

Understanding the Reasons for Student Success in University: A Review of the Literature

Discussion Paper One: The Entering Characteristics of “Traditional” Students

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PART I
STUDENTS' ENTERING CHARACTERISTICS

Why are some students successful in university? Why do others leave university before graduating? Why do some students report high degrees of satisfaction during their university years? Why are others disappointed? These, and similar questions, are being asked across North America by university professors and administrators as they grapple with high levels of student attrition rates and unsatisfactory graduate rates.

The great majority of our own students, in provincial and national surveys, say they are satisfied with their UCFV experience. Our retention rates are reasonably high, higher than many universities in British Columbia and Canada. And we know how well so many of our graduates do after they leave us. But over 24% on average do not progress from first to second year studies. Our application numbers have softened over the past two years. We sometimes hear anecdotal stories from our students and their high school counselors about why students leave during their first semester of study. What could we do to reduce our attrition rates? What could we do to reverse the albeit short-term, negative trends in student application numbers?

We have never settled for just good enough here. We do some things better than many other institutions and we are rightfully proud of all that is good at UCFV. And we have always aspired to be the best we can be.

To that end, we are asking questions, many more than those listed in the paragraphs above; questions about student recruitment, admission, transition, persistence, and success. To assist us in this institution-wise exercise, we have prepared two discussion papers. This one, the first, focuses on Student Entering Characteristics of Traditional Students, or that is, the characteristics of those students who choose to come to our university directly from high school. This group of students constitutes approximately 60% of

our student population. The second, to follow at a later date, focuses on Conditions for Success, or that is, what happens when they are here with us?

Our university is committed to access. In one respect, that means, we are less selective in our admissions policy and practice than some other universities that are more selective in the characteristics of students admitted. The primary, most generally accepted selection criterion applied in Canadian public universities is student entering grade point average, or GPA. That is, the more selective, or the more narrow the degree of access, the higher the entering student GPA. According to the research literature, selectivity and student persistence are highly correlated, therefore universities that are more selective, that is, admit more academically-prepared students, generally have higher rates of student success (Saupe, Smith, and Xin, 1999). And universities with greater access, generally, have lower rates of student success. Higher rates of students' success is only one consequence of wider access as opposed to greater selectivity.

Universities committed to wider access generally use a more varied and diverse set of criteria for admission, including assessments of prior learning, student interviews and letters of reference, entrance tests of language and mathematics abilities, and preparatory, transition, and other types of learning pathways to academic programs. That results in access oriented universities having what are perceived to be and what actually are more complicated admission procedures than those institutions that are more selective. This is a second consequence for universities committed to wider student access.

The third consequence becomes apparent when the universities change admission policies and practices. More selective institutions simply, and usually more quickly, lower admission requirements. Wider access institutions also do so, but additionally they have to change all those other admission policies and practices that are entailed in admitting students on the basis of experiences and competencies not as easily measured by the usual secondary school tests and represented by grades and grade point averages.

The fourth consequence, which is the focus of this discussion paper, is that access committed universities admit greater number of students whose entering characteristics put them at greater risk of not experiencing success, becoming dissatisfied, not persisting in their studies, and eventually dropping out altogether.

The challenges faced by universities committed to greater access and those committed to greater selectivity are similar and different, both in kind and degree. That suggests that the admission challenges faced by, say, The University of British Columbia, are similar and different than ours, both in kind and degree. The responses to the challenges necessarily then are similar and different. Access and selective institutions can learn from each other. But some of the lessons to be learned and the practices to be employed will be different, both in kind and degree.

It is critically important, therefore, that we understand what our common and unique challenges are and what strategies are appropriate in what circumstances. In other words what UBC does may not work for us in many situations. Our experience helped us develop a good understanding of what many of our challenges are and much of what we do addresses them well. But is there more we can learn? Is there more we can do? All of us, across our university, have answered. Yes.

Our objective in this first discussion paper is to assist us as we answer this big question about what matters to student success by reviewing approximately three decades of the work by researchers who asked this question. The majority of this research was conducted in the United States. Fortunately, more Canadian researchers are addressing this question, although most contemporary studies are of a general survey type.

We examined both American and Canadian published reports, articles, and books in preparing this paper and were careful to recognize the limitations of American findings applied to the Canadian context. What we focused on were the entering characteristics of students who chose to study at universities dedicated to wider access, entering characteristics that have the potential to put the students at risk of not choosing

to attend university or not persisting and succeeding in their university studies. Seven generalized entering characteristics of students emerge out of the research, some of which put the students at a greater risk of not persisting and not experiencing success in their university programs. Before we list them, it is important to understand that none is mutually exclusive of any other, and in most cases, all characteristics interact in ways unique to each student.

SEVEN ENTERING CHARACTERISTICS
THAT HAVE THE POTENTIAL TO PUT STUDENTS AT RISK

1. Demographics
2. Employment
3. Family and Teacher Support
4. First-Generation
5. Motivation to Learn
6. Academic Preparation
7. Expectations for University

What follows is a brief commentary on each entering characteristics. Please note that we represent these characteristics in point rather than in prose form.

1. DEMOGRAPHICS

Gender:

- Women have higher rates of persistence and success at graduation.
- Women outperform men (as compared to 1972, which was a tipping point year), in academic preparation as measured by grades and test scores and in their participation in specialized university preparation courses.

Ethnicity:

- Minority populations, in particular Aboriginal populations, have considerably lower participation rates (and have considerably lower secondary school graduation rates).

Socio-economic status:

- Women and men from working and poor economic situations (at or below the national poverty level) have lower participation rates.

Note: American researchers Hamrick and Stage, in 2004, discovered this factor has significance as early as grade eight in terms of shaping parental and students' expectations about enrolment in university.

- The converse also holds: the higher the socio-economic status, the greater the likelihood of participation, persistence, and success. In higher socio-economic environments, students have more and varied resources in their home lives, such as books, computers, field and travel experiences, that better prepare them in terms of (necessary) educative experiences and personal expectations for university.

Note: In lower socio-economic situations, students in greater numbers choose to work, as evidenced in university and college participation rates, but the choices they make later about university participation is a matter not well researched or understood.

