

THE TRANSITION TO POST-SECONDARY EDUCATION FOR CANADIAN  
ABORIGINAL AND NON-ABORIGINAL STUDENTS:  
A FOCUS ON ADJUSTMENT, FIT AND ANTICIPATED PERSISTENCE

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Saskatoon

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## **ABSTRACT**

Why do some first year students continue and others leave before their second year? This has been a pressing question for a number of years. Consequently, there has been a growing interest in examining the experiences of first-year post-secondary students and identifying the factors that are associated with their attrition and persistence. In Canada, there is a specific need to understand the experiences of the Aboriginal people. This group of individuals has shown significantly lower post-secondary completion rates than the non-Aboriginal population, and many view their participation in higher education as being the key to a better future. The purpose of this research was to explore factors associated with the adjustment and anticipated persistence of first year Aboriginal and non-Aboriginal students. To this end, the connections between adjustment, person-environment fit, anticipated persistence and a number of psychosocial and background variables were investigated using a quantitative-descriptive mixed method design. In the first part of the study, Aboriginal and non-Aboriginal participants within a university context and Aboriginal participants alone within a college environment were followed from the fall of their first year (N=316) to the spring of their first year (N=159) in order to examine the first year transition experience. In the second portion of the study, a subset of Aboriginal students (N=11) was interviewed about their post-secondary experiences in order to obtain a more comprehensive understanding of the transition experience.

Full or partial support was found for the majority of the hypotheses related to adjustment, fit, and anticipated persistence. In the present study, academic, social and personal-emotional adjustment were each associated with subjective fit, beliefs about the transition experience, social support, and academic self-efficacy. Furthermore, each type of adjustment was also associated

with additional unique correlates. This research also highlights that anticipated persistence is complex, with a number of background factors (e.g., high school preparation), psychosocial factors (e.g., beliefs about the transition experience, social support, academic self-efficacy) as well as adjustment and person-environment fit being relevant to this decision. In addition, this research highlights that Aboriginal students do not have poorer adjustment or fit compared to their non-Aboriginal peers but that they do have lower levels of anticipated persistence. A discussion of these and other findings as well as the implications and limitations of the present study is provided.

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## **The Transition to Post-Secondary Education for Canadian Aboriginal and Non-Aboriginal Students: A Focus on Adjustment, Fit and Anticipated Persistence**

Every September, thousands of individuals come through the doors of Canadian post-secondary institutions to begin a new stage of their education. Most students report that this is a time of mixed feelings: excitement and eagerness to pursue one's goals and interests but also a time of apprehension and doubt as to whether one has what it takes to succeed. While first year students differ in terms of their backgrounds, interests and intended academic paths, they are all presented with similar demands and challenges in their new institution. For many students, adjustment will be relatively uncomplicated, the demands and challenges of post-secondary life will be easily coped with and they will go on to experience academic, social and personal success (Gerdes & Mallinckrodt, 1994). However, another story is being written simultaneously: the story of those who struggle to adapt socially, academically and personally to their new educational milieu (Gerdes & Mallinckrodt, 1994). It is to these students that the present study is directed.

A considerable amount of research has been conducted regarding post-secondary adjustment. This body of literature shows that poor adjustment is associated with negative outcomes including decreased academic performance as well as higher rates of attrition prior to degree completion. This latter finding is cause for concern given the widely documented consequences of poor persistence on both micro (i.e., individual) and macro (i.e., institution, provincial, national) levels (Grayson & Grayson, 2003; Parkin & Baldwin, 2009). The available literature highlights the numerous variables related to post-secondary adjustment and persistence and has also identified some groups who are at particularly high risk for negative outcomes.

While any student may experience adjustment difficulties or leave prior to degree completion, it is widely known that these difficulties are most prevalent in the first year of higher education. These difficulties are not isolated to one area; rather, they have been found to manifest in social (e.g., fewer supportive relationships), academic (e.g., decreased academic performance), health (e.g., changes in sleep, appetite) and emotional (e.g., anxiety, depression) domains (Jay & D'Augelli, 1991). Researchers have consistently found that, in addition to experiencing more adjustment difficulties, the highest rate of post-secondary attrition occurs between the first and second years of study (Tinto, 1975; Tinto, 1993). That is, if students make it to second year, the likelihood of program completion is greatly enhanced. These findings highlight the need to understand those factors which are linked to the adjustment of first year students.

The available research also suggests that ethnicity plays a role in the post-secondary experience, with ethnic minority (as compared to majority) students being more likely to depart from the institution without a degree. A possible explanation for this finding is that minority students are faced with pressures that exceed the typical academic, social, and emotional demands placed on students: they may also have to cope with racism or discriminatory treatment stemming from their minority status (Archibald, Bowman, Pepper, Urion, Mirenhouse, & Short, 1995; Smedley, Hyers, & Harrell, 1993; Timmons, Doyle-Bedwell, Lewey, Marshall, Power, Sable, Wien et al., 2009). Many minority students may also have to overcome an additional set of complex barriers (e.g., historical, financial, cultural and educational) in order to succeed in these settings (The Educational Policy Institute, 2008; Malatest & Associates Ltd., 2002; Malatest & Associates Ltd., 2004).

The majority of published research on ethnic minorities in post-secondary education stems from the United States; however a growing body of literature suggests that Canada's largest minority group, the Aboriginal Peoples, experience similar difficulties. Over the past three decades, Canadian Aboriginal students have formed a growing presence in post-secondary educational settings in which they are a noticeable ethnic minority (Richardson & Blanchet-Cohen, 2000). However, the frequency of enrollment of these students is still significantly lower than that of the non-Aboriginal population, with researchers estimating that Aboriginal people participate in higher education at a rate of about one-fifth that observed in the Non-Aboriginal population (Archibald et al., 1995). Furthermore, despite increases in the enrollment rates of these students at mainstream University institutions, Aboriginal students often do not complete their degrees (Malatest et al., 2004). Indeed, in 1995, Archibald and colleagues noted that less than a third of First Nations students who walk to the doors of a Canadian university will leave with a degree in their hands. Without these credentials, many of the opportunities and benefits attached to having a post-secondary education remain out of reach for the Aboriginal peoples.

It is clear that participation, persistence and completion rates of Aboriginal students at Canadian mainstream post-secondary institutions are areas that require attention. Recent developments in this area have found that Aboriginal students in non-mainstream (e.g., Aboriginal-controlled) institutions are less likely to depart prior to the completion of their degrees than Aboriginal students in mainstream institutions (Malatest et al., 2004). As well, minority students in non-university postsecondary settings (e.g., colleges and technical schools) have also been found to complete their programs more often than those in larger university settings (Mendelson, 2006). Thus, it appears that there may be something about the interaction

between the student and the environment at the post-secondary settings that influences adjustment. In support of this view, it has been suggested that one of the main reasons why students discontinue their studies prematurely is because of a perceived absence of “fit” between what they wanted and what the institution is able to provide (e.g., Lambert, Zeman, Allen, & Bussiere, 2004; Parkin & Baldwin, 2009).

The present research aims to extend the current literature base by identifying the various factors that are associated with the adjustment and anticipated persistence of first year Canadian Aboriginal and non-Aboriginal students at a predominantly White (mainstream) university and a non-university (college) institution. The current research is comprised of two studies. The first component was quantitative in nature and examined a variety of factors associated with the adjustment and anticipated persistence of Aboriginal and non-Aboriginal first year post-secondary students. In this study, Aboriginal students in the two institutions were also compared to examine whether levels of adjustment, anticipated persistence and person-environment fit differed as a function of the institution attended.

The second component included in this dissertation was descriptive in nature and was designed to hear the voices and capture the experiences of a small group of Aboriginal students. It examined their reasons for anticipated return or discontinuation from their post-secondary education the following academic year. By using this mixed-model (quantitative-descriptive) research design, it was hoped that a more inclusive picture of the post-secondary experience of these students would be captured.

The first section of this dissertation will focus on the Aboriginal population in Canada and the Canadian statistics on post-secondary persistence. This is followed by a literature review on

the links between adjustment, persistence, person-environment fit and various background and psychosocial factors. Next, the methodology and results of the present study will be reviewed, followed by a discussion of the findings, limitations and implications.

### **Canada's Aboriginal Population**

Aboriginal peoples are defined as “political and cultural entities that stem historically from the original peoples of North America” (Royal Commission on Aboriginal Peoples, 1996, p.8) and include individuals of First Nations, Métis and Inuit descent (Section 35.2 of the 1982 *Constitution Act*, Department of Justice, n.d). Heterogeneity exists within First Nations, Métis and Inuit groups, as there are numerous communities within each group who differ in their historical experiences and cultures (Forehand & Kotchick, 1996; Pidgeon, 2001). However, in terms of contemporary Canadian post-secondary education, similarity exists between the persistence and completion rates of these groups (Statistics Canada, 2001). Consequently, the present study focused on the larger, more broadly-defined Aboriginal population rather than any one distinct group. Although the present study will review the current statistics and pertinent details about Aboriginal education, Kirkness (1999) provides an excellent retrospective review of Aboriginal education in Canada.

### **2006 Census Findings**

According to the most recent census, Canada's total population was approaching 32 million (Statistics Canada, 2008), with Aboriginal peoples accounting for almost 4% of this population (Statistics Canada, 2008). The Aboriginal population has shown continual growth and in 2006 was found to be composed of 33% Métis, 60% First Nations, and 4% Inuit peoples (Statistics Canada, 2008). The majority (80%) of individuals of Aboriginal descent can be found



living in Ontario, British Columbia, Alberta, Manitoba and Saskatchewan. In Saskatchewan, 15% of the population is of Aboriginal ancestry and within the city of Saskatoon (where data was collected) approximately 9% of the population is Aboriginal.

A difference exists in the age composition of the Aboriginal and non-Aboriginal populations, with the Aboriginal group being considerably younger. Approximately 1 out of 2 individuals of Aboriginal descent are under the age of 24 compared to just under 1 out of 3 individuals in the non-Aboriginal population (Statistics Canada, 2008). This has practical implications – as noted by Preston (2008, p.2): “the Aboriginal populations represent an important and growing segment of Canada’s young labor force. As such, it is vital that Aboriginal peoples are well educated so they are able to both capitalize on diverse employment opportunities and promote healthy lifestyles within their communities”. In fact, Blair Stonechild, describes post-secondary education as the “new buffalo” (Stonechild, 2006, p.1) which can supply the Aboriginal population with the means to survive and succeed. He states that “being allowed to pursue this “new buffalo” will mean that future generations of Aboriginal peoples will not only have a special and unique ability to participate in post-secondary education, but will be able to acquire the tools that can one day enable them to contribute at the highest levels to the country they know as their homeland” (Stonechild, 2006, p.138). The present study aims to contribute to this vision by examining variables that are associated with the post-secondary adjustment and anticipated persistence of first year Aboriginal students.

### **Persistence Rates in Canada**

As reported by Grayson and Grayson (2003), the majority of published work on persistence and attrition rates stems from the United States and consequently it is unclear whether

the available findings apply to Canadian students. The current research examines factors that may be associated with the post-secondary persistence of first year Canadian students in order to address this gap in the literature.

The Canadian research that does exist suggests that Canadian post-secondary attrition rates are similarly problematic (Grayson & Grayson, 2003; University of Saskatchewan, 2007; University of Saskatchewan, 2009). Statistics Canada (Shaienks & Gluszynski, 2007) conducted the *Youth in Transition* survey beginning in 1999 with a sample of 18 to 20 year olds that were followed every 2 years from 1999 to 2005. The results of this project indicated that approximately 8 out of 10 (79%) of their Canadian youth had been involved with a post-secondary institution by the age of 26. However, they also found that approximately 15% of their sample had discontinued their studies. The fact that this many students withdraw before completing a degree is problematic.

It is also concerning that the Aboriginal population in Canada shows lower rates of attendance and degree completion despite significant rises in these rates in recent years (Statistics Canada, 2008). Statistics Canada (2008) found that 44% of Aboriginal persons had completed a post-secondary degree, compared to 61% of the general population. These findings are very pronounced at the university level, with less than a tenth (8%) of the Aboriginal population possessing a university degree in contrast to a nearly a quarter (23%) of the non-Aboriginal population. This large discrepancy is not found at the college or trades level with 32% of the non-Aboriginal and 33% of the Aboriginal population having a trade certificate or college diploma (Statistics Canada, 2008).

### **Is Attrition Always Negative?**

It is important to address the question of why a reduction in the Canadian post-secondary attrition rate is desirable. Many factors play a role in an individual's decision to discontinue at a particular institution, and this decision has many effects on all parties involved. For the individual, the decision may be made in order to pursue a new (and better) opportunity, and attrition in itself should not be viewed as a universally negative outcome (Albert, 2010; Grayson & Grayson, 2003; Parkin & Baldwin, 2009). Nonetheless, from the perspective of the institution, attrition represents a loss of income and often talent, and there is a tendency among administrators to focus on this dimension of the event. Indeed, when a student leaves, he or she will also take a significant investment and potential, both economic and intellectual, which may otherwise have served to benefit the institution and the community at large (Grayson & Grayson, 2003). Any novel research that the student may have produced is a good example of this loss.

For the student, who takes with them their potential as well as their money, may in fact have been offered admission to a more prestigious institution or program, and in such a case, the attrition actually represents success for the student. Even in cases where the student discontinues their program to join the workforce without completing their degree, under many circumstances departing from the institution is the right answer for them, their families, and their future. Many students become caught up in the social opportunities that post-secondary education offers, and may discontinue because they see their lectures and coursework as interfering with their newly discovered social life. Still, in some such cases, attrition represents an opportunity to return at a later date, once they have gained maturity by participating in the work force for a period of time (Albert, 2010). These examples can serve to highlight those cases where attrition is beneficial for

the student and his or her future, however, many administrators tend to focus on the other reasons why students choose to discontinue. As a result, attrition tends to take on a predominantly negative character, which the administrator may see as a failure of the institution, student, or both.

An in-depth analysis of the social, economic and political repercussions of post-secondary attrition is beyond the scope of the present study, which is guided by the general principle that attrition should be reduced. This principle is supported by the finding that higher education is tied to vast and far-reaching benefits (Chacaby, Brunette, Mashford-Pringle, Smillie & Russel, 2008) . As noted by McClanahan (2004), those with post-secondary degrees enjoy more opportunities in terms of job prospects, earning potential, and occupational and geographical mobility (McClanahan, 2004). McClanahan (2004) also reports that the diverse benefits include but are not limited to improved “consumer decision making” (p.2), a more desirable employment atmosphere, increased ability to be involved in a diversity of recreational activities, and increased “quality of life” (p.2) for the families of these individuals. Research also suggests that higher levels of education are associated with improved health indicators including life expectancy, access to health resources, and a reduced utilization of social safety nets (e.g., income assistance; McClanahan, 2004).

Given the numerous advantages which have been associated with the completion of a post-secondary program, it can be difficult to accept that the unique skills, goals, and context of the individual student can make attrition the best and most logical choice for that particular person at that particular time. Thus, while the present project aims to contribute to the literature in a manner which may reduce attrition, it does so with a recognition and respect for the

knowledge, autonomy, and value of an individual person which grants him or her the right and responsibility to choose whether to continue or discontinue at an institution.

### **Persistence and Attrition Rates in Saskatchewan**

According to the *Youth in Transition* survey, Saskatchewan was on par with the national post-secondary attrition rate of 15% (Shaienks & Gluszynski, 2007). Although not the highest in the country, this percentage still points to difficulties with student persistence and a need to determine ways of decreasing post-secondary attrition rates for this province. The two institutions of higher learning in Saskatchewan with the largest student populations are the University of Saskatchewan and SIAST (a non-university post-secondary setting). These two mainstream institutions were the focus of the present study.

Consistent with the American literature (e.g., Tinto, 1993) previously reviewed, several Canadian studies have found that the highest rate of attrition occurs between the first and second year of studies (Grayson & Grayson, 2003). Indeed, the authors of the University of Saskatchewan retention study (2009) reported that the majority of students who left prior to degree completion (8.5 out of 10 students) did so before the start of their second year. A recent University of Saskatchewan census (Hannah, Isinger & Lang, 2009) examined first to second year retention rates of students in direct entry colleges. This report indicated that 22% of first year students in 2008 did not come back to the University of Saskatchewan in 2009. This rate was found to be higher among the Aboriginal population with 37% of Aboriginal students not returning during the same time period.

It seems clear then that there are disparities in the degree completion rates among these two populations (Mendelson, 2006; Statistics Canada, 2008). This has been found at both of the

institutions examined in the present study (University of Saskatchewan, 2009). For example, the results of a report by the Saskatchewan Institute of Applied Science and Technology (2009) revealed that of those students who began their studies at SIAST in 2005, almost three quarters (73%) of the non-Aboriginal students successfully completed their certificate or degree program whereas only just over half (53%) of Aboriginal students had done the same. These statistics highlight a need to address post-secondary attrition in general and a particular need to understand the factors associated with Aboriginal student attrition in order to increase the degree completion rates of these students. In the present study, the connections between anticipated persistence and background factors, psychological factors, person-environment fit and post-secondary adjustment were examined.

### **What else do we know about the Canadian Aboriginal Student Population?**

In addition to the differences in enrolment and persistence rates, we also know that Aboriginal and non-Aboriginal student populations differ in other ways. Holmes (2005) examined the results of the 2002 *Canadian Undergraduate Student* and the *Canadian College Student* Surveys. The results of his examination revealed several noteworthy differences and similarities between the Aboriginal and a traditional or “baseline” student population (defined as students who are not of Aboriginal descent, who are not considered to have a disability, and who are childless).

Demographically, the Aboriginal post-secondary population is found to be considerably different from the baseline group, being more likely to be female and to be involved in long-term or married partnerships. Both Human Resources and Skill Development Canada (2008) and Holmes (2005) also report that Aboriginal students are more likely to be parents than are non-

Aboriginal students. In addition, Holmes (2005) reports that a substantial percentage of the Aboriginal student population has to move away from home if they want to pursue higher education, as such institutions are rarely located in rural, remote, or Northern areas. Holmes notes that approximately 1 out of 3 Aboriginal students reported distances of over 100 km between their home town and their institution. Aboriginal students are more likely to experience disruptions in their studies for reasons such as the need to obtain employment, medical issues or family matters, and they also tend to spend less time on academic work and have lower overall averages in their courses as compared to non-Aboriginal students. Furthermore, in contrast to non-Aboriginal students, Aboriginal students have been found to be less prepared academically for post-secondary education by their previous schooling (Bear Spirit Consulting, 2007; Malatest et al., 2002; Hardes, 2008, SIAST, 2009, Timmons et al., 2009).

In terms of similarities, Holmes (2005) reports that Aboriginal students are satisfied with their post-secondary education. In fact, only ten percent of Aboriginal students and students in the baseline group reported that they are unsatisfied with the quality of their university experience. Although there are higher rates of poverty and unemployment among the Aboriginal population in Canada (Holmes, 2005), Aboriginal students were not found to be more pessimistic about their job prospects upon graduation. In addition, Holmes reports that 7 out of 10 Aboriginal students report feeling as though they are part of the university community, suggesting that Aboriginal and non-Aboriginal students may experience similar degrees of fit with their institution. According to the Canada Millennium Scholarship Foundation (2005), Aboriginal and non-Aboriginal students also have similar goals when it comes to higher education—most want to pursue post-secondary studies and feel that their educational goals are attainable. However, the

retention/persistence statistics indicate that there is a discrepancy between these wants and goals and what actually occurs (Canada Millennium Scholarship Foundation, 2005).

Several articles and reports have speculated as to why Aboriginal students do not enjoy the same success as the non-Aboriginal population. Malatest and colleagues (2002, 2004), the Association of Universities and Colleges of Canada (2010), Parkin and Baldwin (2009) and Bear Spirit Consulting (2007) assert that the discrepancy is due to the numerous obstacles that Aboriginal students must overcome. Specifically, the authors report that negative past experiences with the mainstream educational system (e.g., residential school), discrimination by fellow students and staff, financial struggles, family or community obligations, the required relocation from home communities, poor academic preparation, conflicting worldviews, a sense of not belonging on campus, and a variety of personal reasons can make it difficult for many students to participate at the post-secondary level. Bear Spirit Consulting (2007) also identified a lack of safe, clean and affordable living arrangements, insufficient transportation, and a lack of adequate childcare as additional barriers. Hardes (2008) identifies several of these obstacles as playing a role and also speaks to others: many Aboriginal students do not come from families with post-secondary experience. This may mean that families have difficulties providing active support (e.g., academic guidance) to the student. Hardes also reports that participation at the post-secondary level can be difficult for those Aboriginal students who do not have English as their first language and whose ways of learning and ways of interacting differ from other individuals in a mainstream institution. SIAST (2009) identified many of the above as obstacles for their sample of Aboriginal students. Additional barriers have been identified by SIAST (2009) and include the fact that there are few (if any) courses which can be defined as being



“Aboriginal-specific”. In addition, Aboriginal staff tends to be very limited and thus students may not be able to look to these individuals when seeking role models. Furthermore, poor academic and life skills (e.g., time management, financial planning, study skills), a lack of positive role models and the presence of negative role models, and the fact that many Aboriginal students possess interactional styles that are different than those of students and staff of the majority culture are seen as further complicating the Aboriginal student experience. Students who participated in the SIAST project also reported that health-related issues and feeling unsupported by the individuals in their life (e.g., family, peers, community members) make continuing with one’s education difficult. The report by SIAST also notes that many students are lost to attrition because of a lack of a systematic method (i.e. “early warning system”) to identify those students who are at risk for leaving.

Johnson and Boehm (1995) examined the variables that are linked to Canadian Aboriginal university student withdrawal and persistence. Their sample consisted of 49 undergraduate Aboriginal participants from a Western Canadian university (24 had withdrawn and 25 had continued). Although the two groups showed similarities in the areas of relationship status, presence of children, proportion of males and females, and employment status, several differences were also noted. When looking at group means, compared to continuing students, a higher percentage of Aboriginal students who discontinued their education reported lower academic achievement in grade 12. At the university level, a higher percentage of the withdrawal group had poor class attendance, had not handed in their class assignments, struggled to organize/manage their time, had lower overall academic averages, took fewer classes and also stayed in courses even when they were struggling and would likely not pass them. A higher

percentage of students in the withdrawal group were uninvolved in campus social life, felt isolated, alone and alienated, and felt that their institution lacked a personal feel. In addition, a higher percentage of those who left university prior to completion reported experiencing problems outside of their studies (e.g., personal/family struggles). Compared to the group who continued with their studies, the withdrawal group tended to engage in more hours of paid work per week and reported more difficulty in finding suitable care arrangements for their children. In addition, a higher percentage of students in the withdrawal group felt that they had made an error selecting the academic program that they did.

Researchers have also investigated the earning outcomes of Aboriginal and non-Aboriginal post-secondary graduates. Specifically, Walters, White and Maxim (2004) found that annual earnings between Aboriginal and non-Aboriginal college/trades program graduates are comparable. More interestingly, however, are the findings at the university level. Although fewer Aboriginal individuals hold university degrees, those that do possess these degrees earn more per year than their ethnic majority counterparts. In fact the authors found that “male Aboriginals with a university degree are at the top of the earnings hierarchy, when compared with all post-secondary graduates” (p.296).

The present study adds to the current theoretical and descriptive literature by investigating the connections between a number of key factors and the adjustment and anticipated persistence of Aboriginal and non-Aboriginal students. In light of the finding that Aboriginal students are more likely to attend a non-university post-secondary institution than a university (Holmes, 2005) and that more Aboriginal persons hold trades or college diplomas compared to university

degrees, it is worthwhile to examine whether Aboriginal students in these two settings (university vs. non-university post-secondary) differed in terms of adjustment and persistence.

### **Services Available to Aboriginal Students in Canada**

Pidgeon (2001, 2008) articulates the ways in which Aboriginal support services have developed and changed over the past thirty to forty years (including Aboriginal Student Service Centres) and highlights the key role these services play in the experiences and success of Aboriginal students. More recently, the Association of Universities and Colleges of Canada (2010) published a report entitled *Answering the call: The 2010 inventory of Canadian university programs and services for Aboriginal students*. It is immediately evident from this publication that there continues to be a growing awareness of issues specific to Aboriginal students and also an active effort to make their university experiences more positive. The review highlights growth in a number of areas. For example, there is a burgeoning of Aboriginal libraries at universities and increases in opportunities for completing one's studies at off-campus locations (which are hopefully closer to home). It is also observed that almost half of the institutions assessed have Native/Aboriginal studies programs and students now have access to a greater abundance of scholarships. There are now greater funds being put toward the programs that focus specifically on Aboriginal students and more working alliances are being formed between Aboriginal leaders and institutions. However, this report highlights ongoing issues as well – Aboriginal students continue to struggle with locating and affording adequate living arrangements, finding sufficient funds to cover their academic and non-academic needs, and with finding suitable childcare for their young.

## **Theories of Student Attrition and Persistence**

Numerous articles and books have been published in the literature on the topic of post-secondary persistence and attrition, and a number of theories have been offered in an attempt to explain why some students persist while others do not (e.g., Astin, 1993; Bean, 1980; Holland, 1966; Pervin, 1967; Spady, 1970; Tinto, 1975; Tinto 1993). These theories differ in where they place the onus for student departure, with some emphasizing student factors (e.g., lack of motivation or abilities), others environmental factors (e.g., social, financial and organizational issues), and a third type of theory which emphasizes the interaction between these two variables (i.e., person and environment; Tinto, 1993). From the perspective of the latter, the degree to which this interaction is suitable to the student is related to the *fit* between the student and the institution. Fit has been identified as being a primary factor associated with persistence and attrition (Lambert et al., 2004) and is discussed in detail later in this section. A perspective that emphasizes both sides of this interaction is more inclusive and conducive to our understanding of student attrition. It was therefore chosen to be the theoretical framework employed in the present dissertation.

### **Tinto's Student Integration Model**

One of the most popular theories which takes into account both the characteristics of the individual and his/her educational environment has been articulated by Tinto (1975, 1993). Tinto's model (1975) was informed by the work of Spady (1970) and Durkheim (1951 as cited in Tinto, 1993). Spady (1970) maintained that post-secondary attrition is comparable to an individual's choice to end their societal existence through suicide – an idea which stems from Durkheim's (1951 as cited in Tinto, 1993) theory of suicide which postulates that when lack of

involvement or engagement with society occurs, the likelihood of suicide increases. Tinto (1975) expanded on this idea and speculated that institutions are comprised of systems (academic and social) which minimize the risk of student withdrawal when the student successfully integrates into them, and which lead to attrition when they do not.

Tinto (1975, 1993) proposed that students bring with them a set of personal characteristics and experiences (e.g., individual attributes, prior schooling and family background) and that these qualities influence the degree to which they are committed to their education goals (e.g., completing a bachelor's degree) as well as to their institution. Based on the criticisms of other attrition theorists (Bean, 1980), Tinto revised his model. According to the revised model, a student's decision to leave his/her institution is the result of various factors: background variables (i.e. family background, abilities and skills, previous academic experiences), commitment to goals and the institution, formal and informal on-campus experiences, and academic and social integration.

Although frequently employed, criticisms of his model have also been put forth (McCubbin, 2003). First, although Tinto (1993) writes that a lack of fit between individuals and their institution has negative consequences such as decreased academic and social involvement as well as student attrition, a clear and testable definition of fit is lacking and it does not appear in his theoretical model. Furthermore, there is conflicting support for the use of this model with ethnic minority students or those who differ from the "typical" or "traditional" student (McCubbin, 2003). This latter criticism suggests that the model may not be the most appropriate for use with minority populations such as the Aboriginal students investigated in the present research, as this population has been found to differ from the "traditional" student population in

previously discussed ways. Similarly, Braxton, Sullivan and Johnson (1997) reviewed the literature and concluded that the empirical support for this model is mixed: some of the ideas put forth by Tinto have been supported, however many parts of the model have not. Therefore, in the present research a decision was made to employ a different theory that took into account both individual and environmental variables.

### **Person-Environment Fit Theory**

According to person-environment (PE) fit theory, an individual's behavior in a given situation is the result of the interaction between his/her own characteristics and those of the environment (e.g., Edwards, Caplan & Van Harrison, 1998; Fraser & Fisher, 1983; French, Rodgers, & Cobb, 1974; Lewin, 1936; Murray, 1938; Pervin, 1967; Van Harrison, 1978). Fit or congruence is said to increase as the needs, abilities, resources or characteristics of the individual increasingly overlap with those of the environment (e.g., Holland, 1966; Lewin, 1936; Murray, 1938; Pervin, 1967; Pargament, 1986). It is also theorized that higher levels of congruence result in more positive outcomes (e.g., Pervin, 1968; Walsh, 1973).

This theory has a longstanding place in the psychological literature, being popularized in the 1930s through the work of Lewin (1936) and Murray (1938). Lewin (1936) asserted that " $B = f(P, E)$ " where behaviour is the result of the relationship or interaction between the person (P) and his/her environment (E). In other words, an individual's behaviour cannot be isolated from the environment and context in which it occurs and, as Lewin states, "every scientific psychology must take into account whole situations, i.e., the state of both person and environment" (1936, p.12). Lewin (1936) further posited that the individual's subjective perception of the environment, or what is "real" to them, is of a more primary importance than the objective,

factual environment. This supposition explains why two individuals may describe the same situation differently.

Following this line of thought, Murray (1938) created a model which emphasized the interaction between the *needs* of the person and the *presses* (or tendencies) of the environment. Murray highlighted the fact that two different environments, the alpha press and the beta press, exist. The alpha press is the objective environment or the actual features of the environment, while the beta press focuses on the subjective environment experienced and perceived by the individual (Murray, 1938). Like Lewin, Murray believed that an individual's perception of the environment is typically more influential on his/her behavior than the reality of the situation.

Since the work of Murray and Lewin, several researchers (e.g., Holland, 1966; Pace & Stern, 1958; Pervin, 1967; Walsh, 1973) have used person-environment fit theory to explain why some individuals succeed and others fail in academic settings. Pace and Stern extended the concepts of personal needs and environmental presses to college students and created tools to assess each of these components (Stern, 1970 as cited in Walsh, 2001). These measures were created with the belief that the "total pattern of congruence between personal needs and environmental press will be more predictive of achievement, growth, and change than any single aspect of either the person or the environment" (Pace and Stern, 1958, p.276). In support of the claim that person-environment (PE) fit is beneficial in predicting achievement, Harms, Roberts, and Winter (2006) analyzed archival data on students (N=191) who had completed measures which assess both needs and presses in their freshman and senior year of university. A key finding in relation to the present discussion was that increased congruence was significantly

related to successful outcomes such as academic achievement and a greater likelihood of graduating with an honours degree.

Also based on the concepts put forth by Murray (1938), Holland (1966) put forward his theory of vocational choice. Holland's (1966) person-environment fit theory has been widely used to match individual's personality types with various work or academic environments. According to this theory (Holland, 1966; Holland, 1973), an individual's needs can be conceptualized in terms one of six personality types (e.g., realistic, investigative, social, artistic, enterprising, conventional) with the corresponding environment conceptualized in the same way (e.g., realistic, investigative, social, etc.). He asserted, like other PE-fit theorists, that behavior is the result of the interaction between the personal and environmental characteristics. Holland argued that a good fit between the personality traits of individuals (e.g., realistic type) and their work environment (e.g., realistic type) will lead to success in terms of both satisfaction and performance. Support for this hypothesis has been documented (Walsh, 1973).

Pervin's work is also based on the needs and presses concepts articulated by Murray (1938). Pervin (1967, 1968) asserted that fit or congruence between the individual and their environment has a number of beneficial outcomes: the individual will be more likely to perform better, experience less dissatisfaction with their environment, and will experience less stress. However, when congruence between the environment and the individual's characteristics (e.g., values, beliefs, goals and desires) is not present, the opposite was postulated to be true (Pervin, 1968). In one of his early studies, Pervin (1967) and Pervin and Rubin (1967) had college students rate six concepts (e.g., College, Ideal College, Self, Students, Faculty, Administration) on scales such as "warm-cold", "moral-amoral", and "scholarly-non-scholarly". These scales were then



used to predict satisfaction/dissatisfaction as well as attrition. The results of the two studies highlight the links between fit and positive student outcomes. Students with lower levels of congruence between their perceptions of self and their perceptions of their environment were more likely to experience dissatisfaction with their college for non-academic reasons, whereas students with a high level of congruence were more satisfied and less likely to depart from their institution. These results support the importance of considering fit when examining student attrition.

