conducted in other countries. For example, for example, it has been demonstrated that programs designed to bring students closer to their domestic counterparts could help relieve the stress. This could be tied to programs to increase fluency in the primary language spoken at the institution (Yeh & Inose, 2003).

Cross-institutional knowledge sharing

Another area of student satisfaction to be explored in future studies are the different satisfaction levels among the universities represented in this study. If one institution is found to have significantly higher levels of satisfaction in certain areas, it may be possible to share contributing policies and practices, although this assumes a level of collaboration between institutions that may not exist in practice, and a homogenous student body with identical requirements between each university.

Conclusion

Scholars have identified student satisfaction as one of the most important outcomes of a student's post- secondary experience. This study has served to identify areas where the experience of international students studying in Canada falls short of or differs from their domestic counterparts: satisfaction with academic programs, course instructors, and contact with university staff. The results also indicate gender differences between male and female domestic and international students.

In this paper I tested three hypotheses:

1. That satisfaction with each of the following areas will be significantly higher for domestic students when compared to international students.

    a. academic programs;

    b. instructors;

    c. contact with Faculty; and

    d. TAs, lab demonstrators, studio technicians, and non-academic staff.

2. That each of the proposed determinants of student satisfaction with academic programs will be equally significant. The determinants used in this study were:

    a. satisfaction with instructors;

    b. ability to get good grades;

    c. fluency in English writing;

    d. the ability to make friends at university;

    e. experiencing financial problems;

    f. problems with school workload;

    g. problems getting into their preferred program, or courses; and

    h. work habits and study skills.

3. That each of these elements will be equally significant in determining student satisfaction with their instructors.

    Elements internal to the instructor

    a. use of good teaching techniques;

    b. knowledge of their subject matter;

    c. responsiveness to the class;

    d. caring about students in the class;

> e. sense of humour; and
>
> f. organizational skills.

Elements internal to the student

> a. student's ability to handle the workload;
>
> b. student's emotional preparedness for university; and
>
> c. students' work habits and study skills.

In the case of the first hypothesis, I found that there were differences in the level of satisfaction between domestic and international students, specifically in the areas of satisfaction with their academic programs, instructors, and staff contacts.

For the second hypothesis I found that not all of the proposed determinants of satisfaction with academic programs are significant, and that different groups of students constructed satisfaction in different ways. The most significant determinant of student satisfaction with their academic program was their satisfaction with their instructors. For international students the ability to write essays and complete course material in English was also a significant determinant.

In the case of satisfaction with instructors, good teaching techniques were found to be the most important universal predictor of satisfaction. Given my example in the beginning of this paper, it would be interesting to survey faculty members to determine how many of them have availed themselves of the resources available for pedagogy. All students except international females seem to appreciate organizational skills. Male students are more likely to be satisfied if the instructors know their subject matter well, while female students place a higher value on a sense of humour and caring attitude.

This study has identified the importance of satisfaction with instructors is in predicting student satisfaction with their academic programs, and the importance of good teaching techniques in determining student satisfaction with their instructors. English language skills are important to academic program satisfaction for international students and the ability to get good grades is a significant determinant of academic program satisfaction for both domestic and international female students, but not male students. Domestic male students are more likely to be satisfied with their academic program if they had little problem getting into the program that they wanted.

It appears that we do not fully understand differences between male and female international students, and domestic and international female students. It may be that we are asking questions from a North American framework, and that this framework works in highlighting differences among domestic and international students. Ideas for policy and practice have been discussed in the literature, and I have made preliminary recommendations based on this research, and the results of this analysis. In addition to these recommendations, it is my opinion that before any further policy and practice decisions are made, more research needs to be conducted. A starting place would be a further exploration of the data collected during the Andres/Grayson study to develop a model that would explain more of the variance in student satisfaction, and to explore the differences in domestic and international male and female attitudes and beliefs. It is not surprising that the groups are not homogenous, but the next level of exploration should be to shed some light on why the differences exist, and how those differences can further inform policy and practice.

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APPENDICES

Appendix A: Satisfaction with Academic Program Correlation Matrix

Variables	Satisfaction with academic program at this university?	Problems making friends at university.	Problems getting enough money to meet the expenses involved in attending university.	Problems handling the work load.	Problems getting good grades.	Problems getting into the courses or program that I wanted.	I was prepared for university in terms of work habits and study skills.	It is easy for me to write course essays or reports in English.	How satisfied are you with the instructors in the courses in which you are currently enrolled	β	Sig.
All things considered, how satisfied or dissatisfied are you with your academic program at this university?											
Problems making friends at university.	.165									.089	**.000**
Problems getting enough money to meet the expenses involved in attending university	.072	.104								-.022	.354
Problems handling the work load.	.251	.214	.296							-.006	.848
Problems getting good grades.	.290	.189	.264	.664						.124	**.000**
Getting into the courses or program that I wanted.	.223	.185	.217	.288	.337					.090	**.000**
I was prepared for university in terms of work habits and study skills.	.185	.112	.180	.422	.420	.189				.006	.799
It is easy for me to write course essays or reports in English.	.058	.182	.086	.126	.151	.100	.169			.038	.115
How satisfied are you with the instructors in the courses in which you are currently enrolled.	.507	.080	.073	.258	.271	.171	.161	.059		.474	**.000**
Means	3.84	3.68	3.15	3.01	2.84.	3.65	3.22	4.25	3.82		
Standard deviation	.923	1.188	1.364	1.087	1.146	1.334	1.323	1.217	.832		

Appendix B: Satisfaction with Instructors: Correlation Matrix

Variables	How satisfied are you with the instructors in the courses in which you are currently enrolled.	Use good teaching techniques (e.g., go at the right speed, use good examples).	What percentage of your instructors know their subject matter well.	What percentage of your instructors are responsive to the class.	Percentage of instructors who care about students in the class	Percentage of instructors who have a sense of humour.	Percentage of instructors well organized.	Problems handling the work load.	Problems getting good grades.	I was emotionally prepared for university.	I was prepared for university in terms of work habits and study skills.	β	Sig.
How satisfied are you with the instructors in the courses in which you are currently enrolled.													
Use good teaching techniques (e.g., go at the right speed, use good examples).	.555											.307	**.000**
What percentage of your instructors know their subject matter well.	.373	.431										.069	**.004**
What percentage of your instructors are responsive to the class.	.413	.495	.414									.029	.298
Care about students in the class	.454	.516	.352	.615								.110.	**.000**
Have a sense of humour.	.440	.488	.354	.479	.539							.107	**.000**
Instructors are well organized.	.448	.462	.420	.423	.392	.434						.158	**.000**
Problems handling the work load	.226	.249	.135	.153	.211	.151	.182					.040	.161
Problems getting good grades.	.237	.283	.121	.170	.221	.179	.161	.682				.039	.171
I was emotionally prepared for university.	.177	.151	.088	.133	.196	.120	.072	.304	.306			.076	**.001**
I was prepared for university in terms of work habits and study skill.	.110	.194	.045	.080	.143	.116	.055	.401	.414	.454		-.016	**.013**
Mean	3.78	3.27	4.10	3.71	3.33	3.31	3.68	3.06	2.83	3.69	3.29		
Standard Deviation	.848	.869	.752	.900	1.032	1.061	.851	1.103	1.59	1.337	1.312		