Note: The numbers of students enrolled in university requiring financial aid increasingly is commensurate with the rising costs of university participation. Open access institutions typically have a higher percentage of students who require financial aid because of the greater percentage of the student body coming from lower socio-economic conditions. Hence, open access institutions typically dedicate a higher percentage of student financial aid in their budgets than do more selective entry institutions. Financial aid can take many forms, from grants, loans, work study, or cooperative learning. It is of interest to note that, in the American experience, loans were more effective with students from the majority white rather than from minority students.

2. EMPLOYMENT

- Higher percentages of students from lower socio-economic conditions work while they study, enroll in reduced course loads, and study part-time. The research offers three important lessons:

- The more time students worked, the more likely they reported that employment limited class schedules, reduced choices of classes, and limited number of courses taken (Heller, 2002).
- Those who worked 35 hours or more while enrolled at least half-time were more likely to report all the above negative effects on persistence and success (Heller, 2002).
- However, a modest amount of work correlated positively with higher rates of persistence and success for students enrolled full-time (Heller, 2002; Murdock, 1990; Pascarella et al, 1998).

Note: Murdock's findings on integration are interesting. The research focuses on two major factors (or variables, depending on the methodology used) – persistence and success (academic primarily). However, it makes sense that a student's integration into what could be called “student life” is crucial to both their persistence and ultimate success. Hence, the current focus in the research on what is called “engagement” which includes the quality of student life as well as the quality of student learning.

3. FAMILY AND TEACHER SUPPORT

- Students' predispositions about university are shaped as early as grade eight by their parents. Of note, in minority populations in the United States, white females in low socio-economic situations were more likely to have parents who expected that they attend university (Hamrick and Stage, 2004; King, 2000). However, across all groupings of students, parental expectations are the strongest predictors of university participation and grades in the first year (Naumann, Bandalos, and Gutkin, 2003).
- Parents' education levels and their educational aspirations for their children affect their children's personal aspirations to further education (Hamrick and Stage, 2004). This is especially important for all students from low socio-economic conditions, but does vary across students' ethnicity and gender. For example, women are more influenced by their parents' aspirations.

- Teachers' expectations influence students' aspirations to attend university, especially for first-generation and minority students. American research studies have shown that secondary school teachers may diminish their aspirations because their teachers' expectations were lower than those of parents and students themselves. According to the US Department of Education, 2004, many teachers believe that certain groups of students are limited in their ability to learn generally and specific subjects in particular.

Note: Peers influence students' persistence once the students are enrolled in university but do not significantly shape their expectations or choices prior to enrolling in university (Perna and Titus, 2005; Bank, Slavings, and Biddle, 1990).

4. **FIRST-GENERATION**

- Approximately one-third of students attending university are their families' first generation to continue their education after high school. According to American studies (National Survey of Student Engagement, 2005), first-generation students are more likely to be female, to be older, to have lower incomes, to be married, and to have dependents compared to second or beyond generation students (Nunez and Cuccaro-Alamin, 1998). Minority students are disproportionately represented among first-generation students in the USA.
- First-generation students have lower rates of persistence and success (Baum and Payea, 2004). For example, in the USA in 1996, 45 percent of potential first-generation students enrolled in post-secondary education, compared with 85 percent of students who were second or beyond generation students (Choy, 1999).
- First-generation students according to the High School Survey of Student Engagement, 1995 and Terenzini et al, 1996:
 - Are less likely to take advanced mathematics, or other advanced placement courses;
 - Are less knowledgeable about application procedures, entrance requirements, financial aid options;
 - Are less academically successful in secondary school;
 - Are less successful in standard tests of academic ability and scholastic ability;

- Are more likely to enroll part-time;
 - Are twice as likely to take remedial courses (Warburton, Bugarin, and Nunez, 2001);
 - Are more likely to attend college than university;
 - Have lower educational aspirations;
 - Have less efficient time management and study skills;
 - Have weaker family and peer support for their post-secondary aspirations;
 - Are less knowledgeable about universities;
 - Are less experienced in “navigating” the complexities of modern bureaucratic organizations (Attinasi, 1989; London, 1989; York-Anderson and Bowman, 1991).
- In the USA, second or more generation students are five times more likely to succeed at the undergraduate level than first-generation students (Pascarella and Terenzini, 2005).
 - American researchers also found that first-generation students are more likely to drop out or to stop out for a period of time (Warburton, Bugarin, and Nunez, 2001).

5. **MOTIVATION TO LEARN**

- First-generation students are more motivated to become well-off financially. They are therefore more influenced by financial-aid options.
- First-generation students are more influenced by their perceptions of the amount of out-of-class work and other activities necessary for persistence and success. If they believe the workloads are demanding or high, they are less likely to attend university.
- First-generation students are more concerned about living at home and being able to integrate work with study.
- For all students, as Perna and Titus put it in 2005, aspirations and motivation foreshadow student success. As early as grade eight, students motivation to learn and their future education aspirations are predictors of subsequent university participation (Swail, Cabrera, Lee, and Williams, 2005).

6.

ACADEMIC PREPARATION

- The quality of the academic experience and intensity of the secondary school curriculum are predictors of students' decision to participate, persist and succeed in university. This is respective of gender and socio-economic circumstance and ethnicity, and even whether the student is first or second or more generation. There is so much research here we will not isolate particular studies, except to note two findings:
 - High school grades are the strongest predictors of success in first year university. Pike and Saupe, 2002, found that grades account for 25 to 33 percent of variance. 87 percent of students who complete four years of math, science, and English succeed in university, compared with 62 percent who have less than this (Adelman, 1999; Warburton, Bugarin, and Nunez, 2001).
 - Completion of high-level mathematics (algebra, pre-calculus, calculus, and trigonometry) is the single most powerful predictor of success in university (Adelman, 1999; 2006).

7. EXPECTATIONS FOR UNIVERSITY

- Matching university policies and practices with students' entering expectations is crucial for student persistence and success (Miller et al, 2005; Braxton, Vesper, and Hossler, 1995).
- Many students enter university with what Schilling and Schilling (1999) refer to as uniformed expectations, and these uniformed expectations diverge substantially from those of the university faculty.
- Substantial numbers of students of traditional age enroll in university, as Kuh and his colleagues (2007) put it, disengaged from the learning process.
- Behavior patterns associated with learning are established in elementary and secondary schools and tend to persist into and through university (Schilling and Schilling, 1999).