Regardless of which theory of fit is employed, there are several foundational assumptions which are shared among them (Swanson & Fouad, 2000; Walsh, 1973). In particular, all of the available person-environment fit theories hold Lewin's formula of  $B=f(P,E)$  as their foundation. It is also generally agreed upon that individuals seek out external environments which are compatible with their own needs, characteristics and values and that positive outcomes occur as this fit increases (Swanson & Fouad, 2000; Walsh, 1973). When a lack of fit is present, the individual may either try to minimize his or her needs, alter the environment, or may opt to avoid or depart from the environment. Indeed, Darlaston-Jones and colleagues state that "it would appear that the person-environment fit is an important variable in terms of student retention as the incompatibility between student and university is a primary cause of attrition" (Darlaston-Jones, Cohen, Drew, Haunold, Pike & Young, 2001, p.2)

Although it seems clear that this theory may be beneficial for understanding the adjustment and persistence of post-secondary students, few researchers have directly investigated the relationship between PE fit and various forms of post-secondary adjustment (e.g., social,

personal/emotional, academic, and overall adjustment). The current research was designed to fill this gap by examining the relationships between fit, adjustment and anticipated persistence.

When considering how to assess person-environment fit, various factors must be considered. First, questionnaires that assess the environment and the person on the same (commensurate) dimensions must be employed (e.g., French et al., 1974). Second, one must decide how the person and environment variables are defined. In line with the work of Tracey and Sherry (1984), the person variable in the present study was defined as an individual's perceptions of his/her ideal campus environment while the environment variable was defined as the individual's perception of the way his/her environment is in reality. This conceptualization was selected because it is practical and can be used in various settings (e.g., university vs. non-university, mainstream vs. non-mainstream). This conceptualization has also been employed in recent studies of fit within student populations (Robert & Robins, 2004).

Based on the outlined definition of P and E, the PE fit construct in the present study was defined in terms of the discrepancy between the individual's perceptions of the ideal post-secondary environment (P) and their perceptions of the actual post-secondary environment (E). Discrepancy scores were then computed by subtracting E items (e.g., individual's perception of the actual environment) from P items (e.g., individual's perception of the ideal environment; Tracey & Sherry, 1984).

The review of the literature suggests that several types of PE fit scores can be computed including subjective PE fit (e.g., relation between perceptions of the person and environment) and objective PE fit (e.g., actual, rather than perceived, relation between person and environment; e.g., Caplan, 1987; French et al., 1974; Tracey & Sherry, 1984) and anticipatory PE fit (e.g.,

relation between the person and the anticipated environment; Cook, 1987), with each calculation providing a different piece of information about the fit between the person and the environment (Caplan, 1987 as cited in Harms et al., 2006).

Using real and ideal ratings on the University Residence Environment Scale (URES), Tracey and Sherry (1984) examined two types of discrepancy: perceived discrepancy and actual discrepancy. For each participant, a perceived discrepancy (a subjective PE fit) score was calculated by subtracting the individual's ideal ratings from their real ratings on the URES. They also computed an actual discrepancy (an objective PE fit) score. This was done by first computing a measure of the "real" or actual environment, which in this case was an aggregate (e.g., "consensus") score of all participants' real environment ratings. Tracey and Sherry (1984) posited that the aggregate score is a better assessment (e.g., more reliable and valid) of the actual environment as it is less likely to be affected by subjective views or distortion. Thus, the second measure, the actual discrepancy (the objective PE fit measure), was calculated by subtracting the group average/aggregate score from the individual's ideal score. The results of their study are congruent with the PE fit assumptions. They found that the fit model (in general) was better able to predict distress than could either variable (e.g., person and environment) independently and also found that objective fit scores outperformed subjective fit scores in analyses related to distress.

Similarly, Tracey, Sherry and Keitel (1986) examined the influences of fit (perceived discrepancy and actual discrepancy) and self-efficacy on distress and seeking services from professional sources. Participants completed the URES in the same manner as they did in the Tracey and Sherry (1984) study by rating their residence hall as they believed it is actually was

and their ideals for this environment. Measures of physical symptoms and anxiety were used to assess distress, the Problem-Solving Inventory was used to assess self-efficacy, and a 3-item measure was used to measure the extent to which they sought medical or psychological help and services. The analysis revealed significant connections between distress, self-efficacy and perceived discrepancy. In addition, objective fit (or actual discrepancy as defined by the authors) but not subjective (perceived) fit had a noteworthy effect on whether participants engaged in help-seeking behavior. These results again suggest that PE fit is a good predictor of distress. These findings also support the assertion by Tracey and Sherry (1984) that the calculation of both actual and perceived discrepancy is beneficial, as different patterns of results may emerge with each type of calculation. Based on these findings, the present study examined both subjective fit defined as individual's ideal score (e.g., what they want) minus their actual score (e.g., what is actually the case), as well as objective fit as defined by the individual's ideal score minus the group's mean actual score (Tracey & Sherry, 1984; Tracey et al., 1986).

It has further been asserted that there are two possible types of poor fit (Tracey et al., 1986). The first is when the environment is unable to meet the needs of the individual and the second is when the environment surpasses the needs of the individual. It has been speculated that the first type of incongruence (does not meet expectations/needs) is likely more problematic than the latter type (French et al., 1974; Pargament, 1986). Both types of poor fit, in addition to theoretically good fit, were examined in the present study in relation to adjustment and persistence.

In the present study, it was hypothesized that students who demonstrated greater fit in their post-secondary institution would report higher levels of adjustment. It was also predicted

that students who reported greater fit with their institution would report greater intentions to continue with their studies. Lastly, I examined whether there were differences between Aboriginal students at the U of S and Aboriginal students at SIAST in terms of fit. No directional hypotheses were formulated in this instance.

### **Background Factors and Adjustment**

Generally speaking, a student's background factors cannot be modified. However, background characteristics, such as age, gender and ethnicity have been found to be associated with post-secondary adjustment in various ways and provide a sense of which students may be at risk for adjustment difficulties. In the present study, the connections between adjustment and age, gender, ethnicity, perceived distance between the institution and hometown, financial difficulties, and high school preparation were examined.

### **Ethnicity and Adjustment**

Minority groups have frequently been found to have lower rates of post-secondary persistence as compared to ethnic majority groups (e.g., Grayson & Grayson, 2003). Although several factors influence their persistence rates, one possible explanation for these lower rates is that minority students experience poorer post-secondary adjustment. Support for this speculation has been documented.

Kenny and Stryker (1996) found that first year majority students of European American descent had higher levels of personal-emotional adjustment when compared to AHANA (African American, Hispanic American, Asian American, and Native American) students. Hutz, Martin and Beitel (2007) also found that ethnic majority first year students were better socially adjusted

and more attached to their institution than were the students in ethnic minority group (which was primarily composed of Hispanic American, African American and Native American students).

However, it should be noted that other studies have found no ethnic differences in adjustment. Jay and D'Augelli (1991) found that first year African American students did not experience higher levels of psychological or physical distress as compared to the White participants. Similarly, Hutz, Fabian and Martin (2003) also found that their first year minority group (composed primarily of African American, European American, Hispanic American and Native American students) did not have lower levels of academic, social, personal-emotional or institutional attachment than their European American sample. Similarly, Tomlison-Clarke (1998) found no statistical differences in academic or social adjustment between Black and White students. In fact, contrary to the early noted findings that minority students struggle to adapt, Tomlison-Clarke (1998) found that Black female students were at an advantage in terms of personal-emotional adjustment, doing better in emotional and physical domains than their White counterparts.

In the present study, all major adjustment variables were tested for ethnic differences in order to determine whether first year Aboriginal and non-Aboriginal post-secondary students experienced different levels of adjustment. In light of the conflicting findings noted above and because no known research has compared these two groups on adjustment, no directional hypotheses were made.

### **Perceived Distance and Adjustment**

For many people, the pursuit of a post-secondary degree often requires relocation to a new city, especially in the case of Aboriginal students (Holmes, 2005). With this move comes a host

of new challenges – making new friends, getting used to a new city and way of life, and being away from the familiar people and situations with which one grew up. It seems possible then that distance from home may influence a student's post-secondary adjustment.

In the literature, distance from home has been investigated as a possible correlate and predictor of post-secondary adjustment. Mooney, Sherman and Lo Presto (1991) examined the relationship between distance from home and adjustment among a sample of first year, female college students. Although they did not find a relationship between physical distance and any of the adjustment subscales, perceived distance was correlated with every assessed measure of adjustment (academic, social, personal-emotional, institutional attachment and overall post-secondary adjustment). Specifically, students who perceived the distance between their home town and their institution to be "just right" were more likely to report better adjustment in all areas compared to those who perceived the distance to be "too far". Furthermore, their regression analyses revealed that perceived distance was a significant predictor of social, personal-emotional and overall adjustment as well as institutional attachment.

Brooks and DuBois (1995) examined the relationships between post-secondary adjustment and various individual and environmental factors in a sample of first-year students. One of the environmental predictors assessed was distance in miles between the student's family home and their institution. Participants in this sample had a mean physical distance of 270.82 miles ( $SD = 349.46$ ). The authors found that students who moved farther from their family home were more likely to have difficulties adapting socially than students who reported less physical distance between home and their institution. Indeed, distance from home was found to be a significant individual predictor of social adjustment.

The results of these studies suggest that distance from home may play an important role in the adjustment of first year students, with perceived distance appearing to be the stronger predictor. The present study examined the relationship between perceived distance and adjustment. It was hypothesized that increased perceived distance would be associated with lower levels of adjustment.

### **Age and Adjustment**

Many students will make the transition to post-secondary education immediately following high school. Indeed, the authors of the CUSC 2010 First-Year University Student Survey (Canadian University Survey Consortium, 2010) report that three quarters of all first year Canadian university students are under the age of 18. However, other students choose to delay their education for a variety of reasons such as lack of interest or a desire to travel, work, marry, or start or raise a family. The profile of these older students is much different than those of students who enter following high school: many of the older students continue to work full-time, are married and have children. Consequently, in addition to their academic stress, these students may have additional challenges that complicate their post-secondary experience (Chartrand, 1992; Jacobi, 1987). Moreover, students who do not enroll immediately after high school have been found to have considerably lower rates of degree completion compared to those that make the transition immediately (Berkner, He & Cataldi, 2002; Parkin & Baldwin, 2009), potentially because of their personal or familial responsibilities. Thus, it seems likely that these students will experience adjustment to post-secondary institutions differently than their younger counterparts.

While limited research exists on the specific association between age and adjustment to post-secondary institutions, Brooks and DuBois (1995) reported that compared to younger



students, older students experienced lower levels of overall college and social adjustment as well as lower levels of institutional attachment. In addition, their regression analyses revealed that student age was a unique predictor of social adjustment. A possible explanation for these findings is that older students may have fewer opportunities to develop or foster an on-campus social support network because of outside commitments (Dill & Henley, 1998). However, other researchers have found that older students do not score lower on indices of adjustment. For example, older students have been found to have more school-related satisfaction (Jacobi, 1987), more confidence in their skills (Harris & Brooks, 1998), less school-related stress (Jacobi, 1987; Yarbrough & Schaffer, 1990) and fewer health symptoms (Jacobi, 1987).

In order to gain a better understanding of the relationship between age and adjustment, all major adjustment variables were tested for age differences in the present study. In line with the results from the Brooks and DuBois (1995) study, it was hypothesized that older students would experience lower levels of adjustment as compared to younger students.

### **Gender and Adjustment**

Due to a variety of reasons such as increased opportunities, financial stability, and social independence, women have been entering post-secondary institutions in higher proportions than men over the last few decades (Shaienks & Gluszynski, 2007). In Canada, and especially in the Aboriginal student population, there are now more women pursuing post-secondary training than men (Mayes, 2007; Canadian University Survey Consortium, 2010).

Researchers have queried whether gender differences are present in post-secondary adjustment. However, the pattern of findings on gender differences in adjustment does not produce a clear picture: some researchers have found that male students have higher levels of

personal-emotional adjustment (Kenny & Stryker, 1996; Wintre & Sugar, 2000) and overall adjustment as assessed by the SACQ (Enochs & Roland, 2006; Wintre & Yaffe, 2000), whereas others have failed to find any significant differences in adjustment and well-being between male and female college students (Brooks & DuBois, 1995; Halamandris & Power, 1997; Jay & D'Augelli, 1994; Kalsner & Pistole, 2003). Due to the limited literature on the link between gender and adjustment in a Canadian population, potential gender differences in post-secondary adjustment were examined in this study. No directional hypotheses were made in this instance.

### **Financial Struggles and Adjustment**

It is widely accepted that obtaining a post-secondary education can be financially costly. Indeed, by the end of a four year degree, the average amount of student loan debt is estimated to be approximately \$13,000 for Canadian college students and \$20,000 for Canadian university students with a substantial percentage (14%) owing in excess of \$25,000 in student loans alone (Statistics Canada, 2004). The prospect of considerable debt combined with the continually increasing tuition fees are an understandable stressor for students. Many of them will have to find alternative sources of income to fund their education, especially if they have families to support or have to relocate from rural areas to more expensive urban areas. This may add additional stress to an already challenging experience and could lead some to leave the higher education system to explore alternative and less costly options.

The high costs often mean that an individual's access to educational opportunities is dependent upon their financial status. For many individuals of lower socioeconomic status, a group to which many Aboriginal students unfortunately belong, the pursuit of a post-secondary degree can be difficult and in some cases impossible (Mendelson, 2006). An examination of the

relationship between family socioeconomic status and university participation revealed that the children of parents with the highest socioeconomic status (SES) are significantly more likely to attend a post-secondary institutions (approximately 40%) compared to individuals from the lowest SES backgrounds (18%; Canadian Education Statistics Council, 2000). Higher levels of SES have also been associated with increase rates of degree completion (Tinto, 1993). These findings clearly highlight the impact of financial difficulties (or the lack there of) on an individual's life path.

The connection between post-secondary adjustment and SES has been investigated in several studies. Brooks and DuBois (1995) examined whether self-reported family income was associated with higher levels of adjustment. In this case, family income was found to be a significant independent predictor of social adjustment as well as personal-emotional adjustment. Family income was neither correlated with nor predictive of academic adjustment in this study. Castillo and Hill (2004) examined the tie between SES and psychological distress with a sample of female college students of Mexican descent. The results of this study revealed a significant negative correlation between income and distress, with students with lower levels of income reporting higher levels of psychological distress. This latter finding was also present among an ethnically diverse sample of first year students in Smedley, Myers and Harrell's study (1993).

Based on these findings, in the present study, all major adjustment variables were tested for household income differences. In addition, just as perception of distance has been found to be more strongly associated with adjustment than actual distance from home, of interest in the present study was the connection between perceived financial difficulties and adjustment. It was

hypothesized that increased perceived financial difficulty would be associated with lower levels of adjustment.

### **High School Preparation, Adjustment and Persistence**

Upon entering university, it is expected that the individual possesses various abilities and skills including but not limited to language, reading, math and science. Typically developed alongside social skills during the elementary and high school years, these skills are necessary to succeed at the post-secondary level. Indeed, Canadian students who are more engaged academically and socially during the high school years have been found to have higher rates of post-secondary degree completion (Shaienks & Gluszynski, 2007). However, many students do not have the opportunity to learn or develop these skills during high school and graduate from high school lacking necessary preparation and feeling unprepared for post-secondary studies (Venezia, Kirst, & Anthony, 2003). Consequently, these students may drop out of university because they are unable to keep up with the demands that are placed on them. For some students, such as those of Aboriginal descent, high school preparation appears to be a crucial factor to investigate as many come from high schools in which the quality of teaching was poor or the curricula did not afford the opportunity to develop the necessary skills (Archibald et al., 1995).

Previous academic preparation has been associated with a host of positive outcomes including increased academic performance, adjustment and persistence. Kahn and Nauta (2000) examined the relationships between high school preparation (defined as high school rank and American College Testing scores), academic self-efficacy, first semester grade point average and persistence to second year. They found that high school rank and ACT scores were associated with higher levels of pre-college academic self-efficacy and higher college GPA. In addition, as

high school rank increased so too did the likelihood of persistence. Soares and colleagues (2009) also found that high school access marks were a strong predictor of college GPA. Robbins, Lauver, Le, Langley, Davis and Carlstrom(2004) findings that high school GPA was associated with persistence and Hershberger and D'Augelli's (1992) findings that precollege performance (high school GPA) was directly associated with college grade point average support those of Kahn and Nauta. In addition, Robbins et al. (2004) state that "we know that academic achievement in high school (as evidenced by standardized achievement tests and high school GPA) is the best precollege predictor of first-year college GPA" (p.276). Research has also found that American College Testing scores were predictive of anticipated college GPA, personal-emotional adjustment and academic-adjustment and correlated with higher levels of social adjustment (Brooks and DuBois, 1995).

Although the links between actual high school preparation and performance, adjustment, and persistence have been documented in the literature, the present study contributes to the literature by investigating the connections between student's self-perceived high school preparation, adjustment and persistence. It was hypothesized that students who reported that they felt prepared by their high school education would also report higher levels of adjustment and anticipated persistence as compared to those students who felt unprepared by their previous education. Of interest was also whether Aboriginal students would report lower levels of preparation as compared to their non-Aboriginal peers, as this may signal a potential area in which intervention is both prudent and possible. Furthermore, the relationship between perceived high school preparation and academic self-efficacy at the college level was examined. It was

hypothesized that students who felt more prepared by their high school education would also report higher levels of academic self-efficacy.

### **Psychosocial Factors, Adjustment and Persistence**

#### **Social Support**

Defined by some as “the existence or availability of people on whom we can rely, people who let us know that they care about, value, and love us” (Sarason, Levine, Basham & Sarason, 1983, p.127), social support is an extensively studied variable among both the general population and post-secondary students. The following section is divided into three parts. First, various forms of social support will be defined. Next, the processes by which social support is believed to produce its benefits will be discussed. Lastly, the current literature on the impact of social support on college students is reviewed.

**Types of Social Support.** Social support is not limited to one act or behavior but instead can take many forms. For example, *esteem support* refers to the individual perceiving others as being appreciative of them and of acknowledging their worth and value (Cobb, 1976). *Emotional support*, as described by Cobb, involves the individual perceiving his/her social network as providing nurturance, love and care. Cohen and Wills (1985) also describe how social networks can provide other forms of support such as *instrumental support* (e.g., providing material support or services such as money or goods), *informational support* and *companionship*. Weiss (1974) proposed, and Cutrona and Russell (1987) further developed a measure to assess various types of provisions or supports that can be provided by one’s social networks. These provisions include *guidance* (e.g., receiving advice and information on how to deal with problems), *attachment* (e.g., feelings of security and a sense that one is loved and cared for), *reassurance of worth* (e.g.,

receiving feedback that one is worthy and able), *reliable alliance* (e.g., feeling that others would be willing to lend a hand if need be), *social integration* (e.g., feeling as though one belongs to a group that shares similar ideas, interests and concerns) and *nurturance* (e.g., feeling that one can offer various types of supports to others in the network). Although each of these individual forms of support can be examined in relation to well-being, in the present study only overall or total amount of support was examined unless otherwise stated.

**Social Support Theories.** Researchers (e.g., Cobb, 1976; Cohen & Wills, 1985) have described the ways in which social support produces beneficial results. In the first model, social support is seen to be beneficial to individuals under stress as well as those who are not (Cohen & Wills, 1985). Social support is proposed to increase an individual's overall well-being through the positive benefits of nurturance, affection and companionship. In the second model, social support is said to mediate the relationship between stress and well-being by influencing how an individual appraises the situation (e.g., viewing the situation as manageable or threatening as a result of support or lack thereof; Cobb, 1976; Cohen & Wills, 1985). In this model, social support is primarily beneficial to those experiencing stressful circumstances. For example, when stress is absent or minimal, the degree of social support is not believed to influence well-being (e.g., individuals with high and low social support should score in a comparable way on measure of well-being while the benefits of social support would be seen when a high stress event occurs. In this situation, individuals who perceive that they would be able to access high levels of support will fare better than those who perceive that support is low or absent. Cohen and Wills (1985) reviewed the literature on both models and concluded that a level of support exists for each.

**Social Support and Post-Secondary Students.** Social support has consistently been found to be beneficial to post-secondary students (e.g., Aspinwall & Taylor, 1992; Brown, Brady, Lent, Wolfert, & Hall, 1987; Cohen & Wills, 1985; Dennis, Phinney & Chuateco, 2005; Jay & D'Augelli, 1991; Lamothe, Curie, Alisat, Sullivan, Pratt, et al., 1995; Schneider & Ward, 2003; Solberg & Villarreal, 1997). For example, social support has been associated with higher levels of *post-secondary adjustment* (e.g., Halamandaris & Power, 1997; Lamothe et al., 1995; Pratt, Hunsberger, Pancer, Alisat, Bowers, Mackey et al., 2000), *college satisfaction* (Weir & Okun, 1989), *life satisfaction* (Coffman & Gilligan, 2002-2003), *optimism* (Sarason et al., 1983), *general well-being, self-esteem and positive affectivity* as well as *lower levels of loneliness* (Halamandaris & Power, 1997; Nicpon, Huser, Blanks, Sollenberger, Befort & Robinson Kurpius, 2006), *distress* (Solberg & Villareal, 1997), and *anxiety, depression and hostility* (Sarason et al., 1983). Although Hersberger and D'Augelli (1992) did not find significant relationships between social support and persistence in their study of African-American and White university students, others have found that higher levels of perceived support are related to increased actual or anticipated post-secondary persistence (Gloria & Robinson Kurpius, 2001; Mallinrockdt, 1988; Pancer et al., 2007 as cited in Mattanah, Ayers, Brand, Brooks, Quimby & McNary, 2010) and are predictive of retention/persistence even when other factors (e.g., SES, high school GPA) are controlled (Robbins et al., 2004). In the present study, the relationships between social support, post-secondary adjustment and anticipated persistence were examined. It was hypothesized that higher levels of social support would be associated with higher levels of adjustment and anticipated persistence.



**Ethnicity Differences and Social Support.** Conflicting findings are present in the literature in terms of differences in social support among ethnic majority and minority college students. Cole, Matheson and Anisman (2007) found both ethnic majority and minority students taking introductory level classes reported similar levels of perceived support from their friends. However, ethnic minority students did perceive less academic support compared to the sample of Caucasian students.

Research examining social support among White (majority) and African-American (minority) first year students (Jay & D'Augelli, 1991; Herschberger & D'Augelli, 1992) found that African-American students reported lower levels of perceived availability of social supports compared to their White peers. However, Jay and D'Augelli (1991) found that the two groups had similarly sized networks, felt that their networks provided adequate support, and interacted with their network to a similar degree. In addition, once socioeconomic status was controlled for, African American students were no longer found to report significantly less perceived availability of support.

One known study has investigated the social support of Aboriginal Canadian students. Parrack and Preyde (2004) assessed a sample of 22 Aboriginal students on overall social support. The authors found that reported levels of support amongst this group were comparable to the levels of support of the support measure's normative sample. However, the authors note that this finding is based on a very small number of students, most of whom were in a unique position of being connected to their institution's Aboriginal student advisor who could inform them of available supports. The authors call for researchers to continue examining this area as this would help determine the generalizability of their findings. The present research aimed to contribute to

the literature in this area by examining and comparing the perceived levels of social support of first year Aboriginal and non-Aboriginal students.

**Sources of Social Support.** Social support networks can be composed of various individuals ranging from family and friends to colleagues and professionals. In the literature on social support among college students, the two most commonly investigated sources of support are family and friends.

Several studies have highlighted the importance of family support at the college level. Cutrona and colleagues (1994) investigated the connections between social support from parents, social support from peers (e.g., friends and romantic partners), and academic achievement in a sample of undergraduate students. They found that parent support (but not other types of social support) predicted grade point average, even after they controlled for academic ability. The authors speculated that parent support may help students cope with immediate environmental stressors (e.g., final exams). However, they also speculate that having support from parents over the years assists students in developing skills and abilities and general feelings of confidence, factors which may significantly influence their academic performance and adjustment.

In addition to playing a role in post-secondary performance (e.g., GPA), parental support has also been found to be associated with post-secondary adjustment. Holahan, Valentiner and Moos (1995) conducted a study examining the connection between parental support and psychological adjustment among first year college students. In this study, parental support was positively linked to psychological adjustment. Stated differently, as students reported increasing levels of parental support, they tended to report a corresponding increase in adjustment and decrease in psychological distress. Research by Schneider and Ward (2003) also provided further

evidence for this relationship. Specifically, they found that family support was predictive of several types of adjustment (e.g., overall, emotional and academic) and concluded that that receiving support from family is a better predictor of adjustment than is support from other sources such as peers and academic staff.

Duchesne, Ratelle, Larose and Guay (2007) queried whether parent support impacts the academic and emotional adjustment trajectories of undergraduate science students. Data was collected at three time points: during the last year of high school, during the first year of university and during the second year of university. Higher perceived levels of parental support and involvement were beneficial to students as evidenced by the links between these variables and the adjustment trajectories. Students whose adjustment declined over the course of the study perceived less parental support and involvement compared to those whose adjustment remained high over the course of the study. These findings again highlight that parents may be act in ways that buffer their children against the stresses of post-secondary transition and that their continued involvement in this new stage of life could be of significant benefit to their son or daughter.

In light of the finding that parental support is associated with adjustment, it is not surprising that researchers have found associations between parental support and retention/persistence. Research by Walker and Satterwhite (2003), Witherspoon, Long and Chubick (1999), and Nicpon and colleagues (2006) have found that students with higher levels of perceived parental support were less likely to withdraw from their studies as compared to those with lower levels of parental support.

Friends have also been found to play a crucial role in the student experience. Receiving support from friends has been associated with positive adjustment and mental health

(Friedlander, Reid, Shuppak and Cribbie, 2007), fewer feelings of loneliness and higher levels of adjustment (Nicpon et al., 2006). Although some have found connections between parent support and academic performance at the undergraduate level (e.g., Cutrona et al., 1994), these links are not consistently found when friend support is examined. Indeed, some researchers (e.g., Cutrona et al., 1994) reported no connections between undergraduate academic and friend support, while others found significant associations between these variables (Dennis et al., 2006; Friedlander et al., 2007). In addition, Dennis, Phinney and Chuateco (2006) looked at the relationships between support from friends, family, and adjustment and performance. Their regression analyses controlled for a number of background factors (e.g., high school GPA, ethnicity, gender, and SES, and motivation), and revealed that a perceived lack of peer support was the only significant predictor of GPA and overall college adjustment.

Research also suggests that friends and family may negatively influence the experience of some students by acting in either subtle or clearly unsupportive ways. For example, Hsiao (1992) stated that families of first generation college students (which many Aboriginal students are) may see the post-secondary pursuit negatively because their son/daughter's time, attention, energy are now divided between academic, social, family and work domains. Similarly, friends of first generation post-secondary students may not appreciate their friend's new commitments, may feel that he or she is changing in ways to which they cannot relate, or they may feel that the student is purposely acting in ways that are against cultural values or tradition. It is reasonable to speculate that it would be stressful for students to feel unsupported by the closest members of their social network and to adjust to changes in their relationships with these individuals. Although independently stressful, when combined with the stress of an already challenging experience this

may lead some to struggle so much that they ultimately pursue a more supported, non-academic path.

In light of the finding of the importance of friends and family, these variables were investigated in the present study. Of particular interest was whether students felt that they received as much support from friends and family as they would like. In addition, the relationships between support from friends and family to pursue a post-secondary education and adjustment and anticipated persistence were examined.

### **Academic Self-Efficacy**

Bandura (1997) described self-efficacy as “[the] beliefs in one’s capabilities to organize and execute the courses of action required to produce given attainments” (p. 3) and reported that these beliefs impact the individual cognitively, emotionally, and behaviourally (Bandura, 1986, 1997). For example, self-efficacy beliefs have been found to influence an individual’s decision to engage in a task (Bandura, 1986, 1997). He asserted that individuals will pursue tasks that they feel capable of handling and be unmotivated to pursue or avoid those in which they feel less efficacious (Bandura, 1997). In relation to the present study, it could then be hypothesized that individuals who feel that they are capable of succeeding at the post-secondary level would be more likely to attend or continue with their studies, whereas those who possess less self-efficacy may potentially avoid or discontinue their studies because of the belief that this may exceed their capabilities. This latter group may instead pursue a path in which they have more confidence and a greater likelihood of success.

Self-efficacy beliefs have also been found to influence all aspects of an individual’s involvement with a task including their effort, persistence, and performance (Bandura, 1986,

1997; Schunk & Pajares, 2002). At the post-secondary level this would suggest that students with high levels of self-efficacy would invest more time and effort into their studies, feel challenged rather than threatened by difficulties, would perform better, and would continue with their education in the face of setbacks or obstacles. According to Bandura (1986, 1997), our beliefs about our efficacy can also have a significant impact on how we perceive and emotionally react to a given task. For example, a student who has a low sense of test-taking self-efficacy may spend time focusing on this limitation which in turn may heighten his or her stress and anxiety when it comes time to write his or her exams, whereas a student with high self-efficacy in this area could remain calm in the face of this challenge.

**Development of Self-Efficacy.** According to Bandura (1986, 1997), an individual's self-efficacy is developed through and is primarily influenced by four types of experiences. An individual's personal experiences with accomplishment or failure have the greatest impact on his/her perceived ability to succeed. Specifically, when an individual succeeds at a task or experiences a sense of personal accomplishment, the individual will likely believe they can succeed at the task again in the future and experience a corresponding increase in his or her self-efficacy. Likewise, when an individual repeatedly fails to succeed at a task, he or she may come to believe that the capabilities they needed to complete the task are lacking or absent.

Observing others engage in tasks is also said to influence self-efficacy (Bandura, 1986, 1997). In this case, a student who observes others whom he or she perceives as similar to themselves succeed at a task can lead to an increase in self-efficacy. For example, observing a fellow student achieve a 90% on an exam or in-class presentation could lead an individual to believe that he or she could also attain this level of performance and could also provide the

individual with some new ideas on how to best succeed at the task. The reverse is also true – observing a classmate fail at a task even when significant effort was expended could result in doubts about one's own abilities.

The third influence involves significant others verbally articulating their beliefs about the individual's capabilities to perform a given task. Verbal persuasion can be positive (e.g., a first year student being persuaded by their professor about their ability to succeed at a task) or negative (e.g., a first year student is being told by his/her professor of his/her lack of skill or talent and inability to succeed) and can result in respective increases or decreases in self-efficacy.

Lastly, physiological or emotional states also play a role (Bandura, 1986, 1997). The way our bodies react can provide information on how an individual views his or her abilities. High levels of anxiety or stress when thinking about an action or task may result in the individual gauging his or her self-efficacy as poor. These negative states can further lower self-efficacy and cause the individual to perform less well than he/she should. On the other hand, when an individual experiences calmness and low levels of tension, he/she may perceive this to be an indicator of good self-efficacy. Although the *development* of self-efficacy was not examined in the present study, an awareness of the sources related to its development may help to identify how to improve the self-efficacy of those first year students who are struggling with this area.

**Academic Self-Efficacy.** Various types of self-efficacy have been examined (e.g., generalized self-efficacy, course specific self-efficacy, academic self-efficacy; Choi, 2005; Lightsey & Barnes, 2007; Solberg, O'Brien, Villarreal, Kennel & Davis, 1993) in relation to the post-secondary experience, with results indicating that self-efficacy is associated with many outcomes including but not limited to *college satisfaction* (DeWitz & Walsh, 2002), *positive*

*affect* (Lent, Taveira, Sheu, & Singley, 2009), *lower stress and better adjustment* (Solberg & Villareal, 1997) and *performance and persistence* (Lent, Brown & Larkin, 1984; Multon, Brown & Lent, 1991). In the present study, only academic self-efficacy was examined. This type of self-efficacy assesses an individual's perceived ability or confidence in completing academic tasks such as taking class notes, writing exams and using a computer (Owen & Froman, 1988; Solberg et al., 1993; Torres & Solberg, 2001).

**Academic Self-Efficacy and Post-Secondary Students.** Higher levels of academic self-efficacy among post-secondary students has been associated with higher *grade goals and course performance* (Wood & Locke, 1987), better *life satisfaction* (Coffman & Gilligan, 2002-2003), higher *grade point average* (Edman & Brazil, 2007; Jing, 2007), less frequent changes in *academic major* (Elias & Loomis, 2000) as well as lower *test anxiety* (Jing, 2007). Chemers, Hu and Garcia (2001) also found that higher levels of academic self-efficacy were directly associated with students feeling capable of coping with a task (e.g., viewing it as challenging) rather than feeling intimidated and judging their abilities to cope as being insufficient to deal with the demands of the task at hand (e.g., viewing it as a threat). The authors also found that actual performance and expectations about later performance were directly linked to participants' sense of confidence in their academic abilities. In addition, Chemers and colleagues found that academic self-efficacy indirectly influenced levels of stress, health and adjustment. Moreover, Lent, Brown and Larkin (1984) found that high school achievement (e.g., preliminary SAT scores and high school ranks) was positively correlated with self-efficacy among college students. The authors speculated that strong achievement during the pre-college years may assist students in developing their self-efficacy. It seems possible then that students who perceive their



high school education as adequate preparation for post-secondary studies would experience higher levels of self-efficacy during the first year of post-secondary studies. This hypothesis was investigated in the present study.