Note: According to the National Survey of Student Engagement (2005) in the US, 70 percent of university students report working just hard enough to get by.

- First-generation students' expectations for university are less reliable in terms of predicting what university living and learning are like because they have less tacit knowledge about universities. Expectations off the mark, as it were, result in students being less well prepared for the actualities they encounter and more reticent to seek assistance to address challenges. Mismatches between what students expect of university and what the university expects of them become filters through which students fail to understand the nuances and complexities of university learning, or fail to choose activities that are worthwhile in terms of appropriateness, meaningfulness, and relevance (Bandura, 1982; Snyder and Swann, 1978).
- Students whose expectations are more consistent with university expectations seem to be more likely to become involved in wider ranges of activities in university learning and living. They will opt more readily for research opportunities, coop learning experiences for example. They will participate in clubs, write for the newspaper, participate in intramural sports, socialize in the cafes, and participate in informal social gatherings. This appears to be respective of gender, ethnicity, socio-economic background, and first generation status. However, the research here is less developed. So the research question to be pursued is generally something like this: what is the character of the relationship between what students expect, what they put into, and what they get out of their university experience? To this question, a few answers are emerging. First-generation students' expectations are less aligned than traditional students (Braxton, Vesper, and Hossler, 1995). What all students actually do in their first year of study falls short of what they expected, of themselves and of the university (Kuh, 1999; Kuh, Gonyea, and Williams, 2005). For example, in the USA, about two-thirds of students believe and hope they will become acquainted with students from different ethnic backgrounds, but only 42 percent actually report doing so. For another example, 94 percent of American students expect to ask their professors about their performance but less than two-thirds actually do. Almost 70 percent expect to socialize, at least occasionally, with their professors but only 54 percent do so (Kuh et al, 2007). Women expect to engage in more purposeful educational activities than men. And they do. The exception is in recreational sports and science-related activities. And students at smaller,

selective universities have higher expectations in all these matters, and they report being more involved in more activities during their university experiences.

These entering characteristics serve to explain the behavior of secondary school students' who are directly admitted to university. This type of student is often referred to as the "traditional student". However, increasingly students "stop out" before university, choosing instead to work, or perhaps to travel or engage in volunteer service. Unfortunately, stopping-out increases time-to-degree completion of course, but also reduces the likelihood of degree completion (Pascarella and Terenzini, 2005; Guerin, 1997). These "non-traditional" students who stop out have entering characteristics (personal qualities and circumstances) potentially significantly different from those who continue seamlessly from secondary school to university. These "non-traditional" students, their characteristics and their behavior in university, in terms of their success in university, warrant serious study.

Once students start university, traditional and non-traditional, another key factor in their success is what has come to be called "student engagement". Although this is not the topic for this discussion paper, suffice it to say that there are seven categories of effective educational practices that directly influence students' persistence, success and ultimately graduation. They are: student-faculty contact; cooperation among students; active learning; prompt feedback; time on task; high expectations; and respect for diverse talents and ways of learning. In brief, the more students engage in these kinds of activities, the more they learn and the more likely they will persist and graduate from university. And, it is important to note, especially for wider access institutions, one of the most reassuring lessons from this body of research on student engagement is that the quality of the students' first year experiences in university are better predictors of success and graduation than are students' entering characteristics.

PART II

In this part of the discussion paper, we engage in a more robust commentary on the entering characteristics of our own students. We are guided by the following questions: How do the seven risk factors identified in the literature impact our university? Specifically, is the Fraser Valley's university-age population at a higher risk of not participating in post-secondary education? Do UCFV students have a greater chance of not completing their education because they manifest more of the risk factors?

We look at the relevant surveys/reports to answer these questions. Our main sources of information are: Canadian University Survey Consortium (CUSC) 2007 "*Survey of First Year Students*"; UCFV's "*High School Survey 2004*"; UCFV's "*Fall 2005 Applicant Survey*", and Association of Canadian Community Colleges "*Pan-Canadian Study of First Year College Students*". The Tables and Charts from these reports are presented in Annex 1 (Supporting Data Tables). We have summarized our assessment of the seven key risk characteristics into a matrix in Annex 2.

We have used the CUSC 2007 survey extensively because this is the most recent and relevant source of information on the entry-level characteristics of our students. It is also a comprehensive survey that allows us to compare UCFV's with other post secondary education institutions (PSEIs) on all dimensions on which students were surveyed. However, it should be noted that the CUSC 2007 survey only focused on students that entered UCFV immediately after high school graduation (direct-entry) students or those who were out of school for one year (one-year-out) (See Table 1). Since defining a first-year student is more difficult in the context of colleges or university-colleges, the above definition of first-year students was used in the CUSC survey. Therefore, in most instances, we would not be fully capturing the characteristics of "mature" first year students or those who entered UCFV more than one year after graduating from high school. The research evidence suggests that this latter group may be at a higher risk of dropping out or not completing their education (Pascarella and Terenzini, 2005). Hence, in our analysis perhaps we *underestimate* the risk that entry-level UCFV students may face. This important caveat has to be kept in mind in assessing our findings.

1. **DEMOGRAPHICS**

Gender and Age:

The demographic characteristics of UCFV entering students are quite similar to that of first year students in other post secondary education institutions (PSEI) in Canada (See Table 2). In 2007, 60% of the First Year UCFV students were female. Similarly 63% of the respondents in the UCFV Applicant Survey 2005 were female. These ratios are well within the ranges reported by other PSEI in Canada. A recent Statistics Canada report indicates that in 2004-05, 58% of Canadian university students were women, and as early as 8th grade girls are out-performing boys in terms of grades, standardized test scores and homework habits.

According to the CUSC survey the average age of direct-entry and one-year out students who were enrolled in UCFV in 2007 was 18.2 years, within the age ranges in other PSEIs. UCFV had a higher share of entering students who were 19 years (16%) compared to other PSEI (13%) and a slightly lower share of those students who were 18 years or less (68%) compared to other PSEI (73%).

Note: Thus in terms of gender and age, the direct entry or one-year out first year students at UCFV may not be at a greater risk compared to other PSEI in Canada.