Consistent with the findings that self-efficacy has beneficial effects, a meta-analysis conducted by Multon, Brown and Lent (1991) found that self-efficacy was a significant and unique predictor of both academic performance and academic persistence, accounting for 14% and 12% respectively. However, in this meta-analysis, it is not clear what type of self-efficacy was examined even though the review of the literature brings to light the fact that different forms of self-efficacy exist. Similarly, this meta-analysis included studies with participants in various educational settings (e.g., elementary students, high school students, and college students), the largest percentage of which involved non-post-secondary students.

Taking these limitations into account, a meta-analysis was conducted by Robbins and colleagues (2004) to examine the connections between a diverse array of psychosocial factors (including academic self-efficacy) and successful post-secondary outcomes (e.g., performance and persistence). Their results indicated that academic self-efficacy was one of the strongest predictors of whether students continue (i.e., persist) with their studies. Academic self-efficacy was also found to be the strongest predictor of grade point average when compared to the other psychosocial factors assessed (e.g., social support, achievement motivation). In addition, academic self-efficacy was found to be uniquely predictive of performance and persistence after variables such as high school performance were taken into account.

Kahn and Nauta (2001) also found connections between academic self-efficacy, performance, and persistence. Consistent with this latter study, Gore (2006) found that academic

self-efficacy reported at the mid-point of students' first year had a significant association with their later academic performance. Furthermore, at the end of the first year of college, academic self-efficacy was found to be a strong predictor of GPA, accounting for a significant amount of variance in GPA over and above pre-college performance. Although the majority of the reviewed studies focused on the associations between academic self-efficacy, performance and retention, limited research has focused on the connection between academic self-efficacy and post-secondary adjustment. Chemers and colleagues (2001) found that academic self-efficacy had an indirect influence on adjustment. In particular, because individuals with higher self-efficacy viewed situations as challenging rather than threatening they experienced lower levels of stress, which in turn resulted in better health and adjustment. Lent, do Ceu Taveira, Sheu and Singley (2009) also found support for the relationship between academic self-efficacy and adjustment. These authors examined this link among a sample of Portuguese university students and found that increasing levels of self-efficacy corresponded with increasing levels of academic adjustment (defined as academic satisfaction, low perceived academic stress, and self-perceived academic adjustment). Zychowski (2007) examined the influence of various factors on the adjustment of 127 first year college students. The results of her work supported those of Lent and colleagues (2009) in that academic self-efficacy was associated with, and was predictive of, academic adjustment. Zychowski's findings also revealed that academic self-efficacy was again associated with, and predictive of, social and personal-emotional adjustment.

**Ethnicity Differences and Academic Self-Efficacy.** Limited research has examined whether ethnic differences in academic self-efficacy exist among college students (Schunk & Pajares, 2002) and the research that does exist has produced conflicting findings. For example,

research by Thomas-Spiegel (2006) found no differences between the White and non-White samples. Contrary to this finding, Rushi (2005) found that Caucasian American students reported statistically higher levels of academic self-efficacy as compared to Indian American undergraduates. It is probable that group differences are lost when minority groups are collapsed into one category (“non-White”; Thomas-Spiegel, 2006), however, it is also possible that some ethnic groups (e.g., Caucasian American vs. Indian American; Rushi, 2005) truly do differ on their levels of self-efficacy while other ethnic groups do not. It is also possible that differences in the measures utilized by the respective studies may account for these differences.

Based on the available literature on the connections between academic self-efficacy and post-secondary outcomes, it was hypothesized that higher levels of academic self-efficacy would be associated with higher levels of adjustment. It was also hypothesized that students who reported higher levels of academic self-efficacy would report greater intentions to continue with their studies the following year. In addition, as no known research has examined whether Aboriginal and non-Aboriginal first year students differ in their levels of academic self-efficacy, this was examined in the present study. No directional hypotheses were put forth in this instance.

### **The Present Study**

The purpose of the present study was to come to an understanding of the connections between background variables, psychosocial variables, person-environment fit and the post-secondary adjustment and anticipated persistence for a group of first year Aboriginal and non-Aboriginal students in Canada. In the first part of the study, Aboriginal and non-Aboriginal participants were followed from the beginning to the end of their first year in order to examine their experience with this transition. The sample consisted of non-Aboriginal students from a

university setting and Aboriginal students from both a university and a non-university post-secondary (college) setting. Based on the finding that there is a significant discrepancy between the number of Aboriginal and non-Aboriginal persons who hold university degrees but that this discrepancy is not found at the trade certificate or college diploma level (Statistics Canada, 2008), Aboriginal students were recruited from two types of institutions. In the second part of the study, a subset of Aboriginal students was interviewed about their post-secondary experiences in order to benefit from the more comprehensive understanding that qualitative research can often provide.

## Method

### Survey Participants

Participants consisted of first year undergraduate students from the University of Saskatchewan (U of S) and first year diploma/certificate program students from the Saskatchewan Institute of Applied Science and Technology (SIAST).

The U of S sample (Time 1  $N = 284$ , Time 2  $N = 145$ ) consisted of self-identified Canadian Aboriginal (e.g., First Nations, Inuit, Métis) students (Time 1  $N = 60$ , Time 2  $N = 32$ ;  $M_{age} = 23.90$ ,  $SD = 6.86$ ) and self-identified Canadian non-Aboriginal (i.e., White/Caucasian/European 88.3%, Asian 8.1%, Latino/Hispanic 0.9%, African American/Black 1.4%, other 1.4%) students (Time 1  $N = 222$ , Time 2  $N = 111$ ;  $M_{age} = 18.92$ ,  $SD = 2.24$ ). The ethnicity of two participants was not known at Time 1 and at Time 2. At Time 1, U of S participants included 64 men and 217 women (3 participants did not report their sex). At Time 2 participants included 31 men and 114 women.

The SIAST sample (Time 1  $N = 32$ , Time 2  $N = 14$ ) consisted solely of self-identified Canadian Aboriginal students ( $M_{age} = 26.37$ ,  $SD = 7.19$ ). The SIAST sample at Time 1 included 12 men and 19 women (1 participant did not report his/her sex) and at Time 2 there were 5 men and 9 women. Of the combined U of S and SIAST Aboriginal sample, 70.7% identified themselves as being First Nations, while the remaining 29.3% identified themselves as Métis.

An examination of the combined (U of S and SIAST) sample revealed that 85% of the entire sample reported that they were single and 14% of the sample reported that they had children. Approximately 55% of the combined sample reported living in an urban area prior to their post-secondary education, 34% reporting living in a rural area, while 9% reported living on

a rural reserve. The majority (49%) reported having an average annual income under \$11,000. However, 15% reported an income between \$11,000 and \$20,999, 6% reported an income between \$21,000 and \$30,999, 4% between \$31,000 and \$40,999, 6% between \$41,000 and \$50,999, and 16% reported an income over \$51,000.

An examination of the entire sample also revealed that 57% of participants indicated that they were motivated to attend a post-secondary institution because of influence from parents/family, 78% reported that they were motivated by personal interest and 73% reported that a desire to get a job was a motivating factor. In addition, 17% of survey participants also reported that their motivation was due to other reasons. For example, participants indicated that they were motivated to attend a post-secondary institution in order to pursue a specific career path or to have financial stability, while others reported that they were motivated by a desire to challenge themselves and to increase their knowledge base. In addition, participants listed a desire to have “a better life” that did not involve difficult living situations or the use of the welfare system as being a motivating factor in their decision to attend a post-secondary institution. The desire to have a positive impact on their communities or to be a role model to younger generations was also described by some as being an influence in their decision to pursue higher education.

Consistent with the findings of Holmes (2005) and Human Resources and Skill Development Canada (2008), the Aboriginal participants were older ( $M_{age} = 24.81$ ,  $SD = 7.04$ ,  $t(307) = 11.12$ ,  $p < .001$ ), more likely to have children (45% had children,  $\chi^2 = 98.09$ ,  $df = 1$ ,  $p < .001$ ) and be in a married or common-law relationship (31% were married or common-law,  $\chi^2 = 35.73$ ,  $df = 1$ ,  $p < .001$ ) than the non-Aboriginal participants ( $M_{age} = 18.92$ ,  $SD = 2.24$ ; 2% had children, 5% were married or in a common-law relationships). Furthermore, the Aboriginal

participants were also more likely to report a lower annual income ( $M_{ses} = 1.87$ ,  $SD = 1.28$ ) than their non-Aboriginal peers ( $M_{ses} = 2.76$ ,  $SD = 2.10$ ),  $t(299) = -3.34$ ,  $p < .001$ ). A summary of these differences can be found in Table 1.

### **Interview Participants**

Eleven Aboriginal students who participated in the survey at both time points participated in an interview about their post-secondary experiences. The interview sample was composed of 10 Aboriginal interviewees from the U of S and one from SIAST. In total, 9 of the interviewees were female and 2 were male. The majority of Aboriginal students who took part in the interviews (8 out of 11) reported that fewer than four members of their immediate and extended family had attended a post-secondary institution, with some reporting that they were the first one in their family to do so.

### **Procedure**

Survey participants were recruited through online student advertisements (e.g., emails, message boards), posters placed in selected locations around campus, classroom presentations and pizza lunches held at the Aboriginal Student Centers. In addition, at the U of S, survey participants were also recruited using a website (participant pool) designed to provide students enrolled in first year psychology courses with the opportunity to participate in psychological research. Prior to data collection, consent from each participant was obtained (see Appendix A for survey consent form). Of note, the majority of the participants completed the surveys via a link to the online questionnaire (Time 1  $N=285$ ; Time 2  $N=159$ ), while others completed an identical paper and pencil version of the questionnaire (Time 1  $N=31$ ).

Table 1

*Demographic differences between Aboriginal and non-Aboriginal participants*

	<b>Aboriginal</b>	<b>Non- Aboriginal</b>	<b><i>p</i></b>
<b>Age</b>	24.81 (SD = 7.04)	18.92 (SD = 2.24)	$t(307) = 11.12, p < .001$
<b>Percent with children</b>	45%	2%	$\chi^2 = 98.09, df = 1, p < .001$
<b>Percent married/ common-law</b>	31%	5%	$\chi^2 = 35.73, df = 1, p < .001$
<b>Family Income</b>	1.87 (SD = 1.28)	2.76 (SD = 2.10)	$t(299) = -3.34, p < .001$



In terms of participant remuneration, Time 1 survey participants who were not recruited via the participant pool were entered into a raffle to win one of four \$100 gift certificates. In order to encourage survey participation at Time 2, the type of remuneration was changed and participants were each provided a \$5 gift certificate. At both Time 1 (fall, the beginning of first year) and Time 2 (spring, the end of the first year), students who participated in the survey via the participant pool received 1 bonus credit towards their final overall grade in their first year psychology course. All participants who took part in the interview portion of the study received a \$10 gift card.

In the fall semester after the surveys were completed, telephone calls and emails were used to contact Aboriginal survey participants who had given prior consent to be contacted for the interview portion of the study. Consent was obtained from each interviewee (see Appendix B for interview consent form) and the semi-structured interviews were completed over the telephone (N=6) or in person (N=5) depending on the preference of the interviewee.

## **Measures**

**Background Questionnaire.** The background questionnaire (See Appendix C) consisted of questions regarding age, sex, ethnicity, relationship status, children, annual household income, funding, residence prior to beginning post-secondary studies, perceived distance from their home town to their post-secondary institution, motivation to pursue a post-secondary education, freedom to choose their institution and feelings towards previous high school preparation. Questions about participants' involvement in transition programs were also included in the background questionnaire.

**Beliefs about the transition experience.** Participants were asked to complete five questions which directly examined their beliefs about the experience of transitioning from high school to a post-secondary setting. The first four questions (McDougall & Hymel, 1998) were designed to assess students' perceptions about their first month of studies (at Time 2, this question was reworded to ask about their perceptions of their previous semester) and their feelings towards changing schools (e.g., from high school or equivalent to post-secondary). A fifth question ("*How challenging has the transition to university been for you?*") created by Smith (2007) was also included in the questionnaire (See Appendix D). For each question, participants responded on a five-point scale with anchors labels varying to fit each item. A mean score was derived for each participant by averaging responses across all items, with lower scores representing less positive perceptions about the transition experience. McDougall and Hymel (1998) reported an internal consistency value of 0.60 for the four-item measure while Smith (2007) reported a slightly higher internal consistency of 0.78 for the five item measure. The internal consistency of the five item measure in the present study was 0.83 at Time 1 and 0.80 at Time 2.

**Social Support.** The Social Provisions Scale (Cutrona & Russell, 1987) was used to assess participants' levels of social support. This 24-item questionnaire was designed to measure the types of social provisions (guidance, reassurance of worth, social integration, attachment, nurturance, and reliable alliance) that the individual receives from their current support network (See Appendix E). Participants were asked to rate each item on a four-point Likert scale ranging from 1 (*Strongly Disagree*) to 4 (*Strongly Agree*). From participants' ratings, a subscale score may be generated for each provision category. However, for the

purpose of the current research only the total scale score was used in the analyses. A mean total scale score was derived for each participant by averaging their responses on all items, with higher scores indicating that the participant is receiving more social provisions. Based on their analyses, Cutrona and Russell (1987) reported a reliability estimate of 0.92 for the total scale score. In the present study, the reliability estimates were consistent with that of Cutrona and Russell (0.93 at Time 1 and 0.92 at Time 2).

In order to further explore the role of social support, participants were also asked the following questions at Time 1 and 2: “Do you receive as much support from your family as you would like to receive?” and “Do you feel that your family is supportive of your decision to go to university/college?” These questions were asked again, replacing the word “family” with “friends” (See Appendix E) to assess this different but important dimension.

**Academic Self-Efficacy.** A modified version of the College Academic Self-Efficacy Scale (CASES; Owen & Froman, 1988) was administered in order to assess participants’ sense of personal academic self-efficacy. The original measure is composed of 33 items and was found to have high internal consistency with estimates ranging between 0.90 and 0.92 (Owen & Froman, 1988). In order to reduce redundancy and the length of the overall survey, only 22 of these items were used in the present study (See Appendix F). The 22-item modified questionnaire also demonstrated sufficiently high reliability (Time 1:  $\alpha = .89$ ; Time 2:  $\alpha = .88$ ). For each item, a different type of task (e.g., *participating in class discussions*, *talking to a professor*) was presented and participants were asked to rate how much confidence they have in completing the task on 5-point Likert scale ranging from 1 (*very little*) to 5 (*quite a lot*). An overall mean score was computed for each participant by averaging the participant’s responses on all of the items. In

this instance, a greater sense of academic self-efficacy is associated with higher scores on the measure.

**Institutional Climate.** A 28-item questionnaire to assess institutional climate was developed for this project (See Appendix G). This questionnaire was created using a combination of modified items drawn from the Organizational Culture Profile (OCP) (Chatman & Barsade, 1995; O'Reilly, Chatman & Caldwell, 1991) as well as items conceived and added by the author. Each item describes a potential characteristic of the institutional climate (e.g., makes me feel like I fit in/belong, is respectful of diversity, tolerates racism). Participants were asked to read each item and indicate on a 7-point scale (1 = *not at all* to 7 = *very much*) how much they would want their ideal post-secondary institution to have each characteristic (14 items; Time 1 alpha = .79, Time 2 alpha = .71) as well as how much they believed their current post-secondary institution actually possessed each characteristic (14 items; Time 1 alpha = .78, Time 2 alpha = .78).

Fit scores for each item were calculated by subtracting participants' overall actual ratings (e.g., what they think the environment is actually like) from their overall ideal ratings (e.g., what they would ideally want the environment to be like) to create a subjective fit score. Objective fit scores were created by subtracting the group's overall mean actual score (i.e., the apparent sample consensus on what the environment is actually like) from each participant's overall ideal score (i.e., the individual's conception of how they would like the environment to be). Using a cut-off of one standard deviation (Edwards, Caplan & Van Harrison, 1998), three types of fit groups were created: (a) exceeds expectations (Ideal > Actual), (b) good fit (Ideal=Actual), and (c) does not meet expectations (Ideal < Actual).

**Post-secondary adjustment.** The Student Adaptation to College Questionnaire (SACQ) is a 67-item questionnaire used to assess various aspects of post-secondary adjustment (See Appendix H). Participants were asked to rate each item on a 9-point scale indicating the degree to which an item applies to them (1 = *Applies very closely to me* to 9 = *doesn't apply to me at all*). It should be noted that the wording of the questionnaire changed slightly for participants across the two institutions (e.g., the title of the institution was changed to reflect the institution that the participant was attending)

The SACQ is composed of four subscales, each of which assesses a different aspect of the post-secondary experience (Baker & Siryk, 1986). The 24 item *academic adjustment* subscale examines a student's success in dealing with the academic demands placed on them by his/her institution. The *social adjustment* subscale contains 20 items and measures participants' success in dealing with the social factors with which post-secondary students must contend in their academic setting. The *personal/emotional adjustment* scale contains 15 items and assesses the extent to which an individual experiences distressing psychological and physical symptoms. Lastly, the *attachment/commitment subscale* contains 16 items (9 items of which overlap with the other subscales) and measures participants' feelings towards their post-secondary experience in general, as well as their satisfaction with the institution in which they are enrolled. Due to the overlap of items with other SACQ subscales and other questions posed to the participants in the study, the attachment/commitment subscale was not used in any of the analyses.

The SACQ has been described as the “gold standard for measuring college adjustment” (Duchesne, Ratelle, Larose & Guay, 2007, p.62) and has been found to be a reliable and valid measure (Baker & Siryk, 1984). The authors of this measure (Baker, McNeil & Siryk, 1985;

Baker & Siryk, 1986) reported reliability coefficients of 0.82 to 0.88 for the academic adjustment subscale, 0.88 to 0.91 for the social adjustment subscale, 0.79 to 0.85 for the personal/emotional adjustment subscale, and 0.86 to 0.91 for the attachment/commitment subscale. In addition, a full-scale score, which represents participants' overall adjustment to post-secondary demands, can be calculated by the summation of all of the participants' responses. High reliability has also been found for this full-scale score with Baker, McNeil and Siryk (1985) reporting alpha reliability estimates between 0.93 and 0.95. Given the interest in domain-specific adjustment, the full-scale score was not used in the present study. As described by Baker and Siryk (1989), the post-secondary experience is complex and it is probable that valuable information is lost if only the overall adjustment score is utilized. Time 1 reliabilities observed in the present study for adjustment indices were 0.87 (academic), 0.79 (social), and 0.84 (personal-emotional). Time 2 reliabilities in the present study were 0.89 (academic), 0.84 (social), and 0.88 (personal-emotional).

**Interview.** In order to explore the post-secondary experiences of a subset of Aboriginal students in greater depth, a semi-structured interview was completed. The interview questions may be found in Appendix I. Each participant was asked the same series of questions outlined in the interview and probes were used when necessary. The interview questions were designed to understand the interviewees' background experiences that led them to pursue a post-secondary education, the factors that promote and/or hinder their adjustment to post-secondary life, and their perceptions about the fit between themselves and their institution. The interview questions were also designed to gain an understanding of the interviewees' perceptions of which factors are

related to students' choices to continue or discontinue their education. Interviews ranged in length from 17 minutes to 75 minutes with an average duration of 35 minutes.

## **Results**

### **Overview of Analyses**

This section will involve the presentation of both the quantitative (survey) and descriptive (interview) components of the study. In order to orient the reader to the sample, this section will begin with descriptive analyses around attrition from the study, beliefs about the transition experience, and adjustment of the sample. Following this is a consideration of the key questions related to post-secondary adjustment, person-environment fit, and anticipated persistence. Next, some additional analyses of interest are described. In addition, as the descriptive (i.e., interview) component of the study was designed to elaborate on and to provide an increased understanding of the quantitative results, the findings from the interviews will be interspersed amongst results of the quantitative analyses. Quotes from interviewees are included verbatim with filler words (e.g., “uhm”) removed for the sake of clarity.

### **Data Screening**

Prior to conducting the main analyses, the data file was examined for missing data. Descriptive analyses and examination of the data file revealed that there was not a significant (over 5%) amount of missing data on any variable and that the data appeared to be randomly distributed. Therefore, no substitutions were made to address this issue (Tabachnick & Fidell, 2007).

All variables used in the main analyses were examined for skewness and kurtosis. The following variables were found to be negatively skewed: Time 1 Ideal Institutional Climate

(-10.09), Time 1 Actual Institutional Climate (-4.28), Time 2 Ideal Institutional Climate (-5.75), and Time 2 Social Provisions Scale Total (-4.35). In addition, Time 1 Ideal Institutional Climate was found to be positively kurtotic (8.22) as was Time 2 Ideal Institutional Climate (3.59) and Time 2 Actual Institutional Climate (3.49).

In order to correct these deviations from normality, the data file was examined for outliers. No outliers were found on the Time 2 Social Provisions Scale Total variable, suggesting that the sample as a whole was reporting relatively few concerns in the area of social support. Consequently, no additional adjustments were made to this variable.

Following the removal of four outliers on the Time 1 Ideal Institutional Climate variable, the skewness (-7.44) and the kurtosis (3.29) were decreased but remained significant. In addition, following the removal of two outliers, the Time 2 Ideal Institutional Climate variable was no longer kurtotic but was still found to be negatively skewed (-4.68). These variables asked participants to rate what they would ideally like their institutional climate to be. Therefore, it was expected that participants would rate their ideal climate in largely positive terms. Consequently, no further adjustments were made to this variable.

In terms of the Time 1 Actual Institutional Climate Variable, the variable was no longer skewed following the removal of two outliers. Similarly, the Time 2 Actual Institutional Climate variable was no longer kurtotic following the removal of one outlier.

### **Attrition Analyses**

At Time 1, there were 316 participants and at Time 2, there were 159 participants. Although some of these participants may have dropped out of post-secondary studies, it is likely that the majority carried on in their study but did not wish to take part in Time 2 of study. In fact,



out of the 309 participants who responded to the question “*Can we contact you to participate in the second part of this study?*”, 63 (20.4%) responded that they did not want to be contacted at Time 2 and the remaining 7 participants who did not respond to the question were not contacted as consent was not provided. Although attempts to contact all participants who consented to participate at Time 2 via email or phone were made, many participants could not be contacted at Time 2 while others expressed that they were no longer interested.

Given the short-term longitudinal nature of the design, analyses began by exploring whether there were significant differences between the participants who completed the questionnaire in the fall semester only (Time 1) and those participants who completed the questionnaires in both the fall and the spring (Time 1 and Time 2). Two types of attrition analyses were conducted: chi-squared tests to examine whether the two groups of participants were different in terms of ethnicity, sex, subjective (ideal – actual) and objective fit (ideal – group actual) and secondly a series of independent t-tests to examine whether the two groups differed in terms of age, beliefs about the transition experience, academic self-efficacy, total social support, academic adjustment, social adjustment and personal-emotional adjustment.

The results of the chi-square tests revealed non-significant associations between continued participation in the study and ethnicity, sex, subjective fit, and objective fit (all  $p$ 's > .21; see Tables 2 to 5). In addition, the independent t-tests revealed that that the group of participants who completed the study at both time points did not significantly differ on any of the identified variables from the participants who completed the study in the fall of first year only (all  $p$ 's > .08; see Table 6). Based on these findings, it would seem as though the remaining sample at

Table 2

*Crosstabulation of Study Participation and Ethnicity*

Participation	Ethnicity		<i>df</i>	Pearson $\chi^2$	<i>p</i>
	Aboriginal	Non-Aboriginal			
Time 1 Only					
Count	45	111			
Expected Count	45.4	110.6			
Time 1 & Time 2					
Count	46	111			
Expected Count	45.6	111.4			
			1	.008	.930

Table 3

*Crosstabulation of Study Participation and Sex*

Participation	Sex		<i>df</i>	Pearson $\chi^2$	<i>p</i>
	Male	Female			
Time 1 Only					
Count	40	115			
Expected Count	37.8	117.2			
Time 1 & Time 2					
Count	36	121			
Expected Count	38.2	118.8			
			1	.350	.554

Table 4

*Crosstabulation of Study Participation and Time 1 Subjective Fit Group*

Participation	Fit Group			df	Pearson $\chi^2$	p
	Does Not Meet Expectations	Good Fit	Exceeds Expectations			
Time 1 Only						
Count	19	115	18			
Expected Count	22.9	109.1	19.9			
Time 1 & Time 2						
Count	27	104	22			
Expected Count	23.1	109.9	20.1			
				2	2.34	.310

Table 5

*Crosstabulation of Study Participation and Time 1 Objective Fit Group*

Participation	Fit Group			df	Pearson $\chi^2$	p
	Does Not Meet Expectations	Good Fit	Exceeds Expectations			
Time 1 Only						
Count	16	110	26			
Expected Count	17.8	113.4	20.8			
Time 1 & Time 2						
Count	20	119	16			
Expected Count	18.2	115.6	21.2			
				2	3.15	.207

Table 6

*Independent T-Tests Examining for Differences Between Participants Who Completed the Survey at Time 1 Only and Participants Who Completed the Survey at Time 1 and Time 2*

Variable	<i>t</i>	<i>df</i>	<i>p</i>
T1 Age	0.72	308	.474
T1 Beliefs about transition	-1.66	309	.098
T1 Acad. Self-Efficacy	-1.18	311	.241
T1 Total Social Support	-1.57	310	.118
T1 SACQ – A	-1.75	312	.081
T1 SACQ – S	-0.91	312	.366
T1 SACQ – PE	-1.41	312	.158

Time 2 was in fact representative of the larger sample on the assessed dimensions and that attrition over the one-year period appeared to be random.

Of note, attrition also occurred between Time 2 and the interview portion of the study. Of the 30 Aboriginal students who consented at Time 2 to be contacted for the interview portion of the study, 11 completed the interview, 3 reported that they were no longer interested, and 3 agreed to be interviewed but did not attend their scheduled appointments. The remaining 13 participants could not be reached via email or phone.

### **Transition and Adjustment Descriptive Analyses**

#### **Beliefs about the transition experience**

Survey participants' perceptions about the transition experience varied from negative to positive reactions. Scores on this measure may range from 1 (indicating negative perceptions) to 5 (indicating positive perceptions), with the midpoint (a score of 3) indicating a neutral perception about the transition experience. Using data from the entire sample collected in the fall of first year, 59% of students reported scores of 3 or higher ( $M=3.07$ ,  $SD=0.96$ ). In the spring of first year, 63% of students reported a score of 3 or greater ( $M=3.14$ ,  $SD=0.86$ ). Although over 1/3 of the sample (at Time 1 and Time 2) scored below the neutral point suggesting that their transition experience was less than favorable, it would appear as though the majority of the sample viewed the transition experience in a neutral or positive light as evidenced by scores that were at or above the neutral point.

#### **Aboriginal interviewees' and transition programs**

Seven out of the 11 Aboriginal participants interviewed reported that they had been in a transition program upon entering post-secondary studies (i.e., programs designed to assist with

transition). These programs included University Life (ULife) 101, Aboriginal Success in Trades and Technologies (ASITT), Aboriginal First Year Experience Program (AFYEP) and the Math and Science Enrichment Program (MSEP). These programs are designed to assist first year students (and in some cases Aboriginal students specifically) make the transition to post-secondary studies. The programs provide practical support, offer students a support system that may otherwise have been absent, and aim to help students develop both life (e.g., stress management) and academic skills. The interviewees reported various reasons for signing up for a transition program including: to meet new people, to form a social network, to help feel more comfortable at the institution, and because the transition programs offered smaller classes and access to extra time for assignments and tutorials. It is clearly worth noting that all of the Aboriginal interviewees who were or had been involved in a transition program reported that it was helpful and that they would recommend the program(s) to incoming students.

### **Adjustment in the fall of first year**

In the fall of first year, some students reported low levels of adjustment and others reported experiencing high levels of adjustment. In the case of all adjustment types, scores theoretically range from 1 (indicating poor adjustment) to 9 (indicating good adjustment), with the midpoint (a score of 5) indicating a neutral level of adjustment. Using the data from the entire sample, survey participants were found to report the following levels of adjustment in each domain: academic ( $M=5.62$ ,  $SD=1.15$ ; 48% scored above the mean), social ( $M=5.72$ ,  $SD=1.23$ ; 43% scored above the mean), and personal-emotional ( $M=5.38$ ,  $SD=1.43$ ; 50% above the mean).



### **Adjustment in the spring of first year**

In the spring of first year, variation was also found in adjustment scores. Using the data from the entire sample, survey participants were found to report the following levels of adjustment across domains: academic ( $M=5.66$ ,  $SD=1.24$ ; 45% scored above the mean), social ( $M=5.76$ ,  $SD=1.31$ ; 52% scored above the mean), and personal-emotional ( $M=5.63$ ,  $SD=1.61$ ; 52% scored above the mean).

### **Stability in Adjustment**

Correlations were conducted in order to examine the stability of each adjustment index from Time 1 to Time 2. Results revealed significant positive associations between academic adjustment in the fall and in the spring of first year,  $r(152)=.69$ ,  $p<.001$ , between Time 1 social adjustment and Time 2 social adjustment,  $r(153)=.71$ ,  $p<.001$ , and between personal-emotional adjustment at each time point,  $r(153)=.68$ ,  $p<.001$ . Changes in adjustment over the course of the year are considered in the analyses below.

## **Adjustment Analyses**

### **Adjustment as a function of time, sex and ethnicity**

While the sample as a whole was found to be fairly well-adjusted, of interest in the present study was whether the adjustment levels varied as a function of Time (*fall, spring*), Sex (*male, female*) and Ethnicity (*Aboriginal, non-Aboriginal*). Other independent variables such as institution attended (U of S, SIAST) were also of interest but could not be included in the present analysis because of restrictions in sample size. In order to examine differences in adjustment scores, a Repeated Measures Multivariate Analysis of Variance (MANOVA) was conducted with sex and ethnicity as between-subjects variables, time as a within-subjects variable, and

adjustment types (*social, academic, personal/emotional*) serving as dependent variables, with adjustment type also being given consideration as a repeated measures factor.

**Multivariate findings.** At the multivariate level, the analysis revealed a significant main effect of sex on the linear composite of adjustment,  $F(1,150)=5.69, p=.018$  (partial  $\eta^2=.037$ ). There were no statistically significant main effects of ethnicity or time, and no significant two-way or three-way interactions (all  $p$ 's  $>.05$ ; see Appendix J Table 1).

**Univariate findings.** Three repeated measures Univariate Analyses of Variance (ANOVAs) were conducted in order to further explore the multivariate main effect of sex for the types of adjustment (see Appendix J Tables 2-4). Results revealed a significant main effect of sex for personal-emotional adjustment,  $F(1,153)=4.66, p=.032$ , (partial  $\eta^2=.030$ ). In this case, male students were found to report significantly higher levels of personal-emotional adjustment ( $M=6.00, SD=1.62$ ) as compared to the female participants ( $M=5.42, SD=1.33$ ). The sex difference did not reach statistical significance for the remaining two measures of adjustment (all  $p$ 's  $>.055$ ).

#### **Does adjustment vary according to which institution Aboriginal students attend?**

Although sample size (U of S Time 1 – 47 and Time 2 – 26; SIAST Time 1 – 32 and Time 2 – 14) precluded the inclusion of Institution (*U of S, SIAST*) as an independent variable in the overall adjustment analyses reported above, it was of interest in the present study. Accordingly, a 2 (institution) X 2 (time) X 3 (adjustment type) Repeated Measures MANOVA was conducted in order to examine any differences in adjustment that may have existed between Aboriginal students at the U of S and Aboriginal students at SIAST. In this analysis, adjustment type (academic, social, personal/emotional) served as the dependent variables and was given

consideration as a repeated measures factor, institution was included as a between-subjects variable, and time was included as a within-subjects variable. This analysis was conducted solely on Aboriginal students as the sample did not contain non-Aboriginal students attending SIAST.

**Multivariate Findings.** There were no significant main effects of time, adjustment type or institution and no significant two-way interactions (all  $p$ 's  $> .19$ ). However, a significant Time X Institution X Adjustment Type interaction was found,  $F(2,37)=4.12$ ,  $p = .024$ , partial  $\eta^2=.182$ . (See Appendix K, Table 1 for full ANOVA results).

**Univariate Findings.** A series of three Univariate ANOVAs was conducted to further examine the multivariate findings with each of the adjustment types considered separately (see Appendix K, Tables 2-4). Results did not reveal significant Time X Institution interactions for academic adjustment, or social adjustment ( $p$ 's  $> .14$ ). However, there was a significant Time X Institution interaction for personal-emotional adjustment,  $F(1,38)=5.72$ ,  $p=.022$ , (partial  $\eta^2=.131$ ). Follow-up independent and paired samples t-tests were conducted to further examine this finding. The independent t-test did not reveal any differences in personal-emotional adjustment between the two groups of students at Time 1 or Time 2 (all  $p$ 's  $> .28$ ). In addition, the paired-samples t-tests did not reach statistical significance (all  $p$ 's  $> .10$ ).

### **Correlates of Adjustment**

**Academic Adjustment.** In the fall of the first year, several factors were found to be significantly associated with academic adjustment (see Table 7). In particular, survey participants reporting higher levels of academic adjustment also tended to report that their high school education better prepared them academically for post-secondary studies and that the transition

Table 7

*Bivariate Zero-Order Correlations Between Time 1 and Time 2 Variables & Adjustment types*

Measure	T1 SACQ – A	T1 SACQ – S	T1 SACQ – PE	T2 SACQ – A	T2 SACQ – S	T2 SACQ – PE
T1 Age	<b>.18**</b>	-.04	.07	<b>.27**</b>	.04	<b>.28**</b>
T1 Ethnicity	-.10 <sup>t</sup>	.08	.04	-.04	.09	.02
T1 Institution	<b>.13*</b>	-.03	-.06	.13 <sup>t</sup>	-.07	.08
T1 Sex	-.06	-.10 <sup>t</sup>	-.10 <sup>t</sup>	<b>-.17*</b>	-.16 <sup>t</sup>	<b>-.19*</b>
T1 HS Prep	<b>.22**</b>	<b>.22**</b>	<b>.17**</b>	.14 <sup>t</sup>	<b>.27**</b>	.08
T1 Distance	-.01	<b>.32**</b>	<b>.12*</b>	.00	<b>.18*</b>	.11
T1 Financial	.09	<b>.14*</b>	<b>.20**</b>	.02	.10	.06
T1 Beliefs	<b>.52**</b>	<b>.46**</b>	<b>.42**</b>	<b>.43**</b>	<b>.26**</b>	<b>.33**</b>
T1 Total SPS	<b>.33**</b>	<b>.55**</b>	<b>.37**</b>	<b>.39**</b>	<b>.44*</b>	<b>.35**</b>
T1 Fr. Support	<b>-.18**</b>	<b>-.32**</b>	<b>-.20**</b>	<b>-.19*</b>	<b>-.30**</b>	<b>-.34**</b>
T1 Fr. PS Supp.	<b>.21**</b>	<b>.37**</b>	<b>.24**</b>	<b>.29**</b>	<b>.26**</b>	<b>.21**</b>
T1 Fa. Support	<b>-.21**</b>	<b>-.23**</b>	<b>-.29**</b>	<b>-.29**</b>	<b>-.35**</b>	<b>-.39**</b>
T1 Fa. PS Supp.	<b>.19**</b>	<b>.23**</b>	<b>.20**</b>	<b>.19**</b>	<b>.24**</b>	.15 <sup>t</sup>
T1 Acad. SE	<b>.67**</b>	<b>.49**</b>	<b>.38**</b>	<b>.52**</b>	<b>.34**</b>	<b>.29**</b>
T2 HS Prep	.14 <sup>t</sup>	.03	.10	<b>.18*</b>	<b>.21*</b>	.12
T2 Financial	-.02	.01	.12	.05	<b>.20*</b>	<b>.16*</b>
T2 Beliefs	<b>.48**</b>	<b>.39**</b>	<b>.47**</b>	<b>.58**</b>	<b>.41**</b>	<b>.46**</b>
T2 Total SPS	<b>.28**</b>	<b>.42**</b>	<b>.30**</b>	<b>.36**</b>	<b>.49**</b>	<b>.40**</b>
T2 Fr. Support	-.15 <sup>t</sup>	<b>-.34**</b>	<b>-.28**</b>	<b>-.32**</b>	<b>-.47**</b>	<b>-.38**</b>
T2 Fr. PS Supp.	<b>.21*</b>	<b>.42**</b>	<b>.25**</b>	<b>.35**</b>	<b>.50**</b>	<b>.29**</b>
T2 Fa. Support	-.06	.07	-.10	<b>-.21**</b>	<b>-.24**</b>	<b>-.23**</b>
T2 Fa. PS Supp.	.13	<b>.22**</b>	<b>.17*</b>	<b>.24**</b>	<b>.36**</b>	<b>.26**</b>
T2 Acad. SE	<b>.46**</b>	<b>.39**</b>	<b>.29**</b>	<b>.62**</b>	<b>.51**</b>	<b>.40**</b>
Mean	5.62	5.72	5.38	5.66	5.76	5.63
SD	1.15	1.23	1.43	1.24	1.31	1.61
N	314	314	314	156	157	157

Table 7 (continued)

Note: All significant correlations are in bold and are marked by asterisks. \* =  $p < .05$ , \*\* =  $p < .01$ , <sup>t</sup> =  $p < .10$ . Degrees of Freedom= 152 to 314

T1 = Time 1 measure, T2 = Time 2 measure

Variable Names refer to the following:

Age: Participant's age in years

Ethnicity: Aboriginal = 1, Non-Aboriginal = 2

Institution: U of S = 1, SIAST = 2

Sex: Male = 1, Female = 2

HSPrep: Sense of previous academic preparedness (1 = Not at all, 5 = Completely)

Distance: Perceived distance from home (1 = Too far, 5 = Not far at all)

Financial: Having financial needs met (1 = No, 2 = Yes)

Beliefs: Beliefs about the transition experience (higher scores = more positive perceptions)

Total SPS: Total Social Provisions Scale (higher scores = more social provisions)

Fr. Support: Friend support needs met (1 = Yes, 2 = No)

Fr. PS Support: Friend support about decisions to attend university/college  
(1 = Not at all, 5 = Very much)

Fa. Support: Family support needs met (1 = Yes, 2 = No)

Fa. PS Support: Family support about decisions to attend university/college  
(1 = Not at all, 5 = Very much)

Acad.SE: Academic self-efficacy (higher scores = more positive academic self-efficacy)

SACQ-A: Academic adjustment (higher scores = more positive academic adjustment)

SACQ-S: Social adjustment (higher scores = more positive social adjustment)

SACQ-PE: Personal-emotional adjustment (higher scores = more positive PE adjustment)

experience was highly positive. These students also self-reported higher levels of academic self-efficacy as well as greater social support. Higher levels of academic adjustment were also found to be associated with older age, attending SIAST (a non-university post-secondary institution), friends and family being supportive of the decision to pursue a post-secondary institution, and the perception that one's support needs are met from family and friends.

Many of these associations with academic adjustment were also found to be significant in the spring semester. In particular, older students and those who experienced their previous schooling as being more helpful in preparing them for post-secondary studies self-reported greater academic adjustment. Similar to Time 1 (when students experienced more positive perceptions about the transition experience, higher levels of academic self-efficacy and social support) they tended to report higher levels of adjustment in the academic domain.

In addition, participants who reported higher levels of academic adjustment tended to report that their family and friends were supportive of their decision to pursue higher education and that these individuals met the participants' support needs. Unlike at Time 1, there was no significant link between academic adjustment and institutional affiliation in the spring of first year. Finally, sex and academic adjustment were related at Time 2 suggesting that better academic adjustment went along with being male.

Support from family was found to be significantly correlated with academic adjustment at both Time 1 and Time 2. Consistent with this finding, most of the subset of Aboriginal interviewees described their family members and community as expressing positive reactions (e.g., happiness, pride) towards their decision to pursue a post-secondary education. However, a small portion of these interviewees reported that their family viewed their choice in a neutral or

even a negative light. This type of reaction was generally described as being very difficult on these students, with one participant reporting that her family had not supported her in her decision to go to school and that *“growing up I’ve always looked to be accepted and not to get that acceptance... is extremely hard”*. Other Aboriginal interviewees reported that some individuals in their community had also reacted negatively with regards to students’ attempts to pursue post-secondary degrees. In these cases, community members were reported to have actively discouraged the interviewee from wanting to pursue their educational goals (*“nobody was really supportive and people pushed for people to stay and work in [the home community]”, “at home, they automatically enroll Aboriginal students in lower classes and then they don’t have the credits to get into university”*) while other community members were described as being saddened by the individual’s choice to further their education because they did not see it as a possible option for themselves. It was also reported that some community members interpret the desire to pursue an education in a negative light – for example, one interviewee reported that *“some people can take it the wrong way and think that you see yourself as better than others”*.

**Aboriginal interviewees’ opinions on academic adjustment.** In the descriptive portion of the study, a subset of Aboriginal participants was interviewed about the factors that help them deal with the academic challenges they face at their institution. It is again worth noting that all of the Aboriginal interviewees reported being aware of at least one support service on campus (e.g., writing center, math center, tutors, exam file, etc.) and generally reported that these services were helpful. In addition to these services, Aboriginal interviewees reported that the presence of an

Aboriginal Student Centre on campus was helpful (*“I don’t know if some people would make it without the Aboriginal Student Centre”*).

When speaking about the Aboriginal Student Centre, interviewees stated that it gave them a place to study and meet others in their classes (*“A lot of aboriginal people are really shy so it’s good to get people together”*). In addition, these interviewees reported that smaller classes such as those offered in the transition program helped them to be accountable for their academic achievement because class attendance was taken, and also helped them to form rapport with other students and faculty. The transition programs were also described as being helpful in other ways, with one student stating that *“There’s guidance and help and students aren’t just being thrown to the wolves”* and another stating that she signed up for the transition program classes in order *“to be with a group that I could feel comfortable with.”*

On a more personal level, Aboriginal interviewees reported that having clear short-term and long-term goals for their education, being self-motivated, having a balance in their lives, having support from friends and family, having good time management skills and an ability to seek help when needed were all beneficial in helping them meet the academic challenges of post-secondary studies. Aboriginal interviewees also reported that the availability of study groups, workshops, and tutorials on campus helped them to succeed academically.

**Social Adjustment.** Several correlates of social adjustment were found in the present study (See Table 7). In the fall semester, survey participants with higher levels of social adjustment reported greater preparedness (from high school), reported coming from a home town that they perceived as being not too distant from the institution, and reported better financial stability (i.e., financial needs being met). In addition, more positive perceptions about the



transition experience, a greater sense of academic self-efficacy and higher levels of social support were also associated with higher levels of social adjustment. In addition, survey participants who reported higher levels of social adjustment tended to report that their family and friends were supportive of their decision to pursue higher education and that these individuals met the participants' support needs. All of these associations were also found to be significant in the spring semester.

**Aboriginal interviewees' on social adjustment.** A subset of Aboriginal participants was interviewed about the social challenges that are experienced by first year students. Aboriginal interviewees reported that money problems, being under legal drinking age, feeling alone in large classes, academic workload (e.g. *“Basically putting in the effort after studying so long. It’s energy draining. At night you don’t want to do much”*), having children, being a mature student and being new to the city all make it more difficult to participate in the social aspect of the post-secondary experience.

However, all of the Aboriginal interviewees reported that good social adjustment is important to first year students, helping to make students feel like they fit in and as though they belong. It was also reported that building a support network provides comfort and a sense of community. Peers were also reported to have a positive effect on students' achievement: seeing a friend succeed can show that it is possible, and can help to create a balance between academic and social life. Aboriginal interviewees also reported that peers can help provide relaxation, ensure that one gets to class on time and can help deal with stress. One student reported that the social aspect of post-secondary life was *“one of the best parts. When you get to meet new people – you get to see so much more and learn from people”*.

The subset of interview participants provided feedback on several things that can be done to foster good social adjustment for first year students in general and for Aboriginal students in particular. For example, orientation sessions at the start of the academic year may help students meet others to whom they can relate, and undergraduate professors could encourage discussion among students in their courses. Furthermore, it was reported that on-campus living (e.g., residence) and having a place like the Aboriginal Student Center where Aboriginal students can spend time and meet people have been central in terms of good social adjustment.

**Personal-emotional adjustment.** For the survey sample as a whole, elevated personal-emotional adjustment in the fall semester was also observed to go along with better preparedness (from high school), a home town that was not perceived to be too distant, and a sense of financial stability. Survey participants with higher levels of personal-emotional adjustment were also found to have more positive beliefs about the transition experiences, an increased sense of academic-self-efficacy and higher levels of total social support. In addition, survey participants who reported higher levels of personal-emotional adjustment tended to report that their family and friends were supportive of their decision to pursue higher education and that these individuals met the participants' support needs. With the exception of previous academic preparedness and perceived distance from hometown, each of these associations was also found to be significant in the spring semester. In addition, being older and being male were found to be associated with higher levels of personal-emotional adjustment at Time 2 (See Table 7).

**Aboriginal interviewees' opinions on personal-emotional adjustment.** All of the interviewed Aboriginal participants reported that how individuals feel emotionally and physically influences how they perform at their institution ( "*It's really hard to keep personal life out of*

*work life/school*”, “*If you’re feeling happy and supported, you’re more likely to go out, ask for help, do work*”). Various participants in this subgroup of Aboriginal students reported that if an individual is feeling emotionally unwell (e.g., stressed out, lonely, depressed, anxious), it is likely that they will invest less time and energy into their studies. This may manifest as students having difficulty putting effort into their studies, paying attention or focusing, missing classes and not doing as well on exams or assignments (e.g., “*If you’re tired, you can’t think straight. If you’re stressed out, you can’t do well on your exam*”, “*If you’re depressed or sad, you’re not going to want to come and you’re not going to want to try your hardest. If you’re happy and you’ve got all the resources you need, it’s easier to say let’s go do it*”). Some interviewees also reported that feeling emotionally and physically unwell can lead to increased withdrawal and isolation, which in turn can result in numerous missed opportunities and/or self-degradation (“*If you’re not feeling fit, you isolate yourself more and put yourself down*”). Some of the interviewed participants stated that they were aware of services on campus that may be helpful to students experiencing emotional difficulties, such as Student Counseling Services, mental health workshops, Elders, and the opportunity to talk to other members of the academic community such as staff members in the institution’s Aboriginal Student Center.

### **Cumulative Prediction of Adjustment at Time 1**

Of particular interest was the degree to which a common set of key predictors could account for the variance in academic, social, and personal-emotional adjustment. Accordingly, using the entire sample at Time 1, a series of three standard regressions was conducted using a common set of predictors composed of the following variables: subjective fit (as a continuous variable with increasing positive scores reflecting greater feelings that one’s institution is not

meeting expectations, for correlations with adjustment see Table 8), beliefs about the transition experience, academic self-efficacy, friend support to pursue post-secondary studies, family support to pursue post-secondary studies, receiving as much support from friends as one would like and receiving as much support from family as one would like. The set of predictors was selected because they have been identified in the literature as having an impact on post-secondary adjustment and because of demonstrated significant or trend-level zero-order correlations with each of the dependent adjustment variables. In the case of each regression analyses, the predictor variables were entered simultaneously; this corresponded with the primary objective, namely the identification of the cumulative variance accounted for by a set of variables in each type of adjustment. While this analytical method did not answer the question of whether any particular combination of variables accounted for a significant amount of variance over and above any other combination other variables, this was not a focus of the current research. Similarly, it was not of interest to identify whether any particular variable(s) could be omitted as a predictor, as all predictors had been previously identified as theoretically and/or statistically relevant. On a practical note, the large sample size at both time 1 and time 2 allowed for the seven predictors to be used in the regression analyses (Tabachnick & Fidell, 2007). Additionally, no concerns in terms of outliers, multicollinearity, normality, linearity and homoscedasticity were evident.

**Academic Adjustment.** In terms of academic adjustment, the combination of the 7 predictors accounted for 56.9% of the variance at Time 1,  $F(7,288) = 54.35$   $p < .001$ . As can be seen in Table 9, the results indicate that only beliefs about the transition experience, academic self-efficacy and feeling as though one's family is supportive of the decision to attend a post-secondary institutions emerged as uniquely significant individual predictors of academic

Table 8

*Correlations between Adjustment and Subjective Fit (Continuous Variable)*

	<b>Time 1 Subjective Fit</b>	<b>Time 2 Subjective Fit</b>
<b>Time 1 Academic Adjustment</b>	-.138**	
<b>Time 1 Social Adjustment</b>	-.234***	
<b>Time 1 Personal-Emotional Adjustment</b>	-.135**	
<b>Time 2 Academic Adjustment</b>		-.190**
<b>Time 2 Social Adjustment</b>		-.419**
<b>Time 2 Personal-Emotional Adjustment</b>		-.143*

Note: All significant correlations are marked by asterisks. \*\*\*  $p < .001$ , \*\*  $p < .01$ , \*  $p < .05$   
 Lower fit score = increased congruence

Table 9

*Cumulative Prediction of Time 1 Adjustment*

Predictor	T1 SACQ Acad. Adj.		T1 SACQ Social Adj.		T1 SACQ Personal- Emotional Adj.	
	$\beta$	<i>sr</i>	B	<i>sr</i>	$\beta$	<i>sr</i>
T1 Beliefs	.298***	.268	.272***	.245	.309***	.278
T1 Acad. Self-Efficacy	.553***	.491	.319***	.284	.229***	.203
T1 Fr. Support	.012	.011	-.118*	-.105	-.007	-.006
T1 Fr. PS. Support	-.018	-.015	.144**	.122	.034	.029
T1 Fa. Support	-.045	-.039	-.007	-.006	-.166**	-.141
T1 Fa. PS. Support	.098*	.081	.097	.080	.048	.040
T1 Subjective fit	-.037	-.036	-.121**	-.118	-.039	-.037
Total $R^2$	56.9%		43.5%		29.5%	
Model	$F(7,288) = 54.35, p < .001$		$F(7,288) = 31.69, p < .001$		$F(7,288) = 17.19, p < .001$	

Note: *sr* = semi-partial correlation. T1 Fr. Support = “Do you receive as much support from your friends as you would like to receive?” (1= Yes, 2=No) ; T1 Fr. PS Support = “Do you feel that your friends are supportive of your decision to go to university/college?” (1= Yes, 2=No) ; T1 Fa. PS Support = “Do you feel that your family are supportive of your decision to go to university/college?” (1=Not at all, 5 = very much); T1 Subjective fit = higher scores are reflective of feeling as though the institution is not meeting one’s ideals; T1 Beliefs = higher scores are reflective of more positive beliefs about the transition experience; T1 Acad. Self-Efficacy = higher scores are reflective of higher levels of academic self-efficacy. \*\*\*  $p < .001$ , \*\*  $p < .01$ , \*  $p < .05$

adjustment when the effects of other predictors were controlled. Specifically, more positive perceived transition experiences, higher levels of academic self-efficacy, and having support from family to pursue a post-secondary education were linked to more positive academic adjustment in the fall of first year. In this instance, semi-partial correlations showed that beliefs about the transition experience accounted for 7.2% of the variance while academic self-efficacy accounted for 24.1% of the variance in academic adjustment. Family support accounted for 0.7% of the variance in academic adjustment.

**Social Adjustment.** In terms of social adjustment, the combination of the 7 predictors accounted for 43.5% of the variance at Time 1,  $F(7,288) = 31.69, p < .001$ . Results (see Table 9) indicate that beliefs about the transition experience, academic self-efficacy, receiving as much support from friends as one would like, friends being supportive of the decision to pursue a post-secondary path, and subjective fit were significant unique predictors of social adjustment when the effects of all variables were taken into consideration. In this instance, more positive beliefs about the transition experience, stronger academic self-efficacy, receiving as much support from friends as one would like, a higher level of friend support for post-secondary education, and increased perceptions that one's institution is meeting one's ideals were predictive of higher levels of social adjustment at Time 1. In this instance, beliefs about the transition experience accounted for 6.0% of the variance in social adjustment while academic self-efficacy accounted for 8.1% of the variance in social adjustment. Moreover, feeling as though one receives as much support as one would like from friends accounted for 1.1% of the variance in social adjustment, and friends being supportive of the decision to pursue a post-secondary education accounted for

1.5% of the variance in social adjustment. Lastly, subjective fit was found to account for 1.4% of the variance in social adjustment.

**Personal-Emotional Adjustment.** In terms of personal-emotional adjustment, the combination of the 7 predictors accounted for 29.5% of the variance at Time 1, ( $F(7,288) = 17.19, p < .001$ ). Results (see Table 9) show that beliefs about the transition experience, academic self-efficacy and receiving as much support from family as one would like emerged as significant unique predictors of personal-emotional adjustment when the effects of other variables were controlled. Once again, a better transition experience and stronger sense of self-efficacy predicted higher personal-emotional adjustment. Moreover, receiving as much support from family as one would like predicted greater personal-emotional adjustment in the fall of first year. In this instance, beliefs about the transition experience accounted for 7.7% of the variance in personal emotional, academic self-efficacy accounted for 4.1% of the variance; and receipt of support from family accounted for 2.0% of the variance in personal-emotional adjustment.

### **Cumulative Prediction of Adjustment at Time 2**

Regression analyses were conducted to determine the amount of variance in Time 2 adjustment that could be accounted for by the following Time 2 variables: subjective fit, beliefs about the transition experience, academic self-efficacy, friend support to pursue post-secondary studies, family support to pursue post-secondary studies, receiving as much support from friends as one would like and receiving as much support from family as one would like. The set of predictors used at Time 2 was identical to that employed for Time 1 cumulative prediction. In the case of each regression analysis, the predictor variables were entered simultaneously.



**Academic Adjustment.** In terms of academic adjustment, the combination of the 7 predictors accounted for 51.8% of the variance at Time 1,  $F(7,140) = 21.53, p < .001$ . As can be seen in Table 10, results indicate that only beliefs about the transition experience and academic self-efficacy emerged as uniquely significant individual predictors of academic adjustment when the effects of other predictors are controlled. Consistent with Time 1 findings, more positive perceived transition experiences and higher levels of academic self-efficacy were linked to more positive academic adjustment in the fall of first year. In this instance, semi-partial correlations showed that beliefs about the transition experience accounted for 10.0% of the variance while academic self-efficacy accounted for 15.4% of the variance in academic adjustment.

**Social Adjustment.** In terms of social adjustment, the combination of the 7 predictors accounted for 53.6% of the variance at Time 2,  $F(7,140) = 23.13, p < .001$ . Results (see Table 10) indicate that academic self-efficacy, subjective fit, receiving as much support from friends as one would like, and family being supportive of a decision to pursue a post-secondary path are significant unique predictors of social adjustment when all variables are taken into consideration. In this instance, stronger academic self-efficacy, receiving as much support from friends as one would like, a higher level of family support for post-secondary education, and increased perceptions that one's institution is meeting one's ideals were predictive of higher levels of social adjustment at Time 2. Academic self-efficacy accounted for 8.2% of the variance in social adjustment while subjective fit accounted for 6.3% of the variance. Moreover, feeling as though one receives as much support as one would like from friends accounted for 3.6% of the variance in social adjustment, and family being supportive of the decision to pursue a post-secondary education accounted for 1.6% of the variance in Time 2 social adjustment.

Table 10

*Cumulative Prediction of Time 2 Adjustment*

Predictor	T2 SACQ Acad. Adj.	T2 SACQ Social Adj.	T2 SACQ Personal- Emotional Adj.			
	$\beta$	$sr$	B	$sr$	$\beta$	$sr$
T2 Beliefs	.356***	.317	.085	.076	.284***	.254
T2Acad. Self-Efficacy	.452***	.392	.330***	.286	.244**	.212
T2 Fr. Support	-.107	-.094	-.217***	-.190	-.256***	-.224
T2 Fr. PS. Support	-.008	-.006	.129	.104	-.031	-.025
T2 Fa. Support	-.078	-.063	.062	.050	-.089	-.072
T2 Fa. PS. Support	-.032	-.023	.174*	.126	.042	.030
T2Subjective Fit	-.034	-.032	-.265***	-.250	.019	.018
Total $R^2$	51.8%	53.6%			34.5%	
Model	$F(7,140) = 21.53, p < .001$	$F(7,140) = 23.13, p < .001$	$F(7,140) = 10.51, p < .001$			

Note:  $sr$  = semi-partial correlation; T2 Fr. Support = "Do you receive as much support from your friends as you would like to receive?" (1= Yes, 2=No) ; T2 Fr. PS Support = "Do you feel that your friends are supportive of your decision to go to university/college?" (1=Not at all, 5 = very much); T2 Fa. PS Support = "Do you receive as much support from your family as you would like to receive?" (1= Yes, 2=No) ; T2 Fa. PS Support = "Do you feel that your family are supportive of your decision to go to university/college?" (1=Not at all, 5 = very much); T2 Subjective fit = higher scores are reflective of feeling as though the institution is not meeting one's ideals; T2 Beliefs = higher scores are reflective of more positive beliefs about the transition experience; T2 Acad. Self-Efficacy = higher scores are reflective of higher levels of academic self-efficacy. \*\*\*  $p < .001$ , \*\*  $p < .01$ , \*  $p < .05$

**Personal-Emotional Adjustment.** In terms of personal-emotional adjustment, the combination of the 7 predictors accounted for 34.5% of the variance at Time 2,  $F(7,140) = 10.51$ ,  $p < .001$ . Results (see Table 10) show that beliefs about the transition experience, academic self-efficacy and receiving as much support from friends as one would like emerged as significant unique predictors of personal-emotional adjustment when the effects of other variables were controlled. Once again a better transition experience and stronger sense of self-efficacy predicted higher personal-emotional adjustment. Moreover, receiving as much support from friends as one would like predicted greater personal-emotional adjustment in the spring of first year. In this instance, beliefs about the transition experience accounted for 6.5% of the variance, academic self-efficacy accounted for 4.5% of the variance, and support from friends accounted for 5.0% of the variance in personal-emotional adjustment.

### **Academic Self-Efficacy**

Academic self-efficacy was consistently found to predict all three types of adjustment in the present study. In the survey portion of the study, participants were asked what their institution could do to help build their academic self-efficacy. Some participants reported that the institution could not assist in this regard as it was the responsibility of the student to find ways to build his/her confidence. However, a large proportion of students felt that the institution could help build self-efficacy. Participants provided the following suggestions:

- Increased formal and informal contact with professors. Several participants reported that this was most easily accomplished when professors were friendly, accessible, and approachable and used effective teaching methods.
- Smaller classes

- Skill building workshops targeted at teaching students research, study, and exam skills
- Tutorials in which students could problem-solve together, discuss class material and receive feedback on what they are and are not doing well
- Peer support/discussion groups in which students can learn from and support each other
- Mandatory academic advising sessions
- Assignment of students to mentors
- Being provided an informational DVD about what to expect at the post-secondary level and how to succeed prior to starting first year classes

### **Person-Environment Fit**

#### **Descriptive analyses**

In this study, subjective fit was defined as the congruence between the individual's ideal environment and their perceptions about their actual environment (ideal/perceived actual), whereas objective fit was defined as the congruence between the individual's ideal environment and the mean of the *sample's* perceptions about the actual environment (ideal/real). With regards to both types of fit, students were grouped into 3 categories: (1) Good fit which represents fit between what they are wanting from their environment and what they are getting (i.e., where the difference score between ideal-perceived actual or ideal-real is small), (2) Does not meet expectations, a type of fit in which the student's actual environment is not meeting his/her expectations (i.e., where the difference score between ideal-perceived actual or ideal-real is negative in valence), and (3) Exceeds expectations, which is also a type of fit (i.e., where the difference score between ideal-perceived actual or ideal-real is positive).

**Subjective Fit.** The descriptive information on subjective fit (ideal/perceived actual) includes those participants for whom data was available at both time points (N=147). As can be seen in Table 11, 74% (80 out of 108) of participants in the “good” fit group remained in this group throughout the academic year. Similarly, 26% (5 out of 19) of participants in the “exceeds expectations” fit group were still in this group at Time 2. Analysis of this table also indicates that only 8% (12 out of 147) of participants reported negative congruency at both time points (“does not meet expectations” between their ideal and perceived actual experiences). These findings are similar to CUSC First Year Student Survey (Canadian University Survey Consortium, 2010) results regarding whether students felt their experience at their institution met, exceeded or did not meet their expectations. Although about two-thirds of the sample remained in the same fit group from Time 1 (fall) to Time 2 (spring) of their first year, the remaining third showed some movement. It was promising to see that 40% of those whose original subjective fit was poor (i.e., “does not meet expectations”) moved into the “good fit” (n=8 out of 20) by the spring of first year. In contrast, it is notable that 11% (12 out of 108) students who had good subjective fit at Time 1 subsequently slipped backward into the category of “does not meet expectations” while 16 moved forward into the “exceeds expectations” group. In addition, of the participants in the “exceeds expectations” group, 1 participant (out of 19) slipped backward into “does not meet expectations” group by the spring semester and 13 out of 19 moved into the “good fit” group.

**Objective fit.** Objective fit data at both time points were available for 149 participants. As can be seen in Table 12, 80% (86 out of 107) of participants in the “good” fit group remained in this group throughout the year. Similarly, 21% (4 out of 19) of participants in the “exceeds

Table 11

*Crosstabulation of Time 1 Subjective Fit Group and Time 2 Subjective Fit Group for the Full Sample*

Participation	Time 1 Subjective Fit Group			
Time 2 Subjective Fit Group	Does Not Meet Expectations	Good Fit	Exceeds Expectations	Total
Does Not Meet Expectations				
Count	12	12	1	25
Expected Count	3	18	3	
Good Fit				
Count	8	80	13	101
Expected Count	14	74	13	
Exceeds Expectations				
Count	0	16	5	21
Expected Count	3	15	3	
Total				
Count	20	108	19	

Table 12

*Crosstabulation of Time 1 Objective Fit Group and Time 2 Objective Fit Group for the Full Sample*

Participation	Time 1 Subjective Fit Group			
Time 2 Subjective Fit Group	Does Not Meet Expectations	Good Fit	Exceeds Expectations	Total
Does Not Meet Expectations				
Count	6	11	2	19
Expected Count	2.9	13.6	2.4	
Good Fit				
Count	16	86	13	115
Expected Count	17.8	82.6	14.7	
Exceeds Expectations				
Count	1	10	4	15
Expected Count	2.3	10.8	1.9	
Total				
Count	23	107	19	

expectations” fit group were still in this group at Time 2. Analysis of this table also indicates that 26% of participants (6 out of 23) remained in the “does not need expectations” group over the course of the year.

Although the majority (64%) remained in the same fit group over the course of the year, 36% showed some movement. Again, there appeared to be positive movement in that 73% (17 out of 19) of those whose objective fit was poor (i.e., “does not meet expectations”) in the fall of first year moved into either a “good fit” (n=16) or “exceeds expectations fit” (n=1) by the spring of first year. In contrast, it is notable that 10% (11 out of 107) students who had good objective fit at Time 1 subsequently slipped backward into the category of “does not meet expectations” group while 9% (10 out of 107) moved into the “exceeds expectations” group. In addition, of the 19 participants in the “exceeds expectations”, 2 participant slipped backward into “does not meet expectations” group and 13 moved into the “good fit” group.

### **Adjustment and Person-Environment Fit at the University of Saskatchewan**

A series of MANOVAs were conducted to test whether measures of adjustment varied as a function of ethnicity and fit group of survey participants attending the University of Saskatchewan. Due to small cell sizes, sex was not included in the analyses as a grouping variable. In addition, although change over time was of interest, significant sample attrition of the participants reduced the sample size at Time 2, thereby precluding time from being included as a grouping variable. Thus, analyses were conducted separately at Time 1 and Time 2 to examine whether the patterns of results observed in the fall of first year would hold in the spring of that academic year with fewer students in the sample. Although there was interest in examining Institution X Ethnicity X Fit interactions, it was not possible to include Institution as a factor



because the entire sample from SIAST was of Aboriginal descent thus producing empty cells in this 3-way design. Therefore, data were analyzed separately for U of S and SIAST students.

### **Subjective Fit in the fall of First Year**

For U of S students, results of the Ethnicity (*Aboriginal / Non-Aboriginal*) X Time 1 Subjective Fit Group (*below expectations, good fit, exceeds expectations*) MANOVA with repeated measures *types* of adjustment (*academic, social, personal-emotional*) as the dependent variables revealed significant main effects of Ethnicity,  $F(3,267) = 3.56, p = .015$ , partial  $\eta^2 = .039$ , and Time 1 Subjective Fit Group,  $F(6,536) = 3.62, p = .002$ , partial  $\eta^2 = .039$ . The results of this analysis did not indicate the presence of a statistically significant two-way interaction (see Appendix L, Table 1).

**Main effects for Ethnicity.** Follow-up independent t-tests revealed that none of the adjustment types varied significantly as a function of ethnicity when considered at the univariate level (all  $p > .17$ ; see Appendix J Table 2). Aboriginal students were found to have the following means for academic adjustment ( $M = 5.67, SD = 1.33$ ), social adjustment ( $M = 5.54, SD = 1.37$ ) and personal-emotional adjustment ( $M = 5.37, SD = 1.32$ ). Non-Aboriginal students' means for academic, social, and personal-emotional adjustment were  $M_{acad} = 5.55 (SD = 1.10)$ ,  $M_{social} = 5.79 (SD = 1.21)$ , and  $M_{pers} = 5.42 (SD = 1.46)$ , respectively.