Ethnicity:

UCFV direct entry or one-year out students are not significantly dissimilar in terms of other PSE students who self-declare to be visible minorities or Aboriginal. Only 3% of UCFV first year students declared themselves to be Aboriginal compared to 4% first year students in other PSEIs. 14% of the UCFV students self-declared themselves as visible minorities compared to an average of 18% in other PSEI. These ratios were 19-21% in mid-sized and larger PSEI that were surveyed by CUSC. Students who indicated that English was their first language were also higher at UCFV (78%) compared to the average of other PSEI in the CUSC survey. These percentages

are corroborated in other surveys for UCFV. For instance almost 77% of respondents in the Fall 2005 Applicant indicated that English was the main language spoken at home.

Note: It seems that the risk factors associated with belonging to ethnic minorities or Aboriginal groups is not visibly higher at UCFV compared to other PSEI in Canada.

Socio-economic status:

The Fraser Valley has a lower socio-economic status compared to the British Columbia as a whole. In terms of incomes, in 2000, the average annual income in the Fraser Valley was 57.5K relative to 64.8K in BC; 23% of the households in the Fraser Valley earned less than the median income compared to 21% in BC; and the percentage of households earning 80K was 7% lower in the Valley compared 28% of families in BC¹.

In terms of social indicators, the Fraser Valley also shows lower status compared to BC as a whole. According to the 2001 Population Census 23.4% of the Fraser Valley population between the ages of 25-54 did not complete high school versus 17.2% in the rest of BC; 51% of the Fraser Valley residents in the same age group did not complete any type of post-secondary education compared to 42% in the rest of BC. In terms of health indicators, life expectancy at birth (taking the average of 2002-06) in the Fraser Valley is one year lower than the 80.9 years in BC.

Although infant mortality rates in the Fraser Valley were slightly lower compared to average rates for BC, the region ranks higher in terms of other indicators of health such as hospitalization rates, mental illness and teen pregnancies.

Note: Socio-economic indicators show that the Fraser Valley is relatively poorer, less well-educated formally and somewhat less healthy as compared to the rest of BC. Hence the risk factors associated with lower socio-economic status are significant for entering UCFV students who predominantly come from the Fraser Valley.

¹ Retrieved from: http://www.bcstats.gov.bc.ca.db.bcpl.gov.bc.ca/data/sep/rd/Rd_9.pdf

2. **EMPLOYMENT**

Working Students:

Balancing studies with jobs seems to be a constant juggling act for first year UCFV students. Almost 70% of the direct entry or one-year out students in the CUSC 2007 survey indicated that they are currently employed, largely in off-campus employment. In comparison the ratio of employed first year students was only 40% in other PSEI surveyed by CUSC (see Table 3). Compared to 37% of the students who indicated that they were not seeking work in other PSEI surveyed in CUSC, only 12% first-year UCFV students were in this category at UCFV.

Hours of Work:

The literature suggest that moderate amount of work is good for students but employment in excess of 35 hours/week is a critical determinant of high drop-out rates, low retention and completion rates. According to the CUSC survey the average number of hours of current employment for UCFV first year students was 20 hours/week compared to 15 hours/week in other PSEIs (see Table 3). A much higher proportion (13%) of UCFV students stated that they were working over 30 hrs/week while studying compared to students in other PSEIs (4%). Another 25% of the UCFV first year students indicated working 21-30 hrs/wk compared to only 15% students working these many hours in other PSEI.

Note: Working while studying seems is an important risk factor for UCFV students. According to students' own assessment, non-Coop related employment had a moderate to substantial negative impact on their academic performance; 32% of first-year UCFV students stated this to be so, compared to only 23% in other PSEIs in Canada.

3. **FAMILY AND TEACHER SUPPORT**

Parents' Expectations:

This factor is presumably one of the most important determinants of post-secondary participation globally, and also in Canada. In the 2004 UCFV's High School Survey, 93% high school students in the Fraser valley stated that parents' opinions and expectation are important for joining a post-secondary education institution. In the CUSC 2007 survey 13% of the first-year students indicated that parents wanted them to attend where they were studying.

Parents' Education:

As we have discussed above, the Fraser Valley has relatively lower proportions of individuals in the 25-54 age group who completed a post-secondary education compared to the rest of BC. These trends are confirmed in the 2007 CUSC and the 2004 High School surveys. According to the 2007 CUSC survey, only 25% of fathers and 22% of mothers of UCFV's first year students were university graduates/ professionals; these ratios were 10% lower, respectively, for parent's education levels in other PSEIs (see Table 4). Even by using a much broader definition of post-secondary education², we find that only 46% of parents of UCFV's first year students compared to 59% of parents of other PSEIs have these levels of education. In the 2004 High School survey respondents indicated that 43% of the fathers and 41% of the mothers did not attend a post-secondary institution (Chart 1).

4. FIRST-GENERATION

With about half the population (25-54 years) without any post-secondary education credentials in the Fraser Valley³, it is quite clear that most students at UCFV are first generation students. This is also seen in the relatively lower levels of parents' education coming out of the UCFV surveys and other statistics discussed above.

Note: Lower socio-economic background, higher levels of current employment, and the fact that a high proportion of UCFV students are first-generation, implies that entry-level risk factors for

² Including "some post-secondary", "college/technical/trade school", and "university graduate/professional" levels of education.

³ According to the 2001 Census: Source BC Stats: http://www.bcstats.gov.bc.ca.db.bcpl.gov.bc.ca/data/sep/rd/Rd_9.pdf

UCFV students are relatively higher compared to the more affluent parts of BC and relative to students in other PSEIs in Canada.

5. **MOTIVATION TO LEARN**

Financial Concerns:

A large numbers of entry-level UCFV students indicate financial reasons, such a “preparing for a career or job” to be the most important reason to attend university (Table 5). Another indication of the importance of financial issues is seen in the motivation to attend UCFV. In a number of surveys, lower tuition fees stands out as one of the top reasons for choosing UCFV. For instance, 73% of the respondents in the 2005 Fall Applicant survey said that (lower) tuition fees was an important reason to choose UCFV. In the CUSC survey 54% of the first year UCFV students stated that a very important consideration to attend the current university was lower fees compared to only 25% first year students who thought this reason was important in their choice of other PSEIs. Interestingly for UCFV students, factors such as the reputation of the schools, or UCFV’s ability to offer financial assistance came out to be less important for the first year students (Table 6).

Being first generation students who are on average from relatively less off socio-economic backgrounds compared to the average for BC, most UCFV first-year students finance their education from their own savings, or current employment compared to other PSEIs in Canada. The proportion of UCFV students who indicate that their education is being financed by parents/relatives, university scholarships, summer jobs, government loans or bursaries and RECPs is relatively lower according to the CUSC survey (Table 7).

Presumably because students choose UCFV for its lower fees structure, and use more of own savings and/or current income to finance their education, their level of concern about financing their education is either similar or somewhat lower than students in other PSEIs (Table 8).

Integrating Home Life with Studies:

Many first generation students particularly those from lower socio-economic background want to lower the costs of post-secondary education by living at home. UCFV's location in the Fraser Valley is an important consideration for students from this area to choose it. In the Fall 2005 Applicant survey the top reason for choosing UCFV was the "convenient location" i.e. presumably its location close to home. Similarly in the CUSC 2007 survey of first year students, 62% of the students indicate that being closer to home was an important consideration in their choice of UCFV. This was almost twice the percentage who gave this as the reasoning other PSEIs in Canada. (Tables 9 and 10).

Formation of Motivation:

The US literature indicates that student start making decision regarding participating in post-secondary education as early as 8th grade. This is also coming out in the Canadian studies. The recent Statistics Canada study on gaps between girls and boys in their post secondary participation also indicates that girls by the age of 15 show more motivation and preparation for post-secondary compared to boys.⁴ The 2004 High School survey shows that students who responded that education is either very important (63%) or somewhat important (18%) also indicated that they wanted to pursue formal education.

6. ACADEMIC PREPARATION

Secondary School Curriculum:

The 2004 High School survey points out that many Fraser Valley students are not prepared or aware of what is required to go on to further education. A 2004 BC Ministry of Education survey⁵ shows that only about ½ of the students in grades 10 and 12 in school districts of Abbotsford, Chilliwack and Mission felt that they were being prepared for post secondary education. The other half felt that they were being prepared either "sometimes", "a few times" or "not at all". The UCFV high School survey showed that only 28% of the students feel that they were "fully aware" of course that they need to take to prepare for PSEI, another 41% felt that they were "fairly aware

⁴ Frenette and Zeman: <http://www.statcan.ca/english/research/11F0019MIE/11F0019MIE2007303.pdf>

⁵ Quoted in the UCFV 2004 High School Survey.

but not completely aware” and 27% were either “not aware” or “completely unaware”. These groups included students who were getting advised and also those not getting advised. Hence, the results show that a sizable number of students in high schools in the Fraser Valley were not getting the information that they needed to prepare for post-secondary education.

High School Grades:

High school grades are a key indicator of student success in post-secondary education. In this regard high school students in the Fraser Valley generally fare less well compared to the average for the province. According to BC Stats, the grade 12 provincial exam non-completion rates for Fraser Valley students during 2003/04 to 2005/06 were much higher than the average for BC. 74% of the Fraser Valley 12th graders were not able to complete their Math exams compared to 68% in BC. The non-completion ratios for 12th graders in the Fraser Valley were 86% for Chemistry and almost 40% for English versus 79% and 34%, respectively, in BC.⁶

In the 2007 CUSC survey the average grade of UCFV students was slightly lower 5.6 compared to students from other PSEI (5.9). However, only 29% of UCFV first year students declared that they were A+ or A students in high school compared to 41% in other PSEIs. Furthermore, the percentage of UCFV first year students who indicated their average high school grades to be C+ or lower was higher (7%) compared to other PSEIs (<3%) (Table 11).

Completion of High School Math:

This is perhaps the most important indicator of student success in post-secondary education, not for the intrinsic knowledge of Math per se but the analytical and problem-solving skills that are associated with taking Math. As discussed above, Fraser Valley non-completion rate for 12th grade Math in the provincial exams is substantially higher than for BC. The non-completion rate for grade 10 Math in provincial exams during 2004/05 to 2005/06 in the Fraser Valley was also substantially higher (at 47.6%) compared to BC (40.5%).

⁶ Source BC Stats: http://www.bcstats.gov.bc.ca.db.bcpl.gov.bc.ca/data/sep/rd/Rd_9.pdf

To summarize: UCFV entry-level students seem to be at a higher risk because of poorer academic preparation, high school grades, and non-completion of Math among the region's high school graduates.

7. EXPECTATIONS FOR UNIVERSITY

Formulation of Expectations:

A good match between the university's policies and practices and entering student's expectations is an important factor of persistence and success. The motivation to attend and formulation of expectations by entering students of UCFV seems to be quite realistic. The available data suggests that compared to other PSEIs entering students at UCFV are primarily motivated: a) on personal grounds by its proximity to their homes (Tables 9); b) in terms of university programs and services to UCFV's career-related programs and c) on other aspects of the university by UCFV's lower fees. Issues like the quality of the academic programs, student services, recreational or athletic programs are ranked lower in terms of importance in choosing UCFV by first year students (Table 10).

Involvement in Student Learning and Student Life:

A good adjustment to the demands of university learning and student life is also a good predictor of student success. On this aspect most first year students in the CUSC 2007 survey indicated high levels of satisfaction in adjusting to university life, satisfaction with university programs and their faculty. The results of this survey show that UCFV students adjust well to the academic demands of university; personal and practical adjustments that they have to make. There were a few points where adjustment for UCFV students was somewhat more difficult (e.g. in performing adequately in courses requiring Math skills (Table 12) and a lower percentage of UCFV students indicated that they had become involved in campus activities compared to students from other PSEIs (Table 13). 78% of first year UCFV students (compared to 70% for other PSEIs) indicated

that they were “very satisfied” or “satisfied” by the concern shown to them as individuals (Table 14).

In terms of forming realistic expectations and adjusting to the demands of student learning and student life, UCFV entry level students seem to exhibit low to moderate levels of risk.