**Main effects for Time 1 Subjective Fit Group.** Follow-up univariate Analyses of Variance (ANOVAs) revealed that the Social Adjustment index varied significantly as a function of Time 1 Subjective Fit Group,  $F(2,275) = 10.14, p < .001$ , partial  $\eta^2 = .069$  as did Personal-Emotional Adjustment ( $F(2,275) = 3.67, p = .027$ , partial  $\eta^2 = .026$ ; see Appendix L Table 3).

A Tukey HSD post-hoc test revealed that in the fall of first year, students who indicated their environment did not meet their expectations reported significantly lower levels of social adjustment ( $M = 4.98$ ,  $SD = 1.19$ ) as compared to students who reported good fit ( $M = 5.92$ ,  $SD = 1.20$ ) or students who reported that their institution exceeded their expectations ( $M = 5.74$ ,  $SD = 1.29$ ), where the latter two groups did not differ significantly.

A Tukey HSD post-hoc test revealed that in the fall of first year, students who indicated their environment did not meet their expectations reported significantly lower levels of personal-emotional adjustment ( $M = 4.88$ ,  $SD = 1.49$ ) as compared to students who reported good fit ( $M = 5.54$ ,  $SD = 1.40$ ). There was a trend for students who reported that their institution did not meet their expectations to have lower levels of personal-emotional adjustment than students who reported that their institution exceeded their expectations ( $M = 5.45$ ,  $SD = 1.47$ ). Of note, no significant difference between the good fit and exceeds expectations groups was found.

### **Objective Fit in the Fall of First Year**

Results of the Ethnicity (*Aboriginal / non-Aboriginal*) X Objective Fit Group (*below expectations, good fit, exceeds expectations*) MANOVA with repeated measures adjustment types (*academic, social, personal/emotional*) serving as dependent variables revealed no significant main effects of Ethnicity or Objective Fit Group and no significant interaction (all  $p$ 's > .25; see Appendix M Table 1).

### **Subjective Fit in the Spring of First Year**

Using Time 2 data, results of the Ethnicity (*Aboriginal / non-Aboriginal*) X Time 2 Subjective Fit Group (*below expectations, good fit, exceeds expectations*) MANOVA with the types of adjustment serving as dependent variables (*academic, social, personal/emotional*)

revealed a significant main effect of Time 2 Subjective Fit Group,  $F(6,260) = 3.24, p = .004$ , partial  $\eta^2 = .070$ . No main effect of ethnicity and no significant two-way interaction were observed (all  $p$ 's  $> .10$ ; see Appendix N Table 1).

**Main effects for Time 2 Subjective Fit Group.** Results revealed that the Social Adjustment index significantly varied as a function of Time 2 Subjective Fit Group,  $F(2,137) = 11.98, p < .001$ , partial  $\eta^2 = .150$  (see Appendix N Table 1), as did Personal-Emotional Adjustment  $F(2,136) = 3.45, p = .035$ , partial  $\eta^2 = .048$ . As was the case for subjective fit at Time 1, Tukey HSD post-hoc tests revealed that in the spring of first year, students who indicated that their institution did not meet their expectations reported significantly lower levels of social adjustment ( $M = 4.66, SD = 1.06$ ) as compared to students who reported having a good fit with their institution ( $M = 5.89, SD = 1.25$ ) and those who reported that their institution exceeded their expectations ( $M = 6.55, SD = 0.85$ ). No statistically significant difference in social adjustment scores was found between the participants in the good fit group and those in the exceeded expectations group.

Similarly, Tukey HSD post-hoc tests revealed that at Time 2, students who were in the “does not meet expectations” group ( $M = 4.76, SD = 1.57$ ) were found to have significantly lower levels of personal-emotional adjustment as compared to those in the “good fit” group ( $M = 5.76, SD = 1.60$ ). No statistically significant differences were found between the does not meet expectations group and the exceeds expectations group ( $M = 5.29, SD = 1.51$ ). In addition, the good fit group and the exceeds expectations group were not found to differ on personal-emotional adjustment.

## **Objective Fit in the Spring of First Year**

Again consistent with the findings at Time 1, results of the Ethnicity (*Aboriginal / non-Aboriginal*) X Time 2 Objective Fit Group (*below expectations, good fit, exceeds expectations*) MANOVA did not reveal statistically significant main effects of Time 2 Objective Fit Group or Ethnicity or a significant two-way interaction (all  $p$ 's > .27, see Appendix O Table 1).

## **Adjustment and Person-Environment Fit at SIAST**

Two Multivariate Analyses of Variance were conducted to test whether measures of adjustment varied as a function of Time 1 fit group (subjective, objective) of Aboriginal participants at SIAST. Due to small cell sizes, sex was not included in the analyses as a grouping variable. In addition, due to significant sample attrition of SIAST participants in the spring, analyses were run on Time 1 data only. Results revealed no significant main effects of Time 1 Subjective or Objective fit group on the linear combination of adjustment types (see Appendix P Table 1 and Appendix Q Table 1, respectively).

## **Does person-environment fit vary as a function of which institution Aboriginal students attend?**

Chi-square tests were conducted to examine whether connections existed between the institution (*U of S, SIAST*) and the fit group (*below expectations, good fit, exceeds expectations*) for Aboriginal students. Results indicated that no significant dependencies were found between the Institution and T1 Subjective Fit Group (Pearson  $\chi^2 = 3.67$ ,  $df = 2$ ,  $p = .159$ ) or T1 Objective Fit Group (Pearson  $\chi^2 = 1.18$   $df = 2$ ,  $p = .555$ ). Due to small cell sizes, chi-square analyses between Institution and T2 Subjective and T2 Objective fit groups were not conducted.

### **Aboriginal interviewees' opinions on person-environment fit**

The majority of the interviewed Aboriginal participants reported that they felt that their institution was a good fit for them. However, two Aboriginal interviewees reported a more neutral position stating that it was a good fit in some ways (e.g., academically) but not others (e.g., socially). For example, these interviewees reported that their institution had an academic degree program of interest but they were not making friends or getting along with others.

All of the Aboriginal interviewees stated that it is important to have a good fit between what a student is looking for and what the institution provides (e.g., *“if you’re not getting what you need or want to get out of it, then what is the point of you being there”, “that’s what will keep you here longer... I can’t get things from here then I’m going”*). Aboriginal interviewees reported a variety of reasons for why a good fit is important. For example, a good fit was reported to enable students to meet their goals and to want to continue with their education. A good fit was also reported to help students with stress (e.g., *“If you’re comfortable in school and don’t have to sacrifice a lot of your own personal things that you value, it’s a way better fit and I think the more relaxed and comfortable you are with what you’re doing, the better you’ll do at it”*). Aboriginal interviewees also stated that a good fit encourages students to choose one institution over another, is central in fostering a sense of hope and success, and also decreases a student’s likelihood of attrition prior to the completion of a degree.

As an extension of this fit question, the present study was concerned with whether Aboriginal interviewees believed that a good fit with the institution is more important for Aboriginal students as compared to non-Aboriginal students. Responses to this query were varied. In general, interviewees (all of whom were Aboriginal) reported that a good fit is

important for all students regardless of ethnic background. However, four interviewees stated that it may be more important for Aboriginal students, especially those who are new to the city and are from reserves or small communities. It was reported that for these Aboriginal students, having a good fit may reduce the impact of living in a new and unfamiliar place, as many of these students are the first in their family to attend a post-secondary institution and consequently many young Aboriginal students do not know what to expect when it comes to higher education. Participants reported that for these students, a good fit is especially important in order to foster a sense of belonging, to feel welcomed, and to make it easier to deal with other changes and responsibilities that individuals are faced with when moving to a new city.

#### **Aboriginal interviewees' opinions on the role of Aboriginal culture in their institution**

Interviewed Aboriginal participants were asked about their awareness of the ways in which their institution includes Aboriginal culture into the institution's environment as well as their opinions on these efforts. Generally speaking, all interviewees described these efforts in positive terms. Interviewees reported that the inclusion of Aboriginal culture (e.g., activities such as Pow-wows, sweat lodges, speaking to elders, Aboriginal content in classes; programs such as the Aboriginal First Year Experience Program (AFYEP), Mathematics and Science Enrichment Program (MSEP) and Aboriginal Success in Trades and Technology (ASITT); and the presence of an Aboriginal Student Centre) promoted a sense of belonging and being welcomed into the university among Aboriginal students at the institution (e.g., *"I liked that they had the powwow in the bowl. That was so awesome. Felt like being home again"*). It was also reported to be beneficial in assisting both Aboriginal and non-Aboriginal students to increase their knowledge

about Aboriginal culture and customs and to alter the stereotypes that exist regarding Aboriginal peoples.

Although the inclusion of Aboriginal culture into the post-secondary environment was described by almost all interviewees as being highly beneficial (“*In the transition program classes] they would bring up relevant info, bring in aboriginal poets, authors, etc. It’s such a huge part of Canadian history. Some have brought up residential school and stuff. It’s important to reflect our Canadian history*”), some potential drawbacks were noted. For example, interviewees reported that students who are of other ethnic backgrounds may feel underrepresented or less important to the institution, and other students on campus may not see the relevance of the inclusion. It was also noted that it can be risky to include Aboriginal material in class because this information is not always portrayed accurately. In addition, it was reported that the teaching of Aboriginal knowledge can be contradictory to the culture’s beliefs regarding who should be responsible for the teaching (e.g., Aboriginal Elders should be responsible for knowledge dissemination rather than non-Aboriginal instructors). As well, an interviewee stated that it is nice to see the yearly pow-wow on campus but then questioned where these activities can be found on the remaining days of the year.

Aboriginal interviewees tended to report that their institution was successfully incorporating Aboriginal culture into the institution and were asked for suggestions on how their institution could improve in this regard. Interviewees stated that it would be beneficial to increase the availability of Aboriginal cultural activities such as sweat lodges, healing circles, smudging and prayer and traditional dance classes at the campus physical activity centre. Interviewees reported that Aboriginal content and guest speakers could be added into class materials, even in

classes outside of programs such as AFYEP and Native studies. It was also suggested that it would be beneficial to have a strong Aboriginal voice in the student body (e.g., having a Aboriginal representative on university committees). Lastly, it was suggested that Aboriginal housing/residences could be built near the institutions so that Aboriginal students could live together, develop a sense of community and practice traditional ways of living. (*“Then you can be around people who think like and talk like you. You could eat the food you’re used to. You could get the support you need to that way”*).

### **Anticipated Persistence Analyses**

#### **Descriptive analyses**

A secondary area of exploration in this study focused on anticipated persistence which was operationalized as the student’s intentions to continue with their post-secondary education in the following year. At Time 2, 157 students responded to the question, *“Do you think you will return to the [University of Saskatchewan/SIAST] in September 2008 to continue with your studies?”* Results (see Table 13) indicate that the vast majority of students who participated in the study (83%) reported a strong likelihood of returning to their institution the following year. For just under 1 in 5 students, however, this decision seems either less certain or a clear “no”. These findings are consistent with those of the 2010 First Year University Student Survey conducted by the Canadian University Survey Consortium (Prairie Research Associates, 2010).

One goal of this project was to understand factors that may shed light on why some students leave prior to obtaining their degrees. Accordingly, a series of analyses were conducted to examine the connections between intentions to continue and the key variables of interest in the present study.



Table 13

*Responses of survey participants (entire sample) to the question of “Do you think you will return to the [University of Saskatchewan/SIAST] in September 2008 to continue with your studies?”*

<b>Response</b>	<b>Percent</b>	<b>N</b>
Definitely not returning	3.2%	5
Probably not returning	4.5%	7
Maybe yes maybe no	9.6%	15
Probably will return	20.4%	32
Definitely will return	62.4%	98

## **Adjustment and Anticipated Persistence**

Correlations were conducted to examine whether adjustment was associated with intentions to continue. As data on intentions to continue were only collected at Time 2, only the adjustment types at this time point were used (See Table 14). Results revealed that students who reported higher levels of academic and social adjustment also reported greater intentions to continue with post-secondary studies the following year. A non-significant correlation was found between intentions to continue and personal-emotional adjustment.

**Ethnicity, Adjustment and Anticipated Persistence.** Although there were no group differences between the Aboriginal and non-Aboriginal self-reported adjustment scores (as assessed with MANOVA), the above analyses do indicate that adjustment is associated with a student's intentions to persist the following year. Of interest was whether the links between adjustment and anticipated persistence were moderated by ethnicity. Specifically, was the connection between adjustment and intentions to continue different depending on whether students are Aboriginal or non-Aboriginal? A hierarchical regression was conducted to test this relationship.

Of note, ethnicity, Time 2 academic adjustment, Time 2 social adjustment, and Time 2 personal-emotional adjustment were entered on Step 1,  $R^2 = .113$ ,  $F(3,150) = 6.35$ ,  $p < .001$ . The interaction terms (ethnicity X academic adjustment, ethnicity X social adjustment, ethnicity X personal-emotional adjustment) were entered on Step 2. A significant increment in variance accounted for with the addition of Step 2 suggests the presence of moderation effects,  $R^2 \text{ change} = .138$ ,  $F(3,147) = 9.01$ ,  $p < .001$ .

Table 14

*Bivariate Zero-Order Correlations Between Time 2 Variables and Intentions to Continue*

Measure	Intentions to Continue
T2 HS Prep	<b>.25**</b>
T2 Total SPS	-.02
T2 Beliefs	<b>.18*</b>
T2 Acad. SE	<b>.16*</b>
T2 Fr. Support	.08
T2 Fr. PS Supp.	<b>.21**</b>
T2 Fa. Support	<b>.20*</b>
T2 Fa. PS Supp.	<b>.20*</b>
T2 SACQ – A	<b>.23**</b>
T2 SACQ – S	<b>.23**</b>
T2 SACQ – PE	.02
Mean	4.34
SD	1.04
N	157

Note: All significant correlations are in bold and are marked by asterisks. \* =  $p < .05$ , \*\* =  $p < .01$ , <sup>t</sup> =  $p < .10$ . Degrees of Freedom: 152 to 155.

T2 = Time 2 measure

HSPrep: Sense of previous academic preparedness (1 = Not at all, 5 = Completely)

Total SPS: Total Social Provisions Scale (higher scores = more social provisions)

Beliefs: Beliefs about the transition experience (higher scores = more positive perceptions)

Acad.SE: Academic self-efficacy (higher scores = more positive academic self-efficacy)

Fr. Support: Friend support needs met (1 = Yes, 2 = No)

Fr. PS Support: Friend support about decisions to attend a post-secondary institution

(1 = Not at all, 5 = Very much)

Fa. Support: Family support needs met (1 = Yes, 2 = No)

Fa. PS Support: Family support about decisions to attend a post-secondary institution

(1 = Not at all, 5 = Very much)

SACQ-A: Academic adjustment (higher scores = more positive academic adjustment)

SACQ-S: Social adjustment (higher scores = more positive social adjustment)

SACQ-PE: Personal-emotional adjustment (higher scores = more positive PE adjustment)

Specifically, ethnicity was found to moderate the relationship between academic adjustment and intentions to continue,  $\beta = 1.87, t(146) = 3.45, p = .001$ . Follow-up correlations revealed that the relationship between the academic adjustment and intentions to continue was significant for non-Aboriginal students,  $r(108) = .36, p < .001$  but not for Aboriginal students,  $r(44) = .07, p = .664$ . Ethnicity also moderated the relationship between social adjustment and intentions to continue,  $\beta = -1.87, t(146) = -3.39, p = .001$ . In contrast to what was observed for academic adjustment, correlations showed that intentions to continue were significantly related to social adjustment for Aboriginal students,  $r(42) = .37, p < .001$  but not for non-Aboriginal students,  $r(108) = .11, p = .234$ .

### **Person-environment fit and Intentions to Continue**

In order to determine the relationships between person-environment fit and intentions to continue, Univariate Analyses of Variance were conducted using Ethnicity and Time 2 Subjective Fit Group as between-subject variables followed by a second analysis with Ethnicity and Time 2 Objective Fit Group. Due to the small sample size of Aboriginal students at Time 2 at both SIAST and the University of Saskatchewan and the absence of non-Aboriginal students from SIAST, the data for the two samples were combined together for this analysis rather than including institution as third grouping variable.

**Time 2 Subjective Fit Group.** Results revealed a significant main effect of Ethnicity on intentions to continue,  $F(1,145)=20.35, p<.001$ , partial  $\eta^2=.123$ , with non-Aboriginal students ( $M = 4.50, SD = .88$ ) reporting greater intentions to continue with their studies than their Aboriginal counterparts ( $M = 3.93, SD = 1.28$ ). Although there was no main effect of subjective fit group, there was a significant interaction between Ethnicity and Subjective Fit group,  $F(2,145)=5.35$ ,

$p=.006$ , partial  $\eta^2 = .069$  (See Appendix R Table 1). Looking at differences between Aboriginal and Non-Aboriginal students within each fit group, results of independent t-tests revealed that Aboriginal students who did not feel that their institution was meeting their expectations reported lower intentions to continue ( $M=3.50$ ,  $SD=1.761$ ) as compared to their non-Aboriginal peers with the same level of fit ( $M=4.80$ ,  $SD=0.41$ ),  $t(19)=-2.77$ ,  $p=.012$ . The same difference was found for Aboriginal ( $M=3.14$ ,  $SD=1.57$ ) and non-Aboriginal students ( $M=4.77$ ,  $SD=0.60$ ) when expectations of the institution exceeded the ideal,  $t(18)=-3.36$ ,  $p=.003$ . In contrast, Aboriginal ( $M=4.21$ ,  $SD=1.01$ ) and non-Aboriginal students ( $M=4.41$ ,  $SD=0.96$ ) who reported good fit did not report significantly different intentions to continue,  $t(108)=-0.95$ ,  $p=.343$ .

**Time 2 Objective Fit.** There were no significant main effects for Ethnicity or Objective Fit group on intentions to continue. In addition, analyses did not reveal the presence of a significant two-way interaction between Ethnicity and Objective Fit group (see Appendix S Table 1).

### **Other Correlates of Intentions to Continue**

Correlations were conducted to examine whether several of the variables that were associated with adjustment were also associated with intentions to continue (See Table 14). The analyses revealed that in the spring of first year students who reported stronger intentions to continue with post-secondary studies in the following academic year also reported a better sense of academic preparedness (based on high school), more positive beliefs about their transition experience, higher levels of academic self-efficacy, greater support from their friends and their families to attend a post-secondary institution, and a better sense of support needs being met by family members. Unexpectedly, a significant correlation was not found between the intentions to

continue question and overall level of social support or between intentions to continue and a feeling that one receives as much support from friends as one would like.

### **What Brought Students to this Institution in Particular?**

In the survey portion of the study, 69% of all participants reported that they had complete freedom to choose to attend their institution instead of going to another institution. Through the interview portion of the study, the reasons that brought a subset of Aboriginal participants to their particular institution were explored.

For interviewees (all of whom were of Aboriginal background) the reasons for attending a particular institution varied, with some interviewees reporting that they liked the city of Saskatoon and that it was the closest to their home town (*“It’s the closest university to home. I didn’t want to travel very far”*). Other interviewees reported having more specific reasons for attending their institution. For example, some reported that they wanted to be close to family who lived in the city, some stated that this is where they were funded to go to school (*“[institution] is recognized by places willing to sponsor me for school so that’s where I went”*), while others reported that they chose their institution because it offered a specific type of degree or program that they wanted to pursue. In addition, some of the Aboriginal interviewees reported that they chose their institution in particular because of the equity programs and the Aboriginal-focused opportunities available (e.g., AFYEP, MSEP, ASIIT programs), and the presence of an Aboriginal Student Centre on campus (*“I noticed that they did have an Aboriginal community and the Aboriginal Student Centre here is really great. That’s sort of what attracted me to here”*).

### **Aboriginal interviewees' opinions on what helps them to stay at their institution**

At the time of the interviews, two out of the eleven interviewees had temporarily discontinued from their education due to academic and/or financial reasons and six reported having had thoughts about not staying at their institution (*"The thought of quitting or not coming back, it runs through my mind quite a bit"*). These six interviewees reported that they had thought of discontinuing their education because it was difficult to go to school and raise a family at the same time (*"[it is] very hard to go to school when you have kids – don't have much family time"*). Some of these interviewees also reported having had thoughts of discontinuing due to other personal challenges in life, a desire to try something new, and also because of financial reasons. The remaining 3 interviewees reported that they did not have thoughts about discontinuing their education.

Aboriginal interviewees were also asked what did or would have made it easier for them to continue with their education. Interviewees described that having good professors, being able to access a specific program (e.g., pharmacy) and having financial support were all factors in their decision to continue. In addition, it was reported that living close to campus, being motivated, having clear goals, and being a part of the Aboriginal Student Center were also key factors in their decision to stay.

### **Aboriginal interviewees' opinions on why first year students drop out of school**

It is commonly assumed that students who do not continue with their education are doing so because they have failed to achieve the grades to do so. Whereas several of the Aboriginal interviewees in this study reported that poor grades due to lack of studying or effort could result

in students not returning for another year, they also reported more social and personal reasons for student attrition following first year.

Aboriginal interviewees reported that some students discontinue their studies because of a lack of fit with their institution or because they feel alone or uncomfortable at their institution. Others reported that lack of support from family/friends (*“If I didn’t have friends or family here I probably wouldn’t have come back”*), financial difficulties (*“Can’t afford to live off student loans and can’t get band funding”*), lack of previous academic preparation (e.g., not learning necessary information or necessary skills in high school), immaturity, and poor time management skills and self-confidence are also possible reasons why students drop out prior to the completion of their degrees. In addition, interviewees reported that home-sickness, living in a new city and family members showing negative feelings towards the individual attending a post-secondary institution can also result in attrition. Other factors such as substance use, partying, and dating opportunities may draw people’s attention away from their studies.

In terms of recommendations, interviewees reported that more advertising about the institution’s Aboriginal Student Centre may be beneficial in helping students join and remain at the institution. Suggestions for this included having a representative from the Aboriginal Student Centre visit the high schools to explain the program or sending information to high school students thinking of attending the institution. In addition, interviewees reported that more scholarships and lower tuition may be beneficial in helping students join and stay at the institution.



### **Aboriginal interviewees' long-term goals**

All of the interviewed Aboriginal participants reported that they intended to complete a post-secondary degree. Upon completion of their degrees, 3 out of 11 interviewees reported that they wanted to travel. Although one interviewee reported that she would like to move to a warmer climate and open her own business, many of the other interviewees reported that they would like to remain in Saskatchewan or to return to their home communities (in Saskatchewan or other provinces) to work. Aboriginal interviewees were pursuing various degrees but many reported that they wanted to work directly with Aboriginal communities upon completion of their education and to be a role model to young Aboriginal individuals. This latter finding is consistent with those of Timmons and colleagues (2009). These interviewees were pursuing degrees in the health sciences, justice-related fields, and the environmental sciences.

### **Additional Analyses of Interest**

#### **Total social support**

The results of a repeated measures ANOVA indicated that total social support did not vary as a function of time of year, participant sex or ethnicity (all  $p$ 's > .25; see Appendix T Table 1). However, a significant interaction between Time X Ethnicity X Sex was found,  $F(1,151)=4.33$ ,  $p=.039$ , partial  $\eta^2=.028$ . In order to interpret the three-way interaction, the data file was split by sex (male/female) and the repeated measures analyses were conducted again to examine the two-way interaction between ethnicity and time separately for males and females. Results did not reveal a significant two-interaction between ethnicity and time for male participants,  $F(1,32)=1.93$ ,  $p=.174$ . However, a marginally significant interaction between ethnicity and time was found for female participants,  $F(1,119)=3.90$ ,  $p=.051$ , partial  $\eta^2=.032$ .

Independent samples t-test revealed that non-Aboriginal females had significantly higher levels of total social support at Time 1 ( $M = 3.26$ ,  $SD = .44$ ) as compared to the Aboriginal females in this sample ( $M = 3.04$ ,  $SD = .46$ ),  $t(232) = -3.37$ ,  $p = .001$ . This difference was non-significant at time 2,  $t(119) = -1.40$ ,  $p = .165$ . Paired samples t-tests were conducted on the female sample to test for change in social support from Time 1 to Time 2 for Aboriginal and non-Aboriginal students separately, however none of these comparisons reached statistical significance at the  $p < .05$  level. See Figure 1 for the plotted means for Aboriginal and non-Aboriginal females and males.

### **Friends and Family Support**

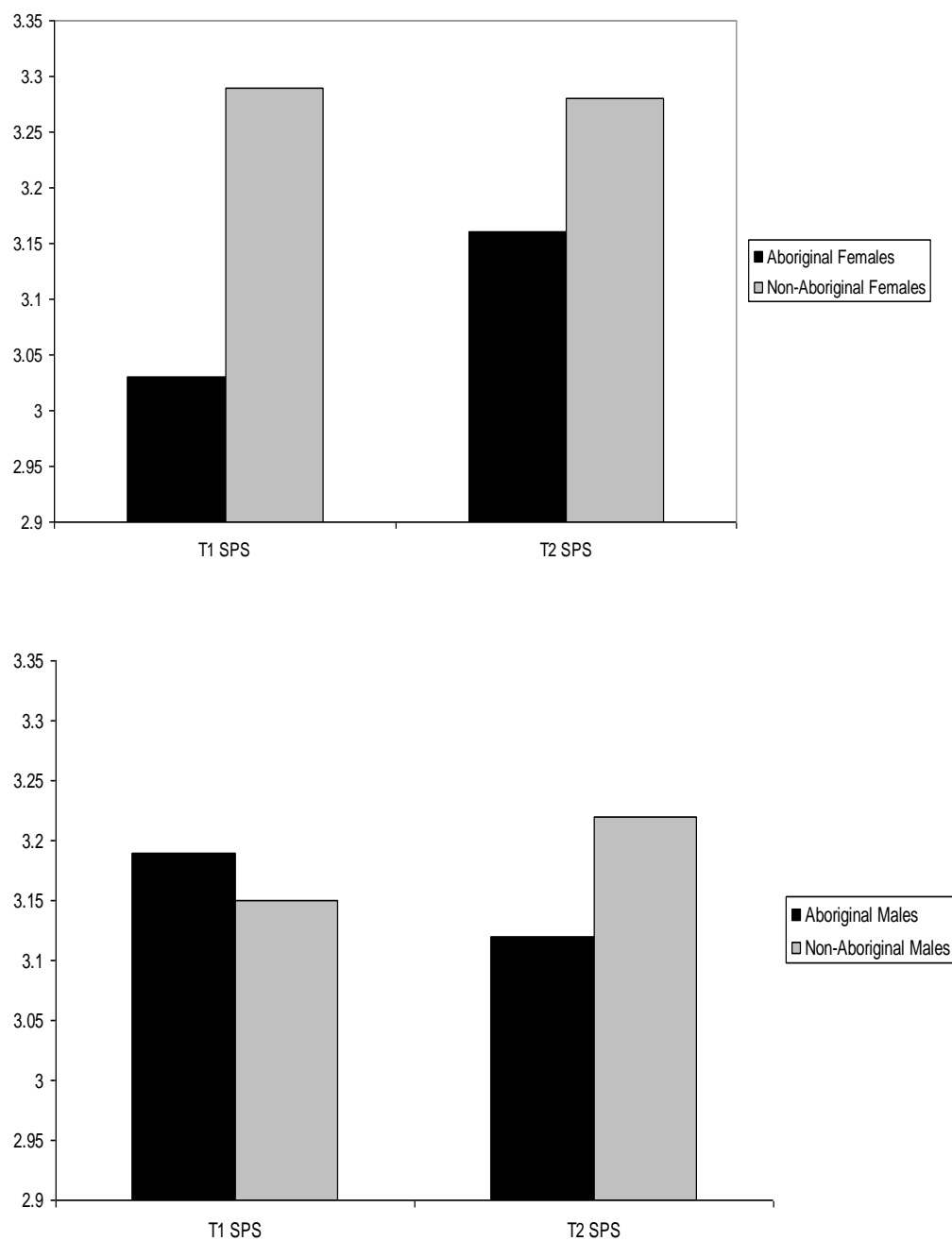
Following a repeated measures ANOVA, findings revealed that friends' support for the decision to pursue post-secondary studies varied by ethnicity,  $F(1,149)=5.72$ ,  $p=.018$ , partial  $\eta^2=.037$ , with Aboriginal students reporting that their friends were less supportive of their decision to pursue a post-secondary education than were non-Aboriginal students (Aboriginal  $M=4.02$ ,  $SD=1.02$ ; non-Aboriginal  $M=4.40$ ,  $SD=.71$ ). Findings did not indicate that family support to pursue a post-secondary education varied as a function of ethnicity, sex, or time of year (all  $p$ 's  $> .08$ ). In addition, no ethnic differences were found in terms of feeling that one receives as much support from friends and family as desired (all  $p$ 's  $> .21$ ).

### **Academic self-efficacy**

Following a repeated measures ANOVA, findings did not indicate that academic self-efficacy varied as a function of ethnicity, sex, or time of year. In addition, no significant interactions were observed (all  $p$ 's  $> .09$ ; see Appendix T Table 2).

Figure 1

*Plotted Time 1 and Time 2 Total Social Support Means for Aboriginal and Non-Aboriginal Females and Males*



### **High School Preparation**

Following a repeated measures ANOVA, findings showed that academic preparedness varied as a function of ethnicity,  $F(1,152)=8.08$ ,  $p=.005$ , partial  $\eta^2=.050$ , such that Non-Aboriginal students reported feeling more prepared academically by their high school education ( $M=3.23$ ,  $SD=0.90$ ) as compared to their Aboriginal counterparts ( $M=2.71$ ,  $SD=0.89$ ). There were no significant main effects for time of year or sex of participant, nor any significant interactions (all  $p$ 's  $>.06$ ; Appendix T Table 3).

### **Beliefs about the transition experience**

The results of a repeated measures ANOVA revealed that beliefs about the transition did not vary as a function of time and no significant interactions were found (all  $p$ 's  $>.21$ ; see Appendix R Table 4). A significant main effect of sex for beliefs about transition was found,  $F(1,150)=5.76$ ,  $p=.018$ , partial  $\eta^2=.037$ . Overall, females students were found to have less positive beliefs about the transition experience ( $M = 3.06$ ,  $SD = 0.83$ ) as compared to the male participants ( $M=3.46$ ,  $SD = 0.72$ ). In particular, female participants were found to feel less happy about the transition ( $M = 5.04$ ,  $SD = 1.50$ ) compared to their male counterparts ( $M = 5.61$ ,  $SD = 1.36$ )  $t(151) = 2.04$ ,  $p = .044$ . Female participants ( $M = 4.19$ ,  $SD = 1.76$ ) were also found to view the transition as more stressful than did male participants, ( $M = 5.07$ ,  $SD = 1.72$ ),  $t(149) = 2.63$ ,  $p = .009$ .

### **High school education and academic self-efficacy**

Correlations were run in order to examine whether previous schooling would be tied to academic self-efficacy. Results revealed significant connections between academic self-efficacy and academic preparedness at Time 1,  $r(306) = 0.29$ ,  $p<.001$ , and between these same two

variables measured at Time 2 ,  $r(153) = 0.29, p < .001$ . In both the spring and the fall, an increased sense of academic preparedness based on previous schooling was associated with higher levels of academic self-efficacy in the first year of university.

## **Discussion**

Over the past several years, there has been a growing interest in the experiences of first year post-secondary students and the variables associated with their adjustment and their decision to continue with or depart from institutions of higher learning. In light of the higher post-secondary attrition rates among the Canadian Aboriginal student population, many have sought to understand the experiences of this group in particular.

The purpose of this research was to explore factors that are associated with the adjustment and anticipated persistence of first year Aboriginal and non-Aboriginal students as knowledge derived from this investigation has the potential to help decrease attrition and to improve the experiences for students in these settings. To this end, the connections between adjustment, person-environment fit, anticipated persistence and a number of psychosocial and background variables were investigated. Major findings of this research suggest that post-secondary adjustment is associated with a multitude of factors and that academic, social and personal-emotional adjustment are connected to similar as well as unique elements. Furthermore, this research highlights that anticipated persistence is complex, with a number of background factors, psychosocial factors as well as adjustment and person-environment fit being relevant to this decision. In addition, this research highlights that Aboriginal students do not have poorer adjustment or fit compared to their non-Aboriginal peers but they do have lower levels of anticipated persistence.

This section will begin with a discussion of the connections between background factors and adjustment, followed by a discussion of the psychosocial variables associated with adjustment and anticipated persistence. Next, the links between person-environment,

adjustment and anticipated persistence will be explored. Lastly, a discussion of the factors specifically relevant to Aboriginal first year students will be provided.