ANNEX 1: SUPPORTING DATA TABLES

Table 1: Academic Profile					
	All students (n=12,682)	Group			University College of the Fraser Valley (n=485)
		1 (n=4,870)	2 (n=3,652)	3 (n=4,160)	
Year graduated from high school or CEGEP					
2006 or later	80%	77%	83%	82%	73%
2005	13%	15%	13%	11%	17%
2004 or before	6%	7%	3%	7%	7%
Did not graduate	<1%	<1%	<1%	<1%	<1%
Full course load at registration					
Yes	85%	83%	85%	87%	74%
Full course load at time of survey					
Yes	82%	80%	83%	82%	67%
Language of instruction					
English	84%	90%	89%	73%	85%
French	7%	<1%	2%	18%	<1%
Other	4%	3%	4%	4%	2%
Studying in Canada on a visa					
Yes	5%	4%	5%	5%	3%

Source: CUSC First Year University Student Survey 2007, University College of the Fraser Valley Report, Table 16.

Table 2: Personal Profile					
	All students (n=12,682)	Group			University College of the Fraser Valley (n=485)
		1 (n=4,870)	2 (n=3,652)	3 (n=4,160)	
Gender					
Male	33%	31%	36%	34%	28%
Female	61%	63%	59%	61%	60%
Age					
18 years or younger	73%	74%	81%	66%	68%
19 years of age	13%	13%	11%	16%	16%
20 years of age	4%	3%	2%	7%	4%
21 years or older	4%	4%	<1%	6%	2%
Average age	18.2	18.3	17.9	18.4	18.2
Language first learned and still understand					
English	74%	83%	78%	61%	78%
French	7%	1%	2%	18%	<1%
Other	14%	10%	15%	16%	10%
Disability					
Total self-identified	5%	6%	5%	4%	5%
Visible minority					
Total self-identified	18%	14%	19%	21%	14%
Aboriginal status					
Total self-identified (net)	3%	4%	3%	3%	4%
- Métis	1%	1%	<1%	1%	2%
- Non-status	<1%	1%	1%	<1%	1%
- First Nations	<1%	1%	<1%	<1%	<1%
- Inuit	<1%	<1%	<1%	<1%	<1%

Source: CUSC First Year University Student Survey 2007, University College of the Fraser Valley Report, Table 7.

Table 3: Employment status					
	All students (n=12,682)	Group			University College of the Fraser Valley (n=485)
		1 (n=4,870)	2 (n=3,652)	3 (n=4,160)	
Currently employed (all respondents)					
Yes, both on and off campus	<1%	<1%	<1%	<1%	<1%
Yes, on campus	3%	4%	3%	2%	1%
Yes, off campus	36%	36%	33%	38%	67%
No, but I am seeking work	18%	17%	21%	17%	10%
No, and I am not seeking work	37%	37%	37%	38%	12%
Number of hours worked per week *					
10 hours or less	35%	32%	38%	35%	19%
11 to 20 hours	46%	45%	45%	49%	42%
21 to 30 hours	15%	17%	13%	13%	25%
Over 30 hours	4%	5%	3%	3%	13%
Average number of hours	15.2	16.0	14.7	14.7	20.2
Negative impact of non-co-op related employment on academic performance *					
None	40%	41%	39%	38%	36%
Some	36%	34%	37%	38%	32%
Moderate	16%	16%	15%	17%	22%
Significant	5%	6%	5%	5%	6%
Substantial	2%	2%	4%	2%	4%

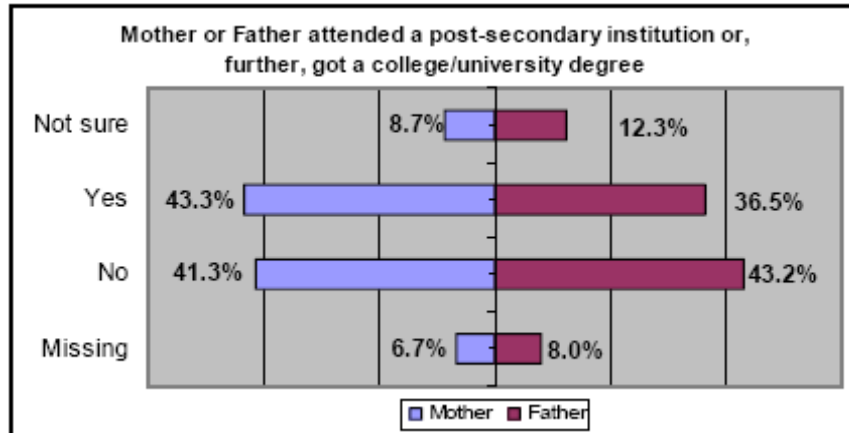
*Note: Only students who are currently employed were asked how many hours they work per week and whether their employment has a negative impact on their academic performance.

Source: CUSC First Year University Student Survey 2007, University College of the Fraser Valley Report, Table 29.

Table 4: Parents' education					
	All students (n=12,682)	Group			University College of the Fraser Valley (n=485)
		1 (n=4,870)	2 (n=3,652)	3 (n=4,160)	
Mother's education					
Less than high school	6%	6%	6%	6%	7%
High school or CEGEP	21%	22%	20%	21%	22%
Some post-secondary	10%	11%	10%	8%	14%
College/technical/trade school graduate	17%	18%	17%	16%	10%
University graduate/professional	32%	28%	33%	36%	22%
Other/don't know/no response	13%	14%	14%	12%	24%
Father's education					
Less than high school	9%	10%	9%	9%	11%
High school or CEGEP	16%	18%	16%	15%	16%
Some post-secondary	7%	7%	8%	6%	8%
College/technical/trade school graduate	17%	19%	17%	16%	13%
University graduate/professional	35%	30%	35%	41%	25%
Other/don't know/no response	15%	16%	15%	14%	26%

Source: CUSC First Year University Student Survey 2007, University College of the Fraser Valley Report, Table 14.

Chart 1: Parent's Education Levels



Source: UCFV 2004 High School Survey, Figure 10, pp. 15.

Table 5: What was the single most important reason in your decision to attend university?