### **Background Factors Associated with Post-Secondary Adjustment**

Several predictions were put forth in terms of the connections between background factors and post-secondary adjustment. The majority of these predictions were either fully or partially supported and will be discussed in turn.

**Age and Adjustment.** The limited literature available on the connection between age and post-secondary adjustment offers conflicting findings (Brooks & DuBois, 1995; Chartrand, 1990; Harris & Brooks, 1996; Jacobi, 1987; Novak & Thatcher, 1991). In light of the findings that older students score lower on adjustment measures (Brooks & DuBois, 1995), tend to have additional non-academic commitments (e.g., family, employment; Chartrand, 1990), and that postponing one's post-secondary education is associated with lower rates of degree completion (Berkner et al., 2002), it was hypothesized that older students would experience lower levels of adjustment. However, contrary to this hypothesis, an increase in age was associated with increasing academic and personal-emotional adjustment.

This finding suggests that being an older student is not associated with decreased levels of adjustment. This is potentially quite positive since only two thirds to three quarters of students pursue post-secondary education directly following high school (Horn, Cataldi, & Sikora, 2005, Prairie Research Associates, 2010). It also prompts the question of why increasing age appears to be related to greater adjustment.

In the current study, the on-campus opportunities available to this study's sample may have contributed to this pattern of finding. Specifically, it is possible that age is actually a

protective factor at the post-secondary level: on-campus resources at both institutions such as daycares may help parents (which many older students are) to pursue their educational goals as well as provide them with the freedom to dedicate more time to their studies. Similarly, the institutions offered both night and correspondence classes which would allow older students to continue their daytime employment without negatively influencing their opportunity to pursue their studies. It is possible that when the challenges of having children and outside employment have been adequately managed, the maturity of older students might actually place them at an advantage over younger students, as would seem to be the case with the present sample.

It is possible that compared to younger students, older students tend to experience increased levels of academic adjustment because they are better able to apply skills learned outside of academia (e.g., good time management, how to effectively study) to their studies. It can also be speculated that older students may be more certain of their interests and goals, and thus perhaps they are better able to adjust as compared to younger students who may be less invested or uncertain about the academic demands. In addition, older students are reported to view class attendance more positively and hold more positive perceptions of class assignments (Dill & Henley, 1998). Harris and Brooks (1998) also found that students over the age of 25 were more likely to feel as though their course instructors held them in a positive light, and were also more likely to feel academically competent compared to their younger counterparts (under the age of 25). Older students in the Harris and Brooks study were also more likely to endorse positive feelings towards studying and being a post-secondary student, and to feel as though they were achieving and flourishing in their role as a student. Together these factors likely assist older students in adjusting to their new academic demands.



Consistent with the connection found between age and personal-adjustment, Jacobi (1987) found that older students were doing better both physically and mentally as evidenced by fewer endorsed items on a measure of psychosomatic symptomatology. It is possible that they are less likely to experience physical or psychological distress because they possess certain resources or because they are aware of how to seek out relevant resources for assistance. They may also have the financial stability needed to pursue counseling early on before any latent psychological distress impairs their functioning.

**Gender Differences and Adjustment.** Previous literature has indicated that sex differences in the post-secondary experience are present, with women being more likely to struggle with this new life transition (Gall, Evans & Bellrose, 2000) and experience lower levels of adjustment as compared to their male counterparts (e.g., Enochs & Roland, 2006). This finding was supported in the present study. Specifically, across the whole year, female students reported that their transition was less positive and more stressful than did their male counterparts. Female participants were also found to be less happy overall about their transition experience. In addition, female participants were found to report lower levels of personal-emotional and academic adjustment in the spring of the first year.

Several researchers have speculated as to why females may appear to have a different post-secondary experience compared to their male peers. For example, higher prevalence rates of depressive symptomatology in females in general and during the first year of post-secondary studies (Alfeld-Liro & Sigelman, 1998) may make it difficult for female students to successfully complete academic demands. Female students may also have difficulty reconciling both their

academic role as a student and traditional roles as a caregiver, and this dissonance may in turn make it difficult to adjust academically and emotionally.

These findings suggest that the experiences of male and female students may look quite different at the post-secondary level. The combination of less positive transition beliefs and lower adjustment suggests that female students may benefit from additional support prior to or during the early months of post-secondary studies.

**Perceived Distance and Adjustment.** Many students have to move, at times great distances, in order to pursue post-secondary studies. As this move may compound the already stressful experience of being a first year student, some researchers (e.g., Brooks & Dubois, 1995; Mooney et al., 1991) have queried whether links exist between distance from hometown and post-secondary adjustment. As hypothesized, lower levels of social and personal-emotional adjustment were associated with increasing perceived distance between the institution and one's hometown in the current study.

This finding is interesting for a number of reasons. First, Mooney and colleagues (1991) examined both actual and perceived distance in relation to adjustment with only the latter being found to be significant. This suggests that adjustment may be more dependent upon how students perceive this distance, rather than the distance itself. Second, if this is the case, then this suggests that moving even large distances may not necessarily put a student at risk for adjustment difficulties.

The association between perceived distance and adjustment can be explained in several ways. First, it could be that the further one perceives oneself to be from home, the poorer adjustment he/she may experience. Alternatively, the inverse could also be the case in that poorly

adjusted students perceive home to be too far when they are not adapting well in their post-secondary environment. Second, for many students, moving away from home means leaving behind familiar surroundings and an established support network – understandably, leaving this environment, having to make new friends and fend for themselves in a new city can be challenging and distressing. However, an examination of the mean levels of social adjustment for the sample suggests that the majority of students were able to adjust to these social changes in a positive manner. In addition, perceiving home to be too far could result in feelings of homesickness which in turn have been associated with poorer physical and mental health outcomes (Fisher & Hood, 1987; Fisher & Hood, 1988). Lastly, it could also be that perceived distance and adjustment influence each other in such a way that a negative self-perpetuating cycle develops (e.g., greater perceived distance negatively influences adjustment which in turn exacerbates how far one perceives home to be).

**Financial Struggles and Adjustment.** While a connection between financial well-being and college adjustment has been found in the literature (Brooks & BuBois, 1995; Castillo & Hill, 2004), students with higher reported incomes in this study were not better adjusted. However, students who reported that their financial needs were being met were more likely to report higher levels of social and personal-emotional adjustment. This finding suggests that, for this sample, the overall amount of income is less important than feeling as though one has sufficient resources to cope with his/her financial needs. It is likely that not worrying about finances alleviates a considerable amount of stress which in turn influences an individual's physical and mental well-being (Parkin & Baldwin, 2009). In addition, it could be that increased social adjustment is associated with feeling that one is receiving the financial support he/she needs. In this case,

students do not have to worry about passing up a social opportunity because they do not have the financial means to pay for the activity. Perhaps it is the case that income is only important if it is less than a certain threshold, below which the student begins to feel that their financial needs are not being met. In the case of this interpretation, further increases in income above the threshold amount will not result in greater adjustment, whereas loss of income below this threshold will have a negative effect on this domain.

**High School Preparation and Adjustment.** In the literature, high school preparation has been positively associated with post-secondary-related outcomes such as the pursuit of higher education, post-secondary performance, adjustment, as well as post-secondary persistence (e.g. Archibald et al., 1995; Nora & Cabrera, 1996; Tinto, 1993). As expected, in the present study, students' perceptions that high school (or equivalent) adequately prepared them for post-secondary studies were associated with higher levels of adjustment in both the fall and spring semesters of first year. Indeed, students who felt prepared by their early education also reported greater intentions to persist with post-secondary studies the following year – again emphasizing the importance of early adequate preparation.

It can be speculated that high school education prepares students for university on a number of different levels. Academically, when done effectively, high school aims to teach students important skills such as how to write papers and/or exams, complete course work, efficiently read textbooks or use study time proficiently, as well as emphasize the importance of attending class. It also likely assists students in gaining an understanding of their interests, goals, and academic strengths and weaknesses as well as instilling the foundational knowledge necessary for post-secondary courses. On a social level, the experience of being in a positive high

school environment is thought to teach students how to develop satisfactory interpersonal skills, skills which are necessary to successfully navigate social situations, make friends and work as part of a team. Similarly, although it may not be taught directly during the high school years, if they are lucky students will learn how to effectively manage time and may learn the importance of being accountable and responsible.

It is important to note that the question used to ascertain perceptions of high school preparation was vague and did not measure specific types of preparation. This has two implications – first, it is difficult to say exactly what the findings mean with regard to the various aspects of preparation; second, it does not allow for specific recommendations to be provided. Despite these limitations, there is evidence to support the notion that it is important to feel prepared when entering post-secondary studies and that it is an important area for future research given its relationship to adjustment and anticipated persistence. In addition, the findings would suggest that the post-secondary educational system may benefit from collaboration with the secondary system when considering retention/persistence initiatives. This finding also offers support for the implementation of university preparation courses which teach students who may not have been sufficiently prepared about topics such as how to take good class notes, how to write an academic term paper, how to make social connections on campus, and other academic and social skills.

### **Psychosocial Factors Associated with Adjustment and Anticipated Persistence**

Psychosocial factors including beliefs about the transition experience, social support and academic self-efficacy and their connections to adjustment and anticipated persistence were

investigated in the present study. The results of the analysis were generally consistent with the predictions and the currently available literature.

**Adjustment and Persistence.** The link between adjustment and persistence has been well established in the literature (e.g., Gerdes & Mallinckrodt, 1994; Tinto, 1993). Jackson and colleagues (2000) reported that students who left before starting their second year demonstrated significantly poorer post-secondary adjustment at the end of their freshmen year compared to those who enrolled the second year. In fact, adjustment, especially academic and social adjustment, are often said to be key factors in understanding persistence (Tinto, 1993). The connections among these variables were found in the present study with higher levels of academic and social adjustment difficulties being associated with decreased intentions to return to their institution the following year. Although the finding that adjustment is related to anticipated persistence is by no means novel, the present research contributes to this literature by establishing this link in a sample of first year Aboriginal and non-Aboriginal students.

**Beliefs about the Transition Experience and Adjustment.** While periods of transition can be difficult, challenging and stressful, it was positive to see that the majority of participants in this study viewed their transition as neutral or positive. Moreover, as predicted, more positive perceptions of this experience were associated with, and uniquely predictive of, higher levels of academic, social and personal-emotional adjustment.

Two possible explanations for this finding may be offered. First, it can be speculated that those students who reported experiencing their transition to university as negative were more likely to manifest symptoms of poor adjustment as a result. For example, they may have perceived the academic demands as insurmountable and thus may not have succeeded in adapting

to the demands. However, the reverse may also be true – students who reported having difficulty adjusting may have seen the transition in a more negative light. As an example, a student who is experiencing symptoms of psychological distress may have a hard time keeping up with academic work or making friends and thus may feel that his/her post-secondary experience was challenging, stressful, hard and unsuccessful. It is also possible that a third variable, perhaps a dispositional optimism, is influencing both students' perceptions of the transition as well as their adjustment (e.g., Jackson et al., 2005).

**Beliefs about the Transition Experience and Anticipated Persistence.** Students who perceived their transition experience to be more positive were also more likely to report a greater likelihood of returning to their studies the following year. Although a causal relationship cannot be established with the conducted analyses, it is possible that students who feel the experience was too difficult, stressful, or challenging may not feel that it was worth the cost of continuing on the following year. It also suggests that it may be important to find ways to make students' transition to university more positive. Indeed, given that the greatest proportion of attrition occurs between the first and second year of post-secondary studies (e.g., Tinto, 1993), it would be advisable to intervene as early as possible when problematic transition experiences are identified.

**Social support and Adjustment.** In accordance with previous research (e.g., Friedlander et al., 2007; Lamothe et al., 1995; Tao, Dong, Pratt, Hunsberger & Pancer, 2000), higher levels of perceived overall social support, receiving as much support from friends and family as desired, and feeling supported by friends and family in the decision to pursue a post-secondary education were all associated with higher reported levels of adjustment. Although the pattern of findings differs by type of adjustment and time point, the results of the present research indicate that social

support is a significant predictor of adjustment. For example, receiving as much family support as one desires was predictive of higher levels of personal-emotional adjustment at Time 1 while having support from one's family to pursue a post-secondary education was predictive of higher levels of academic adjustment at Time 1 and social adjustment at Time 2. In addition, receiving as much support from friends as desired was predictive of social adjustment at both time points and of personal-emotional adjustment at Time 2. Receiving support from friends to pursue a post-secondary program was also predictive of Time 1 social adjustment. The findings highlight the importance of a support network in various areas, social and non-social alike, and may offer support for the use of social support interventions for students struggling with post-secondary adjustment.

**Social support and Anticipated Persistence.** Past literature (e.g., Nicpon et al., 2006) has found a positive relationship between social support and academic persistence among first-year students. It was expected that this relationship would also be found in the present study.

Although students with higher levels of overall social support were not more likely to report intentions to persist into second year, this is not to say that social support was not associated with the anticipated continuation of this sample. In line with this idea, the results from the present study indicate that feeling that one's support needs are met and receiving specific types of support are connected to participants' anticipated persistence. Specifically, participants who reported that they received as much support as they would like from their family (but not friends) were more likely to report greater intentions to continue with their education. Similarly, students who felt that their friends and family were supportive of their decision to pursue a post-



secondary education appeared more likely to report greater intentions to continue past their first year.

These findings suggest that it could be important for students to be supported in their decision to attend university/college and to receive ongoing support from family during this new stage of life. Family, until this point in life, may have played a considerable role (e.g., involvement, support). It may understandably be difficult for students to no longer receive the support to which they may have previously been accustomed, even though they are attempting to develop independence during this time. This finding is also important in relation to the person-environment fit literature as well. Specifically, it appears that congruence between what is wanted and what is given is more important than the environmental aspect (e.g., quantity of support given) on its own.

Friends have also been found to play an important role in first year students' decisions to continue at or depart from their institution (Nicpon et al., 2006; Gloria, Robinson Kurpius, Hamilton, & Wilson, 1999; Gloria & Robinson Kurpius, 2001). Indeed, in the present study, participants who felt that their friends were supportive of their decision to pursue a post-secondary education were significantly more likely to report greater intentions to continue the following year. It is possible that friends who are supportive of the decision are also pursuing a post-secondary education and can relate to what the individual is experiencing and offer support and encouragement during difficult times. An alternative explanation for this finding could be that students who are motivated to succeed tend to belong to peer groups with similar motivations – and that these peers would be likely to support others who also value similar motivations.

Conversely, it is possible that if friends are not supportive of a student's decision to attend, students may feel less confident in their decision to pursue this path.

**Academic Self-efficacy and Adjustment.** Consistent with findings that self-efficacy is associated with college adjustment (e.g., Ramos-Sanchez & Nichols, 2007; Silverthorn & Gekoski, 1995), participants who reported higher levels of academic self-efficacy were less likely to report academic, social, and personal-emotional adjustment difficulties. Indeed, academic self-efficacy was the strongest predictor of academic and social adjustment at Time 1 and Time 2, the second strongest predictor of personal-emotional adjustment at Time 1, and the third strongest predictor of personal-emotional adjustment at Time 2. It is possible that students who are better adjusted overall experience more confidence in their academic abilities. Likewise, feeling confident in one's academic abilities may lead students to better adjust to the various academic and non-academic demands in the post-secondary world.

Consistent with this latter idea, Chemers and colleagues (2001) posited that entering college feeling academically prepared and confident is associated with more success than when this confidence or preparation is lacking. In the literature, higher levels of academic self-efficacy have been associated with several positive consequences (e.g., increased performance, task persistence, feeling less threatened by the college experience; Bouffard-Bouchard, Parent & Lalivee, 1991; Chemers et al., 2001). These outcomes of high self-efficacy may help students to feel motivated to work and to put in effort into their studies. This in turn may help them to perform well and to feel satisfied with their academic performance.

Similarly, Chemers and colleagues (2001) found support for a model in which academic self-efficacy had a positive effect on whether a student perceived their experiences as threatening

or challenging. Specifically, higher levels of academic self-efficacy led to viewing the experience as challenging versus threatening, which in turn led to decreased stress and ultimately better health (mental and physical) and adjustment. It should be noted that adjustment in this study was defined as satisfaction with academic progress and intentions to persist at university. However, this model may also shed light on the associations between academic self-efficacy, social and personal-emotional adjustment in the current sample.

**Academic Self-Efficacy and High School Preparation.** Of interest was also the relationship between perceptions of high school preparation and academic self-efficacy. As expected, participants who reported feeling more prepared by their previous education were more likely to report high levels of academic self-efficacy. As noted in the background factors section of this dissertation, many students enter post-secondary institutions feeling unprepared by their high school learning. This may be due to a failure to adequately learn skills during high school but may also be due to the quality of the education provided. Thus, it is possible that students who enter their university studies feeling unprepared may experience low confidence in their academic skills during the first year and may in turn experience lower levels of adjustment.

**Academic Self-efficacy and Anticipated Persistence.** Consistent with meta-analyses examining the relationship between efficacy and persistence (Multon et al., 1991; Robbins et al., 2004), students in the present study who reported higher levels of academic self-efficacy also reported greater intentions to continue with their studies the following year.

It is possible that students who lack confidence in their academic abilities do not intend to return the following year because they do not believe they will perform adequately and/or they anticipate that their institution will not allow them to continue on because they do not meet the

institution's standards for promotion. Consistent with this idea, associations between self-efficacy and academic performance have been found (e.g., Robbins et al., 1994). It is also possible that students who experience low levels of academic self-efficacy may feel distress and in turn decide to leave the institution in order to pursue a path in which they have more confidence or in which they feel more skilled (Chartrand, 1990). Furthermore, some students may have the insight of an accurate appraisal of their academic abilities and potential, and may choose to leave because they are aware that this path is not for them.

In light of the past and current findings that academic self-efficacy is related to adjustment and anticipated persistence, it is possible that self-efficacy may be a potentially useful area in which institutions may direct an intervention. Future research may assist in understanding what types of interventions may best facilitate the development of academic self-efficacy among first year students and if implemented, future research would be beneficial in examining whether these interventions served their identified purpose. Similarly, future researchers may also want to examine the links between self-efficacy and actual persistence/retention rather than anticipated persistence, the latter of which was measured in the present study. This may help to determine whether beliefs about self-efficacy are actually associated with attrition or whether they simply lead students to consider the possibility of not returning to their institution.

### **Person-Environment Fit**

**Person-Environment Fit and Adjustment.** One of the key questions of interest in this study was the relationship between person-environment fit and adjustment. While it was anticipated that fit would be related to adjustment, no a priori hypotheses were put forth about which of the three types of adjustment would be related to fit. Due to small sample size at SIAST,

direct statistical comparisons for fit between Aboriginal students at the U of S and those at SIAST could not be conducted. However, the relationship between adjustment and fit was examined separately for each institution.

*University of Saskatchewan.* Results revealed significant relationships between subjective fit (e.g., participant's actual rating minus participant's ideal rating) and adjustment for U of S students (Aboriginal and non-Aboriginal). Specifically, poorer social adjustment was associated with students' feeling as though the institution was not meeting their expectations. Similarly, students who reported that their institution did not meet their expectations were found to be less emotionally adjusted.

Although no known studies have examined the connection between person-environment fit and academic, social, and personal-emotional adjustment (as defined in the present study), these findings are consistent with many findings in other research areas. For example, research has found that increased congruence (or good fit) is associated with lower levels of stress (Pervin, 1968) and distress, frequency of physical symptomatology, and help-seeking behavior (Tracey & Sherry, 1984). Similarly, others have found that when a student's choice of major was congruent with his/her own personality qualities, they also tended to have fewer personal and social problems (Mooney & Gordon, 1950 as cited in Walsh, 1973; Walsh & Lewis, 1972 as cited in Walsh, 1973). These previous results are consistent with the present finding that good fit is associated with higher levels of personal-emotional adjustment.

In terms of the relationship between social adjustment and good fit, it is possible that students who already feel as though they fit or belong at their institution also feel better able to adjust to the interpersonal demands at their institution. The reverse situation in which a student

feels their institution does not meet his/her demands may lead to an individual feeling dissatisfied with their post-secondary experience and consequently disengage from those around them. On the other hand, it is possible that students who feel able to succeed interpersonally become socially involved on campus and in turn feel that their institution is able to meet their needs.

Although a relationship between academic *performance* and fit has been found (Harms et al., 2006), the last type of adjustment, academic adjustment, was not found to be associated with fit in the present study. This may mean that the increased congruence is not associated with a student's ability to adjust to the academic demands at their institution but that it does affect how well they achieve or perform. However, it should be noted that academic performance was not assessed in the present study. The absence of a connection to academic *adjustment* may also be due to the measure of fit employed. The majority of questions on this measure focused on social factors (e.g., "Make me feel like I fit in/belong") and environmental factors ("Tolerates racism"), with only 2 questions focused directly on academics ("places a lot of emphasis on grades", "is academically challenging"). Thus it is possible that the measure of fit was not sensitive enough to detect differences in academic adjustment.

In the present study, the relationship between objective fit (group's overall mean actual score minus participant's overall ideal score) and adjustment was examined, however no significant relationships were found. Taken together with the significant relationships between subjective fit and adjustment, there is support for Murray's (1938) assertion that perceptions are more influential to an individual than is the actual objective situation at least with regard to a university context.

**SIAST.** In the present study, no significant associations between fit and adjustment in the fall of year were found in the SIAST sample. While it is possible that no links were found because this sample differed from that of the U of S sample (e.g., the SIAST sample was composed of an older sample of students who were all of Aboriginal descent), it is likely that no relationships between adjustment and fit were found for the SIAST sample because of the very small sample size (32 in the fall of first year) and a lack of statistical power. For example, the subjective fit exceeds expectations group had a standard deviation of 1.69. Assuming an effect size of 0.8 (Tabachnick & Fidell, 2007), a sample size of 71 would have been needed to detect a difference.

However, it would be beneficial for future research to examine person-environment fit in a non-university post-secondary setting. Findings from this type of research may increase our understanding of why students in this setting have been found to have higher participation and completion rates.

**Combined Sample.** Regression analyses were conducted to determine the degree to which a common set of key predictors could account for the variance in academic, social, and personal-emotional adjustment. Subjective fit was included as one of these factors as it was found to have significant zero-order correlations with each adjustment type. Although it was not found to account for a significant amount of variance in academic and personal-emotional adjustment when other factors were controlled, it was found to be a significant predictor of social adjustment of both time points. Specifically, higher levels of incongruence between students' ideal environment and their perceptions of the actual environment were predictive of lower levels of social adjustment. This finding again supports the conclusion that person-environment fit and

adjustment are linked and may also suggest a possible area in which to intervene. For example, students could be guided to pursue paths that are consistent with their interests, beliefs and skills, and could be encouraged to integrate socially into circles which value the same.

### **Person-Environment Fit and Anticipated Persistence**

Unexpectedly, a significant relationship between person-environment fit and anticipated persistence was not found for the overall sample. This finding is inconsistent with Aboriginal interviewees' perspectives on the importance of fit. Many of the interviewees asserted that good fit is important and that it contributed significantly to their decision and motivation to remain at their institution and to complete their degree.

It is possible that the non-significant finding is the result of the way that fit and anticipated persistence were conceptualized. It is also possible that fit is not directly related to intentions to continue but rather it affects factors such as adjustment which in turn affects intentions to continue. Future researchers may contribute to the literature by conceptualizing fit and persistence in different ways to determine whether these connections are similar or different depending on how these factors are conceptualized.

### **Aboriginal First Year Students**

The available literature has described lower participation and degree completion rates among Canada's Aboriginal population and has also identified a number of reasons why these rates need to be increased (e.g., Preston, 2008). In hopes of providing insight and practical recommendations, one of the primary goals of this study was to examine the post-secondary experiences of Aboriginal first year students.



## **Background Factors and Aboriginal First Year Students**

In the present study, ethnicity was not investigated as a potential moderator in the relationships between adjustment and age, sex, financial struggles, high school preparation and perceived distance as no ethnic differences in these relationships were anticipated based on the review of the literature. However, the literature suggests that Aboriginal students are often at a considerable disadvantage in term of high school preparation compared to their non-Aboriginal peers, especially if this schooling occurred on the reserves or in rural communities (Archibald et al., 1995; Malatest et al., 2004).

In support of this finding, Aboriginal students in the present study reported feeling less academically prepared by their high school education as compared to their non-Aboriginal peers. In fact, only 20% (vs. 44% of the non-Aboriginal sample) reporting that they felt “quite a bit” or “completely” compared. This finding is consistent with the literature and with the reports of an Aboriginal interviewee in this study who indicated that Aboriginal students in her hometown were automatically enrolled in lower level high school classes (so upgrading would be necessary in order to attend a post-secondary institution). It was stated that this resulted in individuals not learning the necessary skills or having the required courses to pursue a post-secondary education.

In light of the relationships between high school preparation, adjustment and anticipated persistence, it may be beneficial to identify which Aboriginal students are particularly affected by poor preparation and to encourage them to attend workshops or programs (e.g., Aboriginal First Year Experience Program) that assist students in developing adequate skills so that success at the post-secondary level is not hindered in this fashion. These programs include first year experience, socialization, self-management, and academic skill programs (Robbins, Oh, Le & Button, 2009).

Robbins and colleagues found that these program influence college outcomes of retention/persistence and performance in different ways – programs which assisted with academic skill development had the greatest effects on performance outcomes while self-management interventions had the greatest effects on retention/persistence. Interventions that focus on socialization also showed beneficial results in terms of retention/persistence. Although the first year programs (which tend to be more comprehensive) did not impact the outcome measures in a substantial way, the authors speculate that “it is possible that many FYE [First Year Experience] intervention programs were designed specifically for performance improvement in a specific area and thus only influenced course grade, not overall GPA.” (p.1175). Similarly, they articulated that “this does not necessarily mean they do not increase student satisfaction or impact some narrow PSFs [psychosocial factors] (e.g., stress, personal adjustment, and specific motivation and study skills” (p. 1175).

This type of program is already available at the University of Saskatchewan in the College of Arts and Science. The Aboriginal First Year Experience program offers students both an opportunity to form a student community with their Aboriginal peers and provides additional academic supports (e.g., smaller classes, more tutorials and preparatory sessions, and opportunities to explore and develop their academic goals). Several of the interviewees voiced their appreciation for this program and its benefits, and also reported that they would not hesitate to recommend the program to other Aboriginal students. However, the study by Robbins et al. (2009) suggests that first year experience programs should be evaluated so that improvements can be made if necessary. Their research also suggests that interventions or programs that assist with academic skills, self-management skill development, and which provide opportunities for

socialization should have a beneficial effect on student's performance and persistence, and likely adjustment as well.

### **Psychosocial Factors and Aboriginal First Year Students**

While the present research established links between post-secondary adjustment and the psychosocial variables of interest (e.g., academic self-efficacy, beliefs about the transition experience, social support) for the entire sample, little is known about whether Aboriginal and non-Aboriginal first year students differ on psychosocial variables such as academic self-efficacy, beliefs about the transition experience and social support.

Despite the finding that Aboriginal students felt less prepared by their secondary education, they did not report a poorer transition or lower levels of confidence in their academic abilities as compared to their non-Aboriginal peers. This does not imply that all Aboriginal (or non-Aboriginal) students experience the transition in a positive way or that none of these students struggled with low academic self-efficacy. Indeed, by looking at the distributions for the Aboriginal and non-Aboriginal samples separately, we can see that variability does exist in terms of their responses. The results of the current study do not allow for an elaboration as to why this might be the case but do demand a clear acknowledgement that Aboriginal students are a heterogeneous group. Future research needs to investigate the factors that might explain this variability as well as the unique factors that are associated with the perceived transition experience and self-efficacy of these groups.

Consistent with the work of Parrack and Preyde (2009), Aboriginal and non-Aboriginal students reported similar levels of overall social support. Aboriginal and non-Aboriginal student's friends and families were on average quite supportive of the decision to pursue this

path. Consistent with this finding, most Aboriginal interviewees described their family, community and friends as being proud and happy about their decision to attend an institution of higher education. However, it is important to note that a subset of the Aboriginal interviewees reported that their family and/or community members showed neutral or negative reactions towards their decision to pursue these studies. In some cases, active discouragement was given, acknowledgment of the value of educational pursuits was not given, and negative perceptions of the student were formed. Understandably, the interviewees reported that feeling unsupported in this manner is very difficult indeed.

Ethnic differences were found in the level of support from friends regarding the decision to attend a post-secondary institution. Aboriginal students reported that their friends were less supportive of their decision to attend university/college over the course of the year as compared to non-Aboriginal students. It is possible that these individuals are less supportive of this decision because they feel that the student is not spending sufficient time with their peer group, deviating from cultural, familial or community expectations (Hsiao, 1992), or as noted by one interviewee, feeling as though the student believes he/she is better than others because of their post-secondary attendance. In light of the links between receiving support for one's decision to pursue higher education and adjustment and retention, future researchers may want to examine the ways friends show or do not show support and how this impacts students post-secondary experiences. It may also be interesting to investigate what types of friend support are viewed as being the most beneficial to students.

## **Adjustment and Aboriginal First Year Students**

Aboriginal students are said to face a number of obstacles when they enter post-secondary institutions. Many of these students are the first in their family to attend a post-secondary institution, have received poor preparatory schooling, struggle financially, have to learn a new worldview and face discrimination upon entering mainstream institutions (Malatest et al., 2004). Although these obstacles were not a focus of examination in the present study, it seems possible that they may influence an individual's ability to adjust to the demands of his/her new environment. However, the results of the present study indicate that the Aboriginal and non-Aboriginal samples did not report differences in adjustment. Both groups showed, on average, positive post-secondary adjustment not only academically but socially and emotionally as well.

The available research on the post-secondary adjustment of minority students is mixed, with some finding that minority students have poorer adjustment than majority students and others finding no such differences. It is possible that the Aboriginal sample in this study would have had poorer adjustment than the majority group (in line with research by Kenny & Stryker, 1996; Smedley et al., 1993) had certain institutional supports not been in place (such as the Aboriginal First Year Experience Program or the Aboriginal Student Centre). Indeed, 1 out of 3 Aboriginal students reported that they had been involved in a transition program of some kind. It is possible that these supports help Aboriginal students to compensate for the differences in adjustment associated with being a minority group, which makes the findings of the current study more in line with those of Tomlison-Clarke (1998). In addition, it is possible that Aboriginal students who were at risk for adjustment difficulties or who did have difficulty with adjustment did not participate in this study, did not pursue a post-secondary education or discontinued their

education early on during the academic year. More importantly, it is equally possible that Aboriginal students (as a group) are no more likely to experience adjustment difficulties than non-Aboriginal students, regardless of the additional obstacles they may face or whether institutional supports are in place.

As research on adjustment in ethnic minorities has produced mixed results, and because of the present finding that Aboriginal and non-Aboriginal groups do not differ in terms of post-secondary adjustment is novel, this question does warrant further investigation. Future researchers should attempt to replicate these findings with a larger sample size and to investigate whether these institutional supports do indeed help to minimize adjustment difficulties associated with being a minority student.

**Adjustment and Institution.** Of interest in the present study was whether Aboriginal students at the U of S and Aboriginal students at SIAST experienced different levels of adjustment. Although no significant differences in academic or social adjustment were found, a significant interaction finding indicated that Aboriginal students at SIAST and at the U of S do show a different pattern of personal-emotional adjustment over the course of the year. Although neither pattern reached statistical significance, it appeared as though Aboriginal students at the U of S showed decreasing levels of personal-emotional adjustment over the course of the year while Aboriginal students at SIAST showed increasing levels over the course of the year.

Given the small sample size (U of S = 26; SIAST = 14) for this analysis, it is likely that there was insufficient power to produce significant results at the level of the cell means. Therefore, while it can be stated that personal-emotional adjustment looks different over time for each group, it cannot be concluded that the downward pattern for Aboriginal students at the U of

S is significant while the upward pattern for those at SIAST is not (or vice versa). In fact, it is possible that both patterns are significant but with the limited power in the present study, this could not be determined. Consistent with this supposition, power calculations revealed that a minimum of at least 36 SIAST participants would be necessary to have sufficient power to detect a difference of the observed magnitude and 73 U of S participants would be necessary to have the statistical power to detect a difference of this magnitude. Although power was a concern in this study, in light of the significant time by institution interaction, it is important for future research to examine differences in adjustment as they relate to which type of institution is attended and to explore the reasons for why this interaction may be present.

### **Aboriginal Students Views on What Assists them with Adjustment**

In order to further elaborate on the quantitative findings, a subset of Aboriginal students were interviewed about their post-secondary experiences. Several important themes were noted. Generally speaking, Aboriginal interviewees did believe that post-secondary adjustment was important and discussed both environmental and personal factors that influenced and assisted with adjustment.