	All students (n=12,682)	Group			University College of the Fraser Valley (n=485)
		1 (n=4,870)	2 (n=3,652)	3 (n=4,160)	
a. To prepare for a specific job or career	42%	44%	41%	40%	54%
f. To get a good job	25%	23%	26%	26%	18%
b. To get a good general education	8%	8%	9%	8%	7%
d. To prepare for graduate/professional school	8%	8%	7%	8%	8%
e. To increase my knowledge in an academic field	7%	6%	7%	9%	6%
c. To develop a broad base of skills	3%	3%	3%	4%	2%
h. To meet parental expectations	3%	3%	3%	3%	2%
g. To become a more cultured person	2%	2%	2%	3%	2%
i. To meet new friends	<1%	<1%	<1%	<1%	<1%
j. Other	1%	2%	1%	1%	1%

Source: CUSC First Year University Student Survey 2007, University College of the Fraser Valley Report, Table 33.

Table 6: Motivation to attend current university - Other aspects of university ('very important')

	All students (n=12,682)	Group			University College of the Fraser Valley (n=485)
		1 (n=4,870)	2 (n=3,652)	3 (n=4,160)	
f. University has a good reputation	50%	50%	43%	55%	41%
g. Size of university	30%	45%	24%	19%	28%
c. Offered financial assistance/scholarship	26%	25%	29%	25%	15%
i. Tuition fees	25%	30%	24%	21%	54%

Source: CUSC First Year University Student Survey 2007, University College of the Fraser Valley Report, Table 37.

Table 7: Source of financing education

	All students (n=12,682)	Group			University College of the Fraser Valley (n=485)
		1 (n=4,870)	2 (n=3,652)	3 (n=4,160)	
Parents/family/spouse	69%	66%	70%	72%	58%
Personal savings	53%	57%	52%	51%	58%
University scholarship/financial award/bursary	51%	53%	53%	47%	29%
Earnings from summer work	50%	52%	49%	47%	43%
Government loan or bursary	31%	33%	33%	26%	20%
Earnings from current employment	26%	26%	24%	27%	45%
RESP	14%	14%	14%	14%	9%
Loan from a financial institution	7%	8%	7%	6%	2%
Investment income	6%	6%	6%	5%	4%
Co-op program/Work term	<1%	<1%	2%	<1%	<1%
Work-study program	<1%	<1%	<1%	<1%	1%
Other	4%	4%	4%	3%	4%

Note: Respondents could provide more than one answer. Therefore, columns may sum to more than 100%.

Source: CUSC First Year University Student Survey 2007, University College of the Fraser Valley Report, Table 22.

Table 8: Sufficient funds to complete education

	All students (n=12,682)	Group			University College of the Fraser Valley (n=485)
		1 (n=4,870)	2 (n=3,652)	3 (n=4,160)	
Very concerned	20%	22%	22%	16%	23%
Some concern	46%	47%	46%	45%	39%
Not concerned	29%	26%	27%	34%	27%

Source: CUSC First Year University Student Survey 2007, University College of the Fraser Valley Report, Table 27.

Table 9: Motivation to attend current university - Personal reasons ('very important')

	All students (n=12,682)	Group			University College of the Fraser Valley (n=485)
		1 (n=4,870)	2 (n=3,652)	3 (n=4,160)	
a. Wanted to live close to home	37%	36%	37%	37%	62%
o. Friends attending here	12%	11%	13%	14%	13%
m. Parents/relatives wanted me to enrol here	12%	11%	11%	13%	13%
b. Wanted to live away from home	11%	13%	12%	9%	3%
n. Other family member(s) currently attending here	5%	4%	5%	7%	6%

Source: CUSC First Year University Student Survey 2007, University College of the Fraser Valley Report, Table 35.

Table 10: What was the single most important reason in your decision to attend this university?					
	All students (n=12,682)	Group			University College of the Fraser Valley (n=485)
		1 (n=4,870)	2 (n=3,652)	3 (n=4,160)	
e. Specific career-related program	21%	21%	22%	20%	17%
a. Wanted to live close to home	20%	19%	21%	19%	36%
d. Quality of academic programs	16%	14%	14%	20%	7%
f. University has a good reputation	9%	8%	6%	11%	4%
c. Offered financial assistance / scholarships	7%	6%	9%	6%	3%
b. Wanted to live away from home	4%	4%	4%	3%	<1%
g. Size of university	4%	8%	2%	<1%	2%
m. Parents/relatives wanted me to enrol here	3%	3%	3%	3%	3%
l. Tuition fees	3%	4%	2%	2%	19%
Other	14%	13%	16%	15%	7%

Source: CUSC First Year University Student Survey 2007, University College of the Fraser Valley Report, Table 40.

Table 11: Student grades					
	All students (n=12,682)	Group			University College of the Fraser Valley (n=485)
		1 (n=4,870)	2 (n=3,652)	3 (n=4,160)	
Average grade in high school or CEGEP Q25*					
A or A+	41%	34%	44%	46%	29%
A-	30%	29%	30%	30%	28%
B+	16%	18%	15%	14%	20%
B	10%	14%	9%	7%	15%
C+	2%	4%	1%	1%	5%
C or lower	<1%	1%	<1%	<1%	2%
Average	5.9	5.7	6.0	6.1	5.6
Average grade expected at end of first year Q24*					
A or A+	10%	9%	9%	11%	8%
A-	20%	19%	19%	21%	19%
B+	24%	23%	25%	26%	26%
B	29%	30%	30%	26%	29%
C+	11%	12%	11%	10%	12%
C or lower	6%	7%	6%	6%	5%
Average	4.7	4.6	4.7	4.8	4.6

*Note: This grade scale is based on the following: A/A+=7, A-=6, B+=5, B=4, C+=3, C=2, D=1.

Source: CUSC First Year University Student Survey 2007, University College of the Fraser Valley Report, Table 19.

Table 12: Success in adjustments to university - Academic ('very much'/'some' success)					
	All students	Group			University College of the Fraser Valley
		1	2	3	
j. Understanding content and information presented in courses	96%	97%	96%	95%	97%

a. Meeting academic demands	91%	92%	91%	91%	93%
f. Choosing a program of studies to meet my objectives	90%	91%	89%	90%	91%
h. Performing adequately in written assignments	89%	90%	88%	89%	92%
n. Finding help with questions or problems	82%	85%	81%	80%	85%
i. Performing adequately in courses requiring mathematical skills	77%	76%	76%	81%	69%
g. Getting academic advice	67%	71%	67%	63%	75%
Note: Percentages are based on those who offered a rating.					