On a personal level, Aboriginal interviewees reported that factors such as having clear goals, motivation, an ability to balance life and school, good time management skills and knowing when to seek help assist in dealing with the academic demands present in the post-secondary environment. On an environmental level, factors such as having academic supports (e.g., a writing center), tutors through the Aboriginal Student Centre, transition program classes which were smaller in size, and generally receiving support from family and friends helps with academic adjustment.

Many Aboriginal interviewees stated that social adjustment problems do arise for a number of reasons including not having the financial means to go out, being underage, having children, academic workload and being new to a city. However, many of the interviewees had found ways to create a social network to their satisfaction and noted that having a first-year orientation day as well as the ability to spend time hanging out in the Aboriginal student centers helped. It was also stated that having smaller classes enabled students to meet others in their classes and to develop friends in this fashion.

All interviewees asserted that physical and psychological difficulties can affect one's post-secondary experience and asserted that well-being helps students academically (e.g., enabling them to focus on their work, have energy to study and attend classes) as well as socially (e.g., greater desire to socialize, not withdraw and isolate). Aboriginal interviewees were aware of the presence of a counseling center on campus and voiced the importance of being able to talk to Elders about their difficulties.

### **Person-Environment Fit and Aboriginal First Year Students**

As mentioned earlier, congruence or fit between the individual and his/her environment has been associated with several positive outcomes in areas such as satisfaction, stress, well-being, and persistence (e.g., Smith & Tziner, 1998). In the present study, the relationship between fit and ethnicity (Aboriginal / Non-Aboriginal) was examined. The results indicate that no statistically significant ethnicity differences were found. Specifically, neither of the two groups created on the basis of ethnicity showed considerably better or worse fit than did the other group. Although a few of the Aboriginal interviewees thought that fit may be *more* important for



Aboriginal students, several of the interviewees thought that fit was equally important for all cultural groups.

**Fit and Institution.** In light of the finding that Aboriginal students are more likely to complete their degrees at trade/college institutions than they are at universities (perhaps because of better fit), of interest was whether Aboriginal students at the U of S and Aboriginal students at SIAST experienced different levels of fit. No significant differences between the two samples were found at the beginning of first year. These analyses were not completed at the end of first year because of the small sample size. As no known research to date has focused on the link between fit and adjustment in a Canadian Aboriginal population, it is recommended that future research attempt to replicate these findings with a larger sample size.

### **Anticipated Persistence and Aboriginal First Year Students**

In line with the finding that minority students (including Aboriginal students) are more likely to discontinue their studies prior to degree completion (e.g., Statistics Canada, 2008, Tinto, 1993), Aboriginal students in the present study were found to have lower levels of anticipated persistence. The results of the present study suggest that a number of background and psychosocial variables are associated with students' decision to stay or go, regardless of ethnicity. Furthermore, Aboriginal interviewees indicated that the decision to depart from the institution may be due to both academic factors (such as poor performance and lack of availability of a program of interest) as well as non-academic factors (such as financial, familial, social, and personal concerns). Several of the Aboriginal interviewees asserted that these concerns are likely to affect any student regardless of ethnicity, however, they did feel that Aboriginal students may experience a greater number of these concerns.

Fit and social adjustment seemed to be particularly important for the Aboriginal students in this study. When it came to fit, Aboriginal students who felt that their institution was not meeting their expectations or was exceeding their expectations were found to have significantly lower intentions to continue with their studies at their current institution as compared to their non-Aboriginal counterparts. This finding suggests that a lack of fit in either direction is particularly detrimental for Aboriginal students and is consistent with research by Tracey and colleagues (1986) who asserted that negative outcomes may occur when any degree of discrepancy is present. However, it should be noted that this link does not suggest that Aboriginal students with poor fit will depart from our institutions of higher learning altogether. Rather, it is possible that many will simply transfer to an institution better suited to their needs. The link between fit and anticipated persistence suggests that one way to decrease Aboriginal student attrition from a particular institution may be to increase the fit between Aboriginal students and that particular institution. Unfortunately, the data from the present study do not allow for an elaboration of how this may be accomplished. Future research in this area would be beneficial.

Although no ethnic differences in mean levels of adjustment were found in the present study, the relationships between adjustment and anticipated persistence were different for the two groups. Social adjustment was found to be a particularly salient variable to Aboriginal student persistence (and academic adjustment was particularly important among the non-Aboriginal students). This suggests that programs specifically designed for Aboriginal students should devote additional resources to helping students cope with the interpersonal component of post-secondary life.

## **The Benefits of an On-Campus Aboriginal Student Centre**

Both institutions included in present study had an on-campus Aboriginal Student Centre (ASC). The ASC at the U of S has a mandate to “*nurture Aboriginal student achievement by providing support services to all students who self-declare as being of Aboriginal ancestry at the University and who register with the Centre*” (University of Saskatchewan, n.d.). The centre at SIAST aims to “*develop, establish and promote measures that will enhance the participation, success and cultures of aboriginal students.*” (SIAST, n.d). These centers provide numerous services to students including elder services, life skill coaching, tutoring, cultural activities (e.g., Pow-wows) as well as a place in which students can socialize and study. Eight of the eleven Aboriginal interviewees reported that they had regularly spent time at their institution’s Aboriginal Student Centre. The remaining three interviewees reported that they had been to the ASC infrequently or not at all. Regardless of the frequency of attendance, positive statements were made about the ASC. One statement that was consistently voiced by Aboriginal interviewees who regularly spent time at the centre was the importance of an ASC on campus. Those who had not attended the centre regularly also spoke positively about it, stating that they were aware of the existence of the ASC and had heard good things about it.

Consistent with the work of Timmons and colleagues (2009), the Aboriginal interviewees in the present study described numerous ways in which the presence of an ASC benefitted their education. For example, these centers were said to recruit students to and retain them at the institution. One interviewee reported that the ASC was the “*biggest reason [she] came [to her institution]*” and she questioned whether many students would succeed without the ASC. Other interviewees reported that the ASC assists them academically because of the availability of tutors

and smaller Aboriginal student-only courses. On a social level, interviewees indicated that the presence of an ASC highlighted the fact that there is an Aboriginal presence on campus and that the institution values this cultural group, which in turn creates a sense of belonging. In addition, the ASC provides students with social networking opportunities through social activities/events and by providing a safe place in which students can interact. Another important benefit that was voiced were the Elder Services and traditional meals held at the centres. Interviewees reported that being able to talk to the elders helped them to learn about their culture and to talk to someone when they were struggling personally.

Although the effects of the presence of an ASC were not directly examined in the present study, some field observations from time spent in the centres helped to highlight the positive effects it has on students. It was immediately apparent that students who had a break between classes frequently used the ASC as a place to socialize and study. More often than not, all of the seats were occupied by students who were interacting with other students, staff, and elders. It was also apparent that students felt comfortable at the centres. They would frequently be seen laughing with the staff and seeking them out for assistance with their academic or personal lives. I also witnessed that students would come to the centres to share cultural information with others. For example, one student was observed teaching another how to create beadwork, while other students shared information about pow-wows or feasts that were taking place in the city and province. These observations compliment the responses given by Aboriginal students during the interviews and again highlight how an ASC can be of benefit to students in the institution.

Given that the majority of the interviewees regularly attended the ASC, it should be noted that their view of the centre and its importance was potentially biased. Thus, it would be

beneficial for future researchers to interview Aboriginal students who are not involved with the ASC. These interviews could help increase understanding of the on-campus programs and services which Aboriginal students who are not involved with the ASC view as being helpful and important to their success in higher education.

### **Limitations**

Although several interesting and novel findings arose from the present research and some limitations in the areas of measurement have already been noted, additional limitations deserve recognition. The small sample size precluded certain analyses from being conducted.

Specifically, many of the analyses involving the SIAST sample resulted in non-significant findings or could not be conducted because cell sizes were insufficient to conduct the analyses.

Thus, it remains unclear whether differences between Aboriginal students in university and non-university post-secondary settings exist in the areas of adjustment and fit. Furthermore, it has been posited that Aboriginal students who attend institutions which are governed and run by Aboriginal peoples would be more successful than students who attend institutions in which Aboriginal knowledge is simply added to the mainstream curriculum (e.g., Assembly of First Nations, 2005; Richardson & Blanchet-Cohen, 2000). The available data would appear to support this assertion. For example, the Katenies Research and Management Services and Chignecto Consulting Group Inc. (2006) reported that 1300 individuals of Aboriginal descent were full-time students at the First Nations University of Canada (an Aboriginal-controlled institution).

Although this institution has had its successes threatened due to funding concerns (Malatest, 2004), it has been reported that just under two thirds (60%) of the students at this Aboriginal-controlled institution will complete their programs, a figure that is considerably higher than that

at mainstream institutions such as the University of Saskatchewan or SIAST. This improvement in program completion could potentially be due to increased congruence between the student and his/her institution. However, attempts to recruit study participants from an Aboriginal controlled university and non-university post-secondary setting were made but were unsuccessful. It would be beneficial for future researchers to compare and contrast the experiences of Aboriginal students who attend institutions who employ these various models as this may shed light on the factors that assist Aboriginal students succeed at the post-secondary level in general.

One of the primary goals of the present study was to examine differences between Aboriginal and non-Aboriginal first year students in terms of adjustment, fit and anticipated persistence. Although there was a range of cultural affiliations (e.g., Cree, Dene) within the sample, the small, heterogenous sample of Aboriginal students in the present study (Time 1 = 92; Time 2 = 45; Interviews = 11) required that all Aboriginal participants were put under the term “Aboriginal” despite the presence of different cultural affiliations within this broader term and different background experiences. This limitation makes it difficult to generalize the Aboriginal-specific findings and it remains unclear whether the various Aboriginal cultural groups experience post-secondary adjustment and persistence differently. Similarly, although the voices of the 11 Aboriginal students interviewed in the present study were incredibly insightful and added richness to the quantitative data, their experiences may not represent those of all Aboriginal students at the U of S and SIAST.

Despite the fact that an intention to continue predicts actual persistence (Grayson & Grayson, 2003; Cabrera, Nora & Castenada, 1992), it should be noted that a limitation of the current research is that, for practical reasons, actual persistence was not measured. Future

researchers may want to examine whether intentions to persist are associated with actual persistence among a Canadian Aboriginal and non-Aboriginal sample in order to determine whether such a relationship exists for this population.

Future researchers may also want to investigate the different forms of attrition among first year Aboriginal and non-Aboriginal students. Nichol and Sutton (2001 as cited in Grayson & Grayson, 2003) reported that attrition can be voluntary (e.g., meeting the institution's requirements but choose to depart) or involuntary (e.g., being required to leave due to poor performance). These findings are consistent with the interview data in the present study. Several interviewees reported not all Aboriginal students discontinue their studies for the same reasons and cited possible causes of attrition such as personal reasons, family obligations or financial reasons, while some reported that students have to leave involuntarily because they do not meet the academic requirements of the institution (e.g., promotion standards). By further investigating the different forms of attrition, we may come to understand who leaves and why, which is an important and necessary step in determining what can be done to help them.

In addition, attrition can be temporary or permanent (Nichol & Sutton as cited in Grayson & Grayson, 2003; Parkin & Baldwin, 2009). Some students may leave their institution in order to pursue their studies at a different institution, others may never set foot in a post-secondary institution again, while another portion of students may discontinue temporarily and return to their studies at a later date. The present study offers support for this statement with one interviewee reporting that he transferred to an institution and another interviewee reporting that she had to discontinue because of financial reasons but intended to complete her degree in the future. In line with this, a University of Saskatchewan retention study (2007) found that

approximately 80% of all students (Aboriginal and non-Aboriginal) who left prior to degree completion intended to return in the future while approximately half of the leavers attended or intended to attend a different institution.

The findings from past as well as the current research suggest that it is unlikely that early leavers form a homogeneous group (Grayson & Grayson, 2003) and that the profiles of the various types of leavers may be quite different from one another. The body of literature would certainly benefit from a greater understanding of the factors that put students at risk for one type of attrition versus another. At the institutional and academic level, it would, as Rummel and colleagues (1999) assert, be important to identify the reasons behind why students are leaving because without this “universities have little chance of developing and specifically targeting program efforts if the issues are not clearly identified” (p.244). However, as stated by Albert (2010), the sole responsibility for attrition/persistence does not lie with the institution, rather “research is starting to show that retention is a wider responsibility” (p.3) and that “the job of retention has moved from an institutional responsibility to a ‘community’ responsibility” (p.3)

***Attrition from the Study.*** Another limitation of the present study had to do with attrition between the various time points. In order to recruit participants and minimize attrition from the study, several methods (as described in the procedures section) were employed. Based on observation and interactions with participants and university employees, the strategies most helpful with respect to recruiting Aboriginal students included lunches (pizza lunches in the case of this study), spending time in the Aboriginal Student Centre, and contacting participants via telephone, while recruitment through email, online advertisements or posters were found to be less helpful. In addition, direct reimbursement (e.g., providing the student \$5 as a thank you for



their participation) was found to be more beneficial than providing participants with the opportunity to be entered into a gift certificate raffle.

Despite these efforts, in the present study approximately 50% of the sample was lost between Time 1 and Time 2 data collection (total sample Time 1  $N = 316$ , Time 2  $N = 159$ ; Aboriginal sample Time 1  $N=92$ , Time 2  $N= 46$ ) which, in the case of the Aboriginal sample, meant that certain analyses could not be conducted. Many of the Time 1 participants ( $N=63$ ) were not contacted to participate at Time 2 because they indicated that they only wanted to participate at Time 1. Furthermore, another 7 participants did not provide consent to be contacted at Time 2 and so no attempts were made to reach these participants. Of the remaining 87 participants, it is possible that a portion of those who only participated in the initial time point had in fact departed from their institution between the first and second semester. Although statistics on Term 1 (fall) to Term 2 (winter) attrition were not available, the University of Saskatchewan did report that 22% of non-Aboriginal first students and 37% of Aboriginal first year students who enrolled in 2009 did not return after their first year (Hannah et al., 2009). However, as access to students' records was not obtained in the present study, it is difficult to know how many did not participate because they were no longer at the U of S or SIAST campuses. It is likely that many of the students who did not participate at Time 2 had decided to remain in school but opted to not participate in the study due to time constraints, lack of interest, or involvement in other projects. Although the data does not allow us to determine why some students participated in both semesters while others only participated in the first wave of data collection, the results do indicate that that these two groups did not differ significantly in terms of person-environment fit, age, sex, beliefs about the transitions experience or in terms of

adjustment. In addition, while it is common for researchers to not report longitudinal attrition rates, the study attrition rate in the present study is consistent with that of Pritchard, Wilson and Yamnitz (2007) who reported that 46% of students in their first year university sample completed the surveys at both the beginning of Term 1 and the end of Term 2. The study attrition in the present study is also consistent with that of Aspinwall and Taylor (1992) who reported that they had lost 39% of their first year post-secondary students sample after 3 months and 50% after one year.

### **Implications**

Knowing that a significant association between adjustment and persistence exists suggests that improving student adjustment may lead to decreases in attrition. It has been suggested that the majority of those who leave during their first year do so within the first half of the first semester (Mattanah et al., 2010). Various types of interventions aimed at preventing difficulties before they begin have been evaluated and have demonstrated success in increasing first year students' adjustment to university (Lamothe et al., 1995; Peat, Dalziel & Grant, 2000; Pratt et al., 2000).

The University of Sydney, Australia, began holding a one-day transition workshop with incoming first year students approximately 15 years ago (University of Sydney, 2010). As noted on the university website, the workshop was developed to “*help familiarise [students] with the University, provide advice on how to cope with tertiary study and help [students] establish contact with other students*” (University of Sydney, 2010). It is held annually shortly before the beginning of the academic semester. At the beginning of the workshop, participants who are studying the same area are placed together. In the morning portion of the workshop, participants

are given an orientation manual and former first year students speak to the group about ways to adapt successfully to this new environment. However, the focus of the session is to help participants meet each other and form a social network with others who would be sharing classes with them. In the afternoon portion of the workshop, students become more familiar with the layout of the institution through a tour of campus, while their parents attend a workshop on the ways they may aid their children with this potentially stressful life transition (Peat, Dalziel & Grant, 2000).

Peat and colleagues (2000) evaluated the University of Sydney Transition to University program and found that the majority of the participants (69 out of 74) viewed the workshop in a positive light. Participants reported that the workshop assisted them with understanding where things are located on campus, creating peer networks, and in making an easier transition to university studies. Several participants also noted that it helped them to experience fewer mental health concerns and more academic success. A number of participants also felt they had a better understanding of what they could expect from campus and higher education. When compared to students who did not attend the workshop, those who did attend were found to experience more enjoyment from their academic pursuits, to have a greater appreciation of the services available to students, and to experience fewer social and personal concerns. Overall, the evaluators of the program concluded that there is “powerful support for the effectiveness of the workshop” (p. 301). However, they also recognize the inability to randomly assign students to each group as a limitation. The authors acknowledge the possibility that students who sought out and participated in the workshop were generally more invested in their studies and eager to succeed. However, the evaluators state that this is likely not the case, as the two groups did not show pre-existing

differences in areas such as preference for higher teaching quality or problems with academic work or performance. The authors state that if differences were present in these areas, it may have suggested that the workshop participants were more motivated or ambitious.

A second social support-related intervention with demonstrated success has been conducted at Wilfrid Laurier University in Canada. The transition to university program at this institution was also implemented with first year students but was longer in duration (6 weeks vs. 1 day, Lamothe et al., 1995). This intervention, which began in the first week of courses in September, involved 6 weekly discussion sessions facilitated by two graduate students. Each session followed a similar format: a period in which participants could provide an update on what they had been thinking/experiencing, followed by a group activity and then a group discussion on the ideas brought forth during the session. A diverse array of topics were covered in the sessions including an orientation to campus, strategies for developing social connections and meeting new people, issues related to residential life, and academic concerns and skills.

In order to evaluate the effectiveness of the program, incoming students were sent a letter of introduction, a consent form as well as questionnaires in the month prior to the beginning of courses. Students who returned the questionnaires were randomly assigned to one of the discussion groups or to the control group (a questionnaire-only group). Upon completion of the intervention, participants were again administered measures of social support and post-secondary adjustment. Findings were very encouraging with two out of the three intervention groups reporting higher levels of social support and adjustment after completing the intervention compared to those who did not complete the intervention.

Pratt et al. (2000) conducted a larger and more comprehensive replication study using a larger sample, more intervention groups and different types of student facilitators (undergraduate and graduate). The intervention in this study also differed from the Lamothe study in that it was longer in duration, more topics were covered, and additional outcomes were evaluated. Results indicated that the Wilfred Laurier intervention, which was designed to increase students social support networks, was again effective in improving students' overall adjustment to university. After pre-existing group differences were controlled for, participants in the intervention groups were found to have higher levels of adjustment, reported better class attendance, and were found to smoke less tobacco than the control group. In addition, female participants in the intervention group were found to have higher levels of social support and adjustment and lower levels of depressive symptomatology at post-test. The authors conclude that these findings "provide evidence for the efficacy of a social-support based, preventive, intervention" (p.437) and that "the implications of our findings seem to move away from any secondary prevention focus toward the role of primary prevention which could be targeted usefully to all incoming students" (p.438).

Mattanah and colleagues (2010) at a "large, four-year, primarily non-residential institution" (p.96) in the U.S.A. also implemented a similar form of intervention. They found that individuals who partook in the intervention demonstrated positive changes in terms of loneliness and support by the second semester. They also found the intervention had beneficial effects for both men and women. The results of their intervention and that of Pratt and colleagues (2000) also suggest that faculty members do not need to take time away from their other duties in order to administer this type of program. Rather, peer-led groups were found to be beneficial and are considerably less costly than faculty-facilitated groups.

In addition to the Aboriginal First Year Experience Program described earlier, the University of Saskatchewan has also developed a program open to all students and that is intended to assist first year students with the transition experience. The Learning Communities available at the U of S:

“create a positive learning environment, delivering student support programming and interdisciplinary explorations through linked or clustered classes to first year students in their first term, thereby enrolling and supporting a common cohort of students. These Learning Communities structure learning experiences in order to build community and to foster more explicit connections between and amongst students, among students and their teachers and PALs (Peer Assisted Learning mentors), and among disciplines. Led by PALs, Learning Community programming facilitates student development (e.g. academic advising and planning, multidisciplinary explorations, program and career goal-setting, study skills and exam preparation, peer collaboration, etc)” (University of Saskatchewan, n.d.)

The available data suggested that this program was well received by students with 333 individuals participating in the program and only 20% of the available spots remaining open (University of Saskatchewan, 2010). It would appear as though students who attend 50% or more of the learning community meetings experienced the greatest benefit from what the program offers. Specifically, this group of students was more likely to report attending their scheduled classes on a regular basis, were more likely to continue with their studies past the first semester, had higher grades (even after accounting for high school marks), and were more likely to engage in and take advantage of self-directed learning experiences.

SIAST has also implemented a post-secondary transition program by the name of Aboriginal Success in Trades and Technology (ASITT) which is designed specifically for incoming Aboriginal students. This program was first piloted during the 2006-2007 academic year. Pickrell (2008) reports that “the ASITT framework is based on the following principles: (a) sustained and visible support; (b) successful transitions (academic, personal, and career); and (c) validation of Aboriginal culture. It includes the following components: (a) early identification, pre-entry contact and communication; (b) a four-week post-secondary transition program including initial financial and practical support; (c) ongoing personal, academic, and cultural support throughout the academic program; and (d) transition to program-related employment” (p.7).

Pickrell’s research compared Aboriginal students involved in the four-week transition component of the ASITT program to Aboriginal and non-Aboriginal students who did not participate. Contrary to expectations, the program did not initially appear to benefit the students with persistence since the program’s participants were less likely to persist with their studies than were their non-Aboriginal and Aboriginal counterparts who were not involved in the program. It is noted though that there was significant variability in this finding when one looks at the persistence rates of these three groups of students at the various campuses. In other words, the program did demonstrate some success in this regard as the lack of relationship between program involvement and persistence did not hold true for all institutions.

Despite this unexpected finding in the area of persistence, the Aboriginal students who did participate in the program and who did continue were found to graduate in a timelier manner than did Aboriginal students who were not involved in the program. Program participants

reported that ASITT assisted with life and academic skill development. In addition, students and faculty stated that they believed the program was effective in helping students transition into their new environment, gaining a better sense of the city and the campus, creating connections with others and increasing knowledge of resources. Among other things, it was also seen as being effective at helping students with goal identification and the development of “urban survival skills” (p.74) and in providing them with a arena in which they can discover and explore their strengths and limitations both personally and academically.

While these interventions address a variety of issues including social support, adjustment, and transition, the results of the present study and previous literature (e.g., Robbins et al., 2009) strongly support the conclusion that students would benefit from interventions which provide opportunities to improve academic self-efficacy and skills (e.g., writing skills, time management skills). Indeed, 80% of students in the present study reported that their adjustment would be improved if their institution helped them to build confidence in their academic skills and the conducted analyses indicated that academic self-efficacy predicts all 3 types of adjustment assessed (academic, social and personal-emotional adjustment). Strategies aimed at improving self-efficacy could draw on the work of Bandura (1986, 1997) which indicates that mastery experiences, vicarious experiences and verbal persuasion in particular could help to increase self-efficacy. For example, as course instructors are the main source of information on how a student is doing academically, they could engage in various efforts at the classroom level. In particular, instructors could offer students several opportunities (e.g., more in-class quizzes or assignments) to practice their skills as this could provide more direct (e.g., mastery) experiences with success (Elias & Loomis, 2000). Through written or oral methods, instructors could also help students to



recognize their accomplishments and the skills that they have to succeed. This may, for example, involve providing students with detailed feedback on the parts of the assignments that were done well (e.g., “you did an excellent job providing a detailed outline for your term paper”, “you have an good grasp of APA style”). It may also be beneficial to provide strategies on how to succeed at a given task and to correct inaccurate judgments students make about themselves (e.g., “I do not have the skills need to success on this task” vs. “I did not try my hardest or put in the effort”). Indeed, the available research would suggest that attributional retraining interventions, which aim to provide students with information about causal attributions and the importance of and means to alter these attributions, are associated with improved performance, motivation and an increased likelihood of achieving a passing course grade (e.g., Haynes Stewart, Clifton, Daniels, Perry, Chipperfield and Ruthing, 2011).

Outside of the classroom, institutions could offer workshops which assist students in learning how to effectively manage their stress and foster good mental health as this may help to improve adjustment, and potentially persistence as well. Furthermore, participants also reported that skill-building workshops, mandatory advising sessions, and peer support/discussion groups would help to increase academic self-efficacy. However, as pointed out by Tinto (2005), it will be very important for institutions to regularly evaluate the quality and impact of these programs and to make modifications and improvements when necessary in order to best serve the students.

The connections that were found between family support, adjustment and persistence suggest that involving the family in the post-secondary experience may also be beneficial. This idea has also been articulated by Duchesne and colleagues’ (2007) who concluded that “parents must realize that they can make a difference in their children’s schooling, even in college” (p.69).

The present study supports Duchesne and associates' view that institutions should provide information to parents about what kind of role they can play during this exciting new transition in their children's lives. For example, parents could be informed that their ongoing involvement and voicing support for their children's decision to pursue a post-secondary degree could help their children adjust to the demands and could also influence whether their children decide to stay in school or leave before completing their degree. Similarly, students could be provided with information on the ways in which they can elicit support from their friends and family.

In addition to these developed programs, and as already discussed, the current project suggests that it is important to help students feel a sense of fit with their institution, to teach students how to acquire necessary resources (e.g., finances), to work with secondary schools to prepare students for post-secondary studies and to direct students on how to acquire the skills and supports they are lacking. In addition, it is clear that the inclusion and affirmation of Aboriginal culture is important to Aboriginal success – thus, the continual growth and improvement of the Aboriginal Student Centres, the Aboriginal transition programs and consultation with Aboriginal communities is strongly encouraged. In terms of long-term planning, Canadian post-secondary institutions should directly seek the opinions of Aboriginal students as these individuals bring a form of knowledge and expertise to the table that administrators typically do not. Indeed, the Aboriginal voices in the present study offered important suggestions for improvement, including the development of an Aboriginal student housing project or an Aboriginal representation on the student council. It is possible that these types of changes could help Aboriginal students to adjust to this new life experience, to feel an increased sense of fit with their institution and to ultimately obtain the “new buffalo” (Stonechild, 2006).

## **Conclusion**

What then, are the potential influences on the adjustment and anticipated persistence of first year Aboriginal and non-Aboriginal students? The results from the present study suggest that these outcomes (e.g., adjustment and persistence) cannot be explained by only one or two factors. Rather, a number of variables (e.g., age, high school preparation, social support) are positively or negatively associated with a student's adjustment and their decision to continue with their studies. In light of the multifactorial nature of these outcomes, it seems likely that the influence of one variable (e.g., low academic self-efficacy) may not lead to poor adjustment or lower anticipated persistence because other factors (e.g., high social support) would assist the student in coping with the challenges of the post-secondary experience. Instead, the presence of additional factors that hinder adjustment (e.g., low social support, poor fit, feeling that one is unprepared by their previous schooling) means that students are more likely to struggle at the post-secondary level and consider leaving either temporarily or permanently. If this is the case, it can be speculated that greater Aboriginal student attrition (and student attrition in general) may be a function of these students being exposed to more of the key risk factors as a result of various past and ongoing experiences. Additional research into the experiences of first year Aboriginal students would be beneficial and may offer insights which may prove beneficial to the Aboriginal and non-Aboriginal population alike.

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## Appendix A

### Consent Form – Participant Pool

You are invited to participate in a research study entitled “What Influences the Post-Secondary Adjustment of Canadian Aboriginal and non-Aboriginal First Year Students?” (F21) Please read this form carefully, and feel free to email me any questions you might have about the study.

#### **Researchers:**

Student-Researcher: Tara Gokavi, Department of Psychology, 306-966-8078;  
tara.gokavi@usask.ca  
Supervisor: Dr. Patti McDougall, Department of Psychology, 306-966-8900;  
patti.mcdougall@usask.ca

#### **Purpose and Procedure:**

The purpose of this research is to gain an improved understanding of the factors that influence the post-secondary adjustment of first year Aboriginal and non-Aboriginal students. In this two-part study, we are interested in examining whether factors such as age, gender, previous academic preparation, socioeconomic status, financial support, ethnicity, self-efficacy, social support, presence of role models, institutional climate, ethnic identity and acculturation are able to predict students adjustment to post-secondary education. We are also interested in whether experiences of first year students are different depending on the school you attend.

If you agree to participate, you will complete an online survey which will take approximately 20-30 minutes of your time. At the end of the first survey, you will be asked for your contact information (name, telephone number, Participant Pool Number and email address) so that we can contact you and ask you to participate for the second part of this study next semester. Upon completion of your questionnaire, you will be told the goals of the study and will be offered a one page summary of the results of the study. By participating in the study, you will receive 1 bonus credit towards your Psychology 110.6 final grade.

#### **Potential Risks:**

There are no known risks associated with participating in this study. However, if you feel like you would like to talk to someone about issues that were brought up in the questionnaire; you may contact the researchers and they will direct you to the appropriate services (e.g., student help centre, student counselling). You may also leave questions blank or withdraw from study at any time, for any reason, and without any penalties. At the end of the study you will be given a sheet that better explains the nature of the study and you will be given a chance to ask any further questions that you might have.

**Potential Benefits:**

You will be assigned one credit towards your grade for Psychology 110.6 in November and then a second bonus credit for participating again in February. Participation in this study will also give you an opportunity to voice your opinions about what types of things affect students' adjustment to post-secondary education. While we can not guarantee personal benefits or benefits to the wider community, the sharing of your opinions and experiences may benefit future Aboriginal and non-Aboriginal students entering post-secondary institutions.

**Confidentiality:**

The findings for this study will be written in a Ph.D. dissertation and may also be used in the publication of journal articles and for research conference presentation. However, your responses will be grouped with the answers of other student and it will not be possible to identify your individual answers. In order to connect the answers that you give in the fall with your opinions in the spring we need to collect some contact information. The contact information that you provide following this first survey will be separated from your answers and will be replaced with a numerical identification code so that the individual data can only be identified by the student researcher (Tara N. Gokavi) and the research supervisor (Dr. Patti McDougall). At this time, your name, email address, phone number, Participant Pool number and numerical identification code will be entered into a password-protected excel sheet. Once the data from both parts of the study have been linked, the password-protected excel sheet containing your name, phone number, Participant Pool Number and numerical identification code will be destroyed. Until the completion of the study, we will keep a password-protected list of email addresses of only the participants who indicate that they would like to receive a summary of the study once it is available. This list will be destroyed once the summary of the study has been sent out.

**Storage of Data:**

Your data will be securely stored by/with the student researcher (Tara N. Gokavi) and the research supervisor (Dr. Patti McDougall) in password-protected files on compact discs (CDs) which will be stored a locked filing cabinet following the completion of the study. The data will be stored for five years after the completion of the project. Following this period of time, the data will be destroyed.

**Right to withdraw:**

Your participation is voluntary, and you can answer only those questions that you are comfortable with. The information that is shared will be held in strict confidence and discussed only with the research team (Tara N. Gokavi and Dr. Patti McDougall). You may withdraw from the research project for any reason, at any time, without penalty of any sort and without loss of relevant entitlements (e.g., withdrawing will not affect your academic status, the grades you receive in your course, your access to services, your educational funding, research credit, etc.). If

you withdraw from the research project at any time, any data that you have contributed will be destroyed at your request. You will also be asked for your consent to participate prior to completing both the first and the second questionnaires.

### **Questions:**

If you have any questions concerning the study, please feel free to contact the researchers at the numbers provided above. This study has been approved on ethical grounds by the University of Saskatchewan Behavioural Sciences Research Ethics Board on September 12, 2007. Any questions regarding your rights as a participant may be addressed to that committee through the Office of Research Services (966-2084). Out of town participants may call collect. At the end of the second questionnaire, there is a question that asks if you would like to receive a summary of the results of this study. If you indicate that you would like to receive such a summary, one will be emailed to you. In addition you may contact the investigators using the contact numbers to request a study summary.

### **Follow-Up or Debriefing:**

In the spring, if you decide to participate in the second part of the study, you will be asked if you would like to find out about the results of the study. If you indicate that you would like to find out about the results of the study, we will send you a summary of the study via email. You may also contact the researchers using the telephone numbers provided at the beginning of this form if you would like to request a summary of the study.

### **Consent to Participate**

I have read and understood the description of the study provided, the procedure, the risks and benefits of participation, and my rights as a participant, and agree to consent to participate in this study. I understand that I am free to withdraw from this study at any time without any penalty. I also understand that although the data from this study will be presented in the manner described above, only aggregate data will be presented and my identity will be kept confidential. I can press print screen to obtain a copy of this consent form for my record or I may contact the researcher at the contact information provided above and one will be sent to me. If you consent to participate in this study, please check the I AGREE TO PARTICIPATE box below. If you have decided to not participate in this study, please check the I DO NOT AGREE TO PARTICIPATE box and exit the on-line survey.

- ☐ I agree to participate
- ☐ I do not agree to participate

## Consent Form

### Non-participant pool Time 1 – U of S

You are invited to participate in a study entitled, “What Influences the Post-Secondary Adjustment of Canadian Aboriginal and non-Aboriginal First Year Students?” Please read this form carefully and feel free to email or call the researchers with any questions you may have!

#### **Researchers:**

Tara N. Gokavi (Ph.D. Student), Department of Psychology, University of Saskatchewan: (306)-966-8078 and Dr. Patti McDougall (Ph.D, Research Supervisor), Department of Psychology, St. Thomas More College, University of Saskatchewan: (306)-966-8900.

#### **Purpose and Procedure:**

The purpose of this research is to gain an improved understanding of the factors that influence the post-secondary adjustment of first year Aboriginal and non-Aboriginal students. First year students are defined as those who have taken 30 credits units or less at a university setting. In this two-part study, we are interested in examining whether factors such as age, gender, previous academic preparation, socioeconomic status, financial support, ethnicity, self-efficacy, social support, presence of role models, institutional climate, ethnic identity and acculturation are able to predict students' adjustment to post-secondary education. We are interested in whether experiences of first year students are different depending on the school you attend.

If you agree to participate, you will complete the questionnaire online. It will take you approximately 20-30 minutes of your time to complete the entire questionnaire. At the end of the first survey, you will be asked for your contact information (name, telephone number, and email address) so that we can contact you and ask you to participate for the second part of this study next semester. At the end of the project, you will be told the goals of the study and will be offered a one page summary of the results of the study. By participating in the study, you will also be entered to win one of up to four \$100 gift certificates from either the U of S Bookstore or Future Shop. All winners will be contacted via email to pick up their prizes.

#### **Potential Benefits:**

You will be entered to win one of up to four \$100 gift certificates to the bookstore or Future Shop. Participation in this study will also give you an opportunity to voice your opinions about what types of things affect students' adjustment to post-secondary education. While we can not guarantee personal benefits or benefits to the wider community, the sharing of your opinions and experiences may benefit future Aboriginal and non-Aboriginal students entering post-secondary institutions.

**Potential Risks:**

There are no known risks associated with participating in this study. However, if you feel like you would like to talk to someone about issues that were brought up in the questionnaire; you may contact the researchers and they will direct you to the appropriate services (e.g., student help centre, student counseling). You may also leave questions blank or withdraw from study at any time, for any reason, and without any penalties.

**Storage of Data:**

No paper copies of raw data will be made. All data will be securely stored by/with the student researcher (Tara N. Gokavi) and the research supervisor (Dr. Patti McDougall) in password-protected files on compact discs (CDs) which will be stored in a locked filing cabinet following the completion of the study. The data will be stored for five years after the completion of the project. Following this period of time, the data will be destroyed.

**Confidentiality:**

The findings for this study will be written in a Ph.D. dissertation and may also be used in the publication of journal articles and for research conference presentation. However, your responses will be grouped with the answers of other students and it will not be possible to identify your individual answers. In order to connect the answers that you give in the fall with your opinions in the spring we need to collect some contact information. The contact information that you provide following this first survey will be separated from your answers and will be replaced with a numerical identification code so that the individual data can only be identified by the student researcher (Tara N. Gokavi) and the research supervisor (Dr. Patti McDougall). At this time, your name, email address, phone number and numerical identification code will be entered into a password-protected excel sheet. Once the data from both parts of the study have been linked, the password-protected excel sheet containing your name, phone number and numerical identification code will be destroyed. Until the completion of the study, we will keep a password-protected list of email addresses of only the participants who indicate that they would like to receive a summary of the study once it is available. This list will be destroyed once the summary of the study has been sent out.

**Right to Withdraw:**

Your participation is voluntary, and you can answer only those questions that you are comfortable with. The information that is shared will be held in strict confidence and discussed only with the research team (Tara N. Gokavi and Dr. Patti McDougall). You may withdraw from the research project for any reason, at any time, without penalty of any sort and without loss of relevant entitlements (for example, withdrawing from the study will not affect your academic status, the grades you receive in your course, getting services, etc.). If you withdraw from the research project at any time, any data that you have contributed will be destroyed at your request.

**Questions:**

If you have any questions concerning the research project, please feel free to contact the researchers at the telephone numbers provided at the beginning of this form. This research project has been approved on ethical grounds by the University of Saskatchewan Behavioral Research Ethics Board on September 12, 2007. Any questions regarding your rights as a participant may be addressed to the committee through the Ethics Office (966-2084). Out of town participants may call collect.

**Follow-Up or Debriefing:**

In the spring, if you decide to participate in the second part of the study, you will be asked if you would like to find out about the results of the study. If you indicate that you would like to find out about the results of the study, we will send you a summary of the study via email. You may also contact the researchers using the telephone numbers provided at the beginning of this form if you would like to request a summary of the study.

**Consent to Participate:**

I have read and understood the description of the study provided, the procedure, the risks and benefits of participation, and my rights as a participant, and agree to consent to participate in this study. I understand that I am free to withdraw from this study at any time without any penalty. I also understand that although the data from this study will be presented in the manner described above, only aggregate data will be presented and my identity will be kept confidential. If you consent to participate in this study, please check the "I AGREE TO PARTICIPATE" box below. If you have decided to not participate in this study, please check the "I DO NOT AGREE TO PARTICIPATE" box and exit the on-line survey.

- ☐ I agree to participate
- ☐ I do not agree to participate



## Consent Form

### Non-participant pool Time 1 – SIAST

You are invited to participate in a study entitled, "What Influences the Post-Secondary Adjustment of Canadian Aboriginal First Year Students?" Please read this form carefully and feel free to email or call the researchers with any questions that you may have!

#### **Researcher(s):**

Tara N. Gokavi (Ph.D. Student), Department of Psychology, University of Saskatchewan: (306)-966-8078 and Dr. Patti McDougall (Ph.D, Research Supervisor), Department of Psychology, St. Thomas More College, University of Saskatchewan: (306)-966-8900.

#### **Purpose and Procedure:**

The purpose of this research is to gain an improved understanding of the factors that influence the post-secondary adjustment of first year Aboriginal students. In this two-part study, we are interested in examining whether factors such as age, gender, previous academic preparation, socioeconomic status, financial support, ethnicity, self-efficacy, social support, presence of role models, institutional climate, ethnic identity and acculturation are able to predict students' adjustment to post-secondary education. We are interested in whether experiences of first year students are different depending on the school you attend.

If you agree to participate, you will complete the questionnaire online. It will take you approximately 20-30 minutes of your time to complete the entire questionnaire. At the end of the first survey, you will be asked for your contact information (name, telephone number, and email address) so that we can contact you and ask you to participate for the second part of this study next semester. At the end of the project, you will be told the goals of the study and will be offered a one page summary of the results of the study. By participating in the study, you will also be entered to win one of up to four \$100 gift certificates from either the Bookstore at your school or Future Shop. All winners will be contacted via email to pick up their prizes.

#### **Potential Benefits:**

You will be entered to win one of up to four \$100 gift certificates to your Institutions campus bookstore or Future Shop. Participation in this study will also give you an opportunity to voice your opinions about what types of things affect students' adjustment to post-secondary education. While we can not guarantee personal benefits or benefits to the wider community, the sharing of your opinions and experiences may benefit future Aboriginal and non-Aboriginal students entering post-secondary institutions.

**Potential Risks:**

There are no known risks associated with participating in this study. However, if you feel like you would like to talk to someone about issues that were brought up in the questionnaire; you may contact the researchers and they will direct you to the appropriate services (e.g., student help centre, student counseling). You may also leave questions blank or withdraw from study at any time, for any reason, and without any penalties.

**Storage of Data:**

No paper copies of raw data will be made. All data will be securely stored by/with the student researcher (Tara N. Gokavi) and the research supervisor (Dr. Patti McDougall) in password-protected files on compact discs (CDs) which will be stored in a locked filing cabinet following the completion of the study. The data will be stored for five years after the completion of the project. Following this period of time, the data will be destroyed.

**Confidentiality:**

The findings for this study will be written in a Ph.D. dissertation and may also be used in the publication of journal articles and for research conference presentation. However, your responses will be grouped with the answers of other student and it will not be possible to identify your individual answers. In order to connect the answers that you give in the fall with your opinions in the spring we need to collect some contact information. The contact information that you provide following this first survey will be separated from your answers and will be replaced with a numerical identification code so that the individual data can only be identified by the student researcher (Tara N. Gokavi) and the research supervisor (Dr. Patti McDougall). At this time, your name, email address, phone number and numerical identification code will be entered into a password-protected excel sheet. Once the data from both parts of the study have been linked, the password-protected excel sheet containing your name, phone number and numerical identification code will be destroyed. Until the completion of the study, we will keep a password-protected list of email addresses of only the participants who indicate that they would like to receive a summary of the study once it is available. This list will be destroyed once the summary of the study has been sent out.

**Right to Withdraw:**

Your participation is voluntary, and you can answer only those questions that you are comfortable with. The information that is shared will be held in strict confidence and discussed only with the research team (Tara N. Gokavi and Dr. Patti McDougall). You may withdraw from the research project for any reason, at any time, without penalty of any sort and without loss of relevant entitlements (e.g., withdrawing will not affect your academic status, the grades you receive in your course, your access to services, your educational funding, etc.). If you withdraw from the research project at any time, any data that you have contributed will be destroyed at

your request. You will also be asked for your consent to participate prior to completing both the first and the second questionnaires.

**Questions:**

If you have any questions concerning the research project, please feel free to contact the researchers at the telephone numbers provided at the beginning of this form. This research project has been approved on ethical grounds by the University of Saskatchewan Behavioral Research Ethics Board on September 12, 2007. Any questions regarding your rights as a participant may be address to that committee through the Ethics Office (966-2084). Out of town participants may call collect.

**Follow-Up or Debriefing:**

In the spring, if you decide to participate in the second part of the study, you will be asked if you would like to find out about the results of the study. If you indicate that you would like to find out about the results of the study, we will send you a summary of the study via email. You may also contact the researchers using the telephone numbers provided at the beginning of this form if you would like to request a summary of the study.

**Consent to Participate:**

I have read and understood the description of the study provided, the procedure, the risks and benefits of participation, and my rights as a participant, and agree to consent to participate in this study. I understand that I am free to withdraw from this study at any time without any penalty. I also understand that although the data from this study will be presented in the manner described above, only aggregate data will be presented and my identity will be kept confidential. If you consent to participate in this study, please check the I AGREE TO PARTICIPATE box below. If you have decided to not participate in this study, please check the I DO NOT AGREE TO PARTICIPATE box and exit the on-line survey.

- ☐ I agree to participate
- ☐ I do not agree to participate

## Consent Form

### Non-participant pool – Time 2

You are invited to participate in a study entitled, "What Influences the Post-Secondary Adjustment of Canadian Aboriginal and non-Aboriginal First Year Students?" Please read this form carefully and feel free to email or call the researchers with any questions you may have!

#### **Researchers:**

Tara N. Gokavi (Ph.D. Student), Department of Psychology, University of Saskatchewan: (306)-966-8078 and Dr. Patti McDougall (Ph.D, Research Supervisor), Department of Psychology, St. Thomas More College, University of Saskatchewan: (306)-966-8900.

#### **Purpose and Procedure:**

The purpose of this research is to gain an improved understanding of the factors that influence the post-secondary adjustment of first year Aboriginal students. In this two-part study, we are interested in examining whether factors such as age, gender, previous academic preparation, socioeconomic status, financial support, ethnicity, self-efficacy, social support, presence of role models, institutional climate, ethnic identity and acculturation are able to predict students' adjustment to post-secondary education. We are interested in whether experiences of first year students are different depending on the school you attend.

If you agree to participate, you will complete the questionnaire online. It will take you approximately 20-30 minutes of your time to complete the entire questionnaire. By participating in the study, you will receive a \$5 gift certificate from Tim Horton's. At the end of the survey, you will be asked for your contact information (name, telephone number, and email address) so that we can contact you to give you your \$5 gift certificate. At the end of the project, you will be told the goals of the study and will be offered a one page summary of the results of the study.

#### **Potential Benefits:**

You receive a \$5 gift certificate from Tim Horton's. Participation in this study will also give you an opportunity to voice your opinions about what types of things affect students' adjustment to post-secondary education. While we can not guarantee personal benefits or benefits to the wider community, the sharing of your opinions and experiences may benefit future Aboriginal and non-Aboriginal students entering post-secondary institutions.

#### **Potential Risks:**

There are no known risks associated with participating in this study. However, if you feel like you would like to talk to someone about issues that were brought up in the questionnaire; you may contact the researchers and they will direct you to the appropriate services (e.g., student help

centre, student counselling). You may also leave questions blank or withdraw from study at any time, for any reason, and without any penalties (e.g., you will still receive a \$5 gift certificate from Tim Horton's if you withdraw prior to the completion of the survey) .

### **Storage of Data:**

All data will be securely stored by/with the student researcher (Tara N. Gokavi) and the research supervisor (Dr. Patti McDougall). Paper and pencil data will be entered by the student researcher into an online questionnaire. Following this, the paper and pencil questionnaires will be stored in a locked filing cabinet. In addition, all online data will be stored in password-protected files on compact discs (CDs) which will be stored in a locked filing cabinet following the completion of the study. All data will be stored for five years after the completion of the project. Following this period of time, the data will be destroyed.

### **Confidentiality:**

The findings for this study will be written in a Ph.D. dissertation and may be used in the publication of journal articles and for research conference presentation. However, your responses will be grouped with the answers of other student and it will not be possible to identify your individual answers. In order to connect the answers that you give in the fall with your opinions in the spring we need to collect some contact information. The contact information that you provide following this first survey will be separated from your answers and will be replaced with a numerical identification code so that the individual data can only be identified by the student researcher (Tara N. Gokavi) and the research supervisor (Dr. Patti McDougall). At this time, your name, email address, phone number and numerical identification code will be entered into a password-protected excel sheet. Once the data from both parts of the study have been linked, the password-protected excel sheet containing your name, phone number and numerical identification code will be destroyed. Until the completion of the study, we will keep a password-protected list of email addresses of only the participants who indicate that they would like to receive a summary of the study once it is available. This list will be destroyed once the summary of the study has been sent out.

### **Right to Withdraw:**

Your participation is voluntary, and you can answer only those questions that you are comfortable with. The information that is shared will be held in strict confidence and discussed only with the research team (Tara N. Gokavi and Dr. Patti McDougall). You may withdraw from the research project for any reason, at any time, without penalty of any sort and without loss of relevant entitlements (e.g., withdrawing will not affect your academic status, the grades you receive in your course, your access to services, your educational funding, etc. In the event that you withdraw prior to completion of the survey, you will still receive the \$5 gift certificate). If you withdraw from the research project at any time, any data that you have contributed will be destroyed at your request. You will also be asked for your consent to participate prior to completing both the first and the second questionnaires.

**Questions:**

If you have any questions concerning the research project, please feel free to contact the researchers at the telephone numbers provided at the beginning of this form. This research project has been approved on ethical grounds by the University of Saskatchewan Behavioral Research Ethics Board on September 12, 2007. Any questions regarding your rights as a participant may be addressed to that committee through the Ethics Office (966-2084). Out of town participants may call collect.

**Follow-Up or Debriefing:**

In the spring, if you decide to participate in the second part of the study, you will be asked if you would like to find out about the results of the study. If you indicate that you would like to find out about the results of the study, we will send you a summary of the study via email. You may also contact the researchers using the telephone numbers provided at the beginning of this form if you would like to request a summary of the study.

**Consent to Participate:**

I have read and understood the description of the study provided, the procedure, the risks and benefits of participation, and my rights as a participant, and agree to consent to participate in this study. I understand that I am free to withdraw from this study at any time without any penalty. I also understand that although the data from this study will be presented in the manner described above, only aggregate data will be presented and my identity will be kept confidential. If you consent to participate in this study, please check the "I AGREE TO PARTICIPATE" box below. If you have decided to not participate in this study, please check the "I DO NOT AGREE TO PARTICIPATE" box

- ☐ I agree to participate
- ☐ I do not agree to participate

## Appendix B

### CONSENT FORM

You are invited to participate in an interview study entitled, “What Influences the Post-Secondary Adjustment of First Year Aboriginal Students?” Please read this form carefully and feel free to email or call the researchers with any questions that you may have!

#### **Researcher(s):**

Tara N. Gokavi (Ph.D. Student), Department of Psychology, University of Saskatchewan: (306)-966-8078 and Dr. Patti McDougall (Ph.D, Research Supervisor), Department of Psychology, St. Thomas More College, University of Saskatchewan: (306)-966-8919.

#### **Purpose and Procedure:**

The purpose of this research is to gain an improved understanding of the factors that influence the post-secondary adjustment of first year Aboriginal students. Over the course of the 2007-2008 academic year, you participated in the first two phases of this study. In the first two phases of the project you completed surveys which examined whether factors such as age, gender, previous academic preparation, socioeconomic status, financial support, ethnicity, self-efficacy, social support, presence of role models, institutional climate, ethnic identity and acculturation are able to predict student’s adjustment to post-secondary education. In this final phase of the project, we are interested in speaking with you directly to better understand how these factors are related to one another and to hear about your other experiences at your institution that may have contributed to or hindered your adjustment to post-secondary studies.

If you agree to participate, you will complete an interview with the researcher. It will take approximately 30 minutes of your time to complete the entire interview. By participating in the study, you will receive a \$10 gift certificate from Tim Horton’s. At the end of the project, you will be told the goals of the study and will be offered a one page summary of the results of the study.

#### **Potential Benefits:**

You will receive a \$10 gift certificate from Tim Horton’s. Participation in this study will also give you an opportunity to voice your opinions about what types of things affect Aboriginal students’ adjustment to post-secondary education. While we can **not** guarantee personal benefits or benefits to the wider community, we believe that sharing your opinions and experiences may benefit future Aboriginal and non-Aboriginal students entering post-secondary institutions.

**Potential Risks:**

It is possible that you may experience some moments of shyness or nervousness. This tends to be temporary and is something that some people experience as a result of being audiotaped. If you feel that the audiotaping would make you too uncomfortable to participate, you may request that the audiotaping be discontinued. In addition, if you feel like you would like to talk to someone about issues that were brought up in the interview; you may contact the researchers and they will direct you to the appropriate services (e.g., student help centre, student counselling). You may also choose to not answer a certain question or to withdraw from study at any time, for any reason, and without any penalties (e.g., you will still receive a \$10 gift certificate from Tim Horton's if you withdraw prior to the completion of the interview).

**Storage of Data:**

All data will be stored by/with the student researcher (Tara N. Gokavi) and the research supervisor (Dr. Patti McDougall). Interview data will be transcribed from the audio recordings. Following this, the password-protected transcribed interviews and audio-recordings will be assigned a code number (your name will not be associated with the interview or recordings) and will be stored in a locked filing cabinet. The data will be stored for five years after the completion of the project in accordance with the University of Saskatchewan data storage regulations.

**Confidentiality:**

The findings for this study will be written in a Ph.D. dissertation and may also be used in the publication of journal articles and for research conference presentation. The researcher will be looking at what people said about their experiences and trying to identify overall themes or ideas that describe experiences. It is possible, however, that the researcher might want to use a direct quote about something you said. If your exact words are being used to describe something, the researcher will make sure that there is nothing in that set of words (or sentences) that could identify you in any way. There will be no information about names. At the end of the interview, you will be asked if you would like a summary of the study once it has been completed. If you would like a summary, the researcher will collect your email address. Until the completion of the study, we will keep a password-protected list of email addresses of only the participants who indicate that they would like to receive a summary of the study once it is available. This list will be destroyed once the summary of the study has been sent out.

**Right to Withdraw:**

Your participation is voluntary, and you can answer only those questions that you are comfortable with. The information that is shared will be held in strict confidence and discussed only with the research team (Tara N. Gokavi and Dr. Patti McDougall). You may withdraw from the research project for any reason, at any time, without penalty of any sort and without loss of



relevant entitlements (e.g., withdrawing will not affect your academic status, the grades you receive in your course, your access to services, your educational funding, etc. In the event that you withdraw prior to completion of the interview, you will still receive the \$10 gift certificate). If you withdraw from the research project at any time, any data that you have contributed will be destroyed at your request.

**Questions:**

If you have any questions concerning the research project, please feel free to contact the researchers at the telephone numbers provided at the beginning of this form. This research project has been approved on ethical grounds by the University of Saskatchewan Behavioral Research Ethics Board. Any questions regarding your rights as a participant may be address to that committee through the Ethics Office (966-2084). Out of town participants may call collect.

**Debriefing:**

At the end of the interview, the researcher will explain the goals of the study and will offer to provide you with a summary of the study once it is completed. If you indicate that you would like to find out about the results of the study, we will send you a summary of the study via email. You may also contact the researchers using the telephone numbers provided at the beginning of this form if you would like to request a summary of the study.

**Consent to Participate:**

I have read and understood the description provided; I have had an opportunity to ask questions and my/our questions has been answered. I consent to participate in the research project, understanding that I may withdraw my consent at any time. A copy of this consent form has been given to me for my records.

\_\_\_\_\_  
**Signature of Participant**

\_\_\_\_\_  
**Date**

\_\_\_\_\_  
**Signature of Researcher**

\_\_\_\_\_  
**Date**

## Appendix C

### Background/Demographic Questionnaire

1. Name: \_\_\_\_\_
2. Age: \_\_\_\_\_
3. Sex:
  - a. Male
  - b. Female
4. What is your ethnicity?
  - a. Aboriginal (specify):
    - i. Status
    - ii. Non-Status
    - iii. Inuit
    - iv. Metis
  - b. White, Caucasian, European
  - c. Latino/Hispanic
  - d. Black or African American
  - e. Asian
  - f. Other (specify): \_\_\_\_\_
5. Current relationship status (Select one):
  - a. Single
  - b. Married
  - c. Common-law
  - d. Separated
  - e. Divorced
  - f. Widowed
6. Do you have any children?
  - a. No
  - b. Yes (if yes, how many? \_\_\_\_\_)
7. What is your approximate household income (per year)?
  - a. Less than \$11,000
  - b. \$11,000 – \$20,000
  - c. \$21,000 – \$30,000
  - d. \$31,000 – \$40,000
  - e. \$41,000 – \$50,000
  - f. \$50,000 and up

8. What types of funding do you receive while attending your current institution? (Check all that apply)
- a. Employment
  - b. Family aid
  - c. Student loan
  - d. Scholarships
  - e. Bursaries
  - f. Band
  - g. Department of Indian Affairs
  - h. Other
9. Do you feel that you are getting the financial support that you need?
- a. No
  - b. Yes
10. To what extent do you feel as though you had freedom of choice to pick your current post-secondary institution as compared to going elsewhere?
- a. Complete freedom (e.g., I was accepted into the institution I want to go to)
  - b. Some freedom
  - c. Little freedom
  - d. No freedom (e.g., I wanted to go elsewhere but this was the only institution that I could get into)
11. What motivated you to pursue a post-secondary education? (Check all that apply)
- a. Personal interest
  - b. Want to get a job
  - c. Parental/family influence
  - d. Other
12. How well do you feel that your high school (or equivalent) education prepared you for post-secondary studies?
- a. Not at all
  - b. Barely
  - c. Somewhat
  - d. Quite a bit
  - e. Completely
13. Where did you live prior to beginning your post-secondary education?
- a. Urban area (e.g., Saskatoon)
  - b. Rural area, non-reserve
  - c. Rural area, reserve

14. How far do you feel the distance is between your home town and your institution?
- a. Not far at all
  - b. A little far
  - c. Just far enough
  - d. A little too far
  - e. Too far
15. Are you or have you been involved in a transition program of any kind? (e.g., Aboriginal First Year Experience Program) :
- a. Yes I am currently involved in one
  - b. Yes I have been involved with one in the past
  - c. Yes I have been and am currently involved in one
  - d. No
16. If you answered yes to the previous question, please list the transition programs (e.g., Aboriginal First Year Experience Program (AFYEP), University Life 101) that you are or have been involved in

## Appendix D

### Assessment of the Transition Experience (McDougall & Hymel, 1998, Smith, 2007)

The following four questions ask you to assess how your transition to university is going. Please rate your experience on a scale from “1” to “5”.

1. How happy are you about your first month of university/post-secondary studies?

1=very happy

2

3

4

5=not at all happy

2. Do you feel your first month of university/post-secondary studies has been successful?

1= not at all successful

2

3

4

5= very successful

3. How difficult was it for you to change schools this year?

1= very hard

2

3

4

5=very easy

4. How stressful was it for you to change schools this year?

1= very stressful

2

3

4

5=not all stressful

5. How challenging has the transition to university/post-secondary studies been for you?

1= very challenging

2

3

4

5= not at all challenging

## Appendix E

### Social Provisions Scale (Cutrona & Russell, 1987)

In answering the following questions, think about your current relationships with friends, family members, coworkers, community members, peers, professors, and so on. Please indicate to what extent each statement describes your current relationships with these people.

1	2	3	4
Strongly Disagree			Strongly Agree

1. There are people I can depend on to help me if I really need it
2. I feel that I do not have close personal relationships with other people
3. There is no one I can turn to for guidance in times of stress
4. There are people who depend on me for help
5. There are people who enjoy the same social activities I do
6. Other people do not view me as competent
7. I feel personally responsible for the well-being of another person
8. I feel part of a group of people who share my attitudes and beliefs
9. I do not think other people respect my skills and abilities
10. If something went wrong, no one would come to my assistance
11. I have close relationships that provide me with a sense of emotional security and well-being
12. There is someone I could talk to about important decisions in my life
13. I have relationships where my competence and skill are recognized
14. There is no one who shares my interests and concerns
15. There is no one who really relies on me for their well-being
16. There is a trustworthy person I could turn to for advice if I were having problems
17. I feel a strong emotional bond with at least one other person
18. There is no one I can depend on for aid if I really need it
19. There is no one I feel comfortable talking about problems with
20. There are people who admire my talents and abilities
21. I lack a feeling of intimacy with another person
22. There is no one who likes to do the things I do
23. There are people who I can count on in an emergency
24. No one needs me to care for them

### ADDITIONAL SOCIAL SUPPORT QUESTIONS

25. Do you receive as much support from your friends as you would like to receive?
  - a. Yes
  - b. No

26. Do you feel that your friends are supportive of your decision to go to university/college?
- a. Not at all
  - b. A little bit
  - c. Somewhat
  - d. Quite a bit
  - e. Very much
27. Do you receive as much support from your family as you would like to receive?
- a. Yes
  - b. No
28. Do you feel that your family is supportive of your decision to attend university/college?
- a. Not at all
  - b. A little bit
  - c. Somewhat
  - d. Quite a bit
  - e. Very much

## Appendix F

### College Academic Self-Efficacy Scale (Owen & Froman, 1988)

Please read and rate how much confidence you have about doing each of the behaviors list below.  
Circle the letters that best represent your confidence

1	2	3	4	5
Very Little				Quite a lot

1. Take well organized notes during a lecture
2. Participating in class discussion (e.g., answering questions in class)
3. Writing tests or exams
4. Writing a high quality term paper
5. Explaining a concept to another student
6. Asking a professor in class to review a concept you do not understand
7. Earning good marks in most courses
8. Studying enough to understand content thoroughly
9. Participating in extracurricular events (sports, clubs, etc.)
10. Attending class regularly
11. Understanding most ideas you read in your texts
12. Understanding most ideas presented in class
13. Using a computer
14. Talking to a professor privately to get to know him or her.
15. Relating course content to material in other courses.
16. Challenging a professor's opinion in class
17. Applying lecture content to a laboratory session.
18. Making good use of the library
19. Getting good grades.
20. Spreading out studying instead of cramming
21. Understanding difficult passages in textbooks
22. Mastering content in a course you're not interested in



Institutional Climate  
(O'Reilly, Chatman & Caldwell, 1991)

1 2 3 4 5 6 7  
Not at All Very Much So

1. Encourages students to take advantage of opportunities	1	2	3	4	5	6	7
2. Treats students fairly	1	2	3	4	5	6	7
3. Tolerates racism	1	2	3	4	5	6	7
4. Places a lot of emphasis on grades	1	2	3	4	5	6	7
5. Has high expectations of students	1	2	3	4	5	6	7
6. Does what it can to make sure students are satisfied	1	2	3	4	5	6	7
7. Encourages cooperative teamwork	1	2	3	4	5	6	7
8. Encourages competitiveness	1	2	3	4	5	6	7
9. Is academically challenging	1	2	3	4	5	6	7
10. Emphasizes one culture throughout the institution	1	2	3	4	5	6	7
11. Offers opportunities for personal growth	1	2	3	4	5	6	7
12. Makes me feel like I fit in/belong	1	2	3	4	5	6	7
13. Is respectful of diversity	1	2	3	4	5	6	7
14. Makes me feel alienated	1	2	3	4	5	6	7

1. Encourages students to take advantage of opportunities	1	2	3	4	5	6	7
2. Treats students fairly	1	2	3	4	5	6	7
3. Tolerates racism	1	2	3	4	5	6	7
4. Places a lot of emphasis on grades	1	2	3	4	5	6	7
5. Has high expectations of students	1	2	3	4	5	6	7
6. Does what it can to make sure students are satisfied	1	2	3	4	5	6	7
7. Encourages cooperative teamwork	1	2	3	4	5	6	7
8. Encourages competitiveness	1	2	3	4	5	6	7
9. Is academically challenging	1	2	3	4	5	6	7

10. Emphasizes one culture throughout the institution	1	2	3	4	5	6	7
11. Offers opportunities for personal growth	1	2	3	4	5	6	7
12. Makes me feel like I fit in/belong	1	2	3	4	5	6	7
13. Is respectful of diversity	1	2	3	4	5	6	7
14. Makes me feel alienated	1	2	3	4	5	6	7

## Appendix H

### Student Adaptation to College Questionnaire (Baker & Siryk, 1984)

Please note: The Student Adaptation to College Questionnaire is a copyright measure by Western Psychological Services. Therefore, I have not included this questionnaire as an appendix. For information on this questionnaire, please contact Western Psychological Services, 12031 Wilshire Boulevard, Los Angeles, California 90025, U.S.A. ([www.wpspublish.com](http://www.wpspublish.com))

#### Additional Question on Intentions to Continue

Do you think you will return to SIAST in September 2008 to continue with your studies?

- a. Definitely not returning
- b. Probably not returning
- c. Maybe yes maybe no
- d. Probably will return
- e. Definitely will return

## Appendix I

### Interview Guide

1. Can you tell me a bit about yourself? (e.g., where did you grow up/go to school?)
2. Have a lot of people from your family (how many?)/community gone to university/college?  
What does your family/community think about you going to university/college?
3. Why did you decide to come to the U of S/SIAST?
4. Can you tell me about your long-term goals (e.g., what do you want to do with your training after you are finished here)
5. Do you feel like there's a good fit between what you need (from the U of S/SIAST) and what they are giving you? Do you think that it is important for there to be a fit between what you need and what you get? If yes, why or if not, why not? Do you think it is even more important for Aboriginal student to have this "fit" than it is for non-Aboriginal students? If you think so – why? Do you feel like this school is a good match with what you are looking for?
6. Have you ever been in a transition program? Are you in one now? If yes, why did you decide to sign up for the program? How do you want it to help you? Is it helping you with that? Would you recommend it to other students? Any suggestions for improvement?
7. Can you think of things that help you deal with the academic challenges you are faced with (e.g., attending class, studying for exams, reading text, having clear ideas about what you want to get from your university education)? Is there anything that the U of S/SIAST can do to help you with this?
8. Do you know of any academic services on campus (e.g. writing center, tutors)? How did you find out about them? Have you ever used them? Do you know of the Aboriginal Student Center and the services they offer?
9. What do you see as the greatest challenges of the university social experience? (e.g., make friends, being involved in social activities). Is there anything that the U of S/SIAST can do to help you with this? Why do you think that the social part of university is so important to first year students?
10. Do you think that how you feel emotionally and physically influences how you perform at the U of S/SIAST? If so how?
11. Are you aware of any efforts by the U of S/SIAST to include Aboriginal culture in your education? What's your opinion on some of the efforts that the university makes to include Aboriginal culture? (e.g., pow wows, paintings, cultural days, Aboriginal content in classes)

What are the pros of doing this? Cons? What suggestions would you give to Arts and Science/SIAST about this?

12. Have university (or professors') rules and procedures in the classrooms (e.g., missing exams, deadlines) impacted your learning in any way? If so, how? Do you think it has impacted your decision to stay/leave? Do you think it has impacted your adjustment to post-secondary life?

13. Have you had any other positive experiences here? Any other negative experiences here?

**For continuing students:**

14. Why do you stay on at the U of S/SIAST? Did