Source: CUSC First Year University Student Survey 2007, University College of the Fraser Valley Report, Table 56.

Table 13: Success in adjustments to university - Personal (percent who offered a rating)					
	All students (n=12,682)	Group			University College of the Fraser Valley (n=485)
		1 (n=4,870)	2 (n=3,652)	3 (n=4,160)	
o. Organizing my time to complete academic work	99%	99%	100%	99%	99%
b. Making new friends with other students	99%	99%	99%	99%	99%
k. Feeling as if I belong at university	99%	99%	99%	99%	98%
c. Becoming involved in campus activities	96%	96%	96%	96%	91%
d. New living arrangements	65%	68%	66%	59%	37%

Source: CUSC First Year University Student Survey 2007, University College of the Fraser Valley Report, Table 57.

Table 14: Concern shown by the university for you as an individual					
	All students (n=12,682)	Group			University College of the Fraser Valley (n=485)
		1 (n=4,870)	2 (n=3,652)	3 (n=4,160)	
Very satisfied	18%	25%	16%	12%	24%
Satisfied	52%	51%	53%	52%	54%
Dissatisfied	17%	14%	18%	21%	11%
Very dissatisfied	5%	3%	6%	8%	3%

Source: CUSC First Year University Student Survey 2007, University College of the Fraser Valley Report, Table 62.

ANNEX 2: RISK ASSESSMENT OF ENTERING STUDENTS IN UCFV AND OTHER POST-SECONDARY EDUCATION INSTITUTIONS

Risk Factors	UCFV's comparison vis-à-vis Canadian data*	Assessed risk levels for UCFV
1. DEMOGRAPHICS		
- <i>Gender</i> : female - low risk	<ul style="list-style-type: none"> ▪ 60% of UCFV students are females; very similar to the ratios in the rest of Canada. ▪ Average age of UCFV entrants was 18.2 years; slightly higher than entrants in PSE in Canada ▪ 73% of direct entry students started after HS compared to 80% in Canada. 	Low
- <i>Ethnicity</i> : minorities and Aboriginal - high risk	<ul style="list-style-type: none"> ▪ 14% of FY students in UCFV declared themselves to be visible minorities compared to 18% in Canadian PSE. ▪ 78% of UCFV direct entry student said that English was their first language vs. 74% in PSE in Canada. 	Moderate to low
- <i>Socio-economic status</i> : Lower status - higher risk	<ul style="list-style-type: none"> ▪ Majority of UCFV the students (including entry-level and first year) from the Fraser Valley which has a relatively lower in socio-economic status than overall BC. 	High
2. EMPLOYMENT		
- Working students - high risk	<ul style="list-style-type: none"> ▪ UCFV first year student indicated that 69% were currently employed (o/w 67% were employed off-campus) vs. 39% employed in PSE in Canada. 	Moderate to high
- 35 hours/week or more of work – high risk	<ul style="list-style-type: none"> ▪ Average number of hours of current employment for UCFV first year students was 20 hours/week compared to 15 hours/week in other PSEI. ▪ 13% of UCFV first-year students work over 30 hours/week compared to only 4% students in other PSEI. ▪ 25% of the UCFV first year students work 21-30 hours/wk compared to only 15% students in other PSEI. 	Moderate to high
3. FAMILY AND TEACHER SUPPORT		
- Parents expectations - high importance and generally positive influence		High
- Parents education – lower education high risk	<ul style="list-style-type: none"> ▪ For first year students at UCFV only 25% of the fathers and 22% of the mothers were graduates of PSE compared to 35% and 32%, respectively in other PSE in Canada. 	High
- Teachers; high importance but generally negative influence		High
- Peer influence – moderate to low importance; depends on university experience		Moderate to high
4. FIRST-GENERATION		
- First generation - high risk	<ul style="list-style-type: none"> ▪ A higher percentage of UCFV entrants and FV students are first generation. For first year students at UCFV only 25% of the fathers and 	High

	22% of the mothers were graduates of PSE compared to 35% and 32%, respectively in other PSE in Canada.	
5. MOTIVATION TO LEARN		
- Financial difficulties - high risk	<ul style="list-style-type: none"> ▪ A higher percentage of UCFV students finance their education from own savings, or current employment compared to students in PSE in Canada. ▪ A major reason for choosing UCFV was the lower tuition fees; 54% stated their primary motivation was lower fees compared to only 25% in other PSE ▪ 73% of Fall 2005 Applicants responded that tuition fees was a very important or important reason for choosing UCFV. 	Moderate to high
- Living at home high risk	<ul style="list-style-type: none"> ▪ The biggest reason for choosing UCFV was its location close to home. 62% of UCFV's FY students said that being closer to home was an important reason for choice compared to 39% in PSE in Canada. ▪ UCFV FY students did not rate the quality of the program as high as rest of the student in Canada. 	High
- 8 th grade associated with formation of motivation		High
6. ACADEMIC PREPARATION		
- Secondary School curriculum not aligned to university academic demands – high risk		High
- High school grades – lower grades high risk	<ul style="list-style-type: none"> ▪ FY student at UCFV had lower self-declared GPAs compared to other PSE; only 29% declared their HS GPA as A+/A vs. 41% in other PSE; 7% stated their GPA to be C+ or lower compared to < 3% in other PSE. 	Moderate to low
- High school Math completion - low risk		High
7. EXPECTATIONS FOR UNIVERSITY		
- Mismatch in expectations - high risk	<ul style="list-style-type: none"> ▪ UCFV students had lower expectations of UCFV compared to rest of PSE; 74% said that UCFV was the university of first choice compared to 83% in other PSE. 	Moderate to low
- Involvement in student life - low risk	<ul style="list-style-type: none"> ▪ Generally high and comparable levels of satisfaction with university programs, faculty and personal and practical adjustments required for university life. Lower percentage of FY students engaged in student life activities compared to other PSE in Canada. 	Moderate to low

* Most of the data on First Year students at UCFV is from the Canadian University Survey Consortium (CUSC) report "First Year University Student Survey 2007", released in June 2007. It should be noted that only direct entry first year students were surveyed at UCFV during the winter of 2007. The survey response rate was 49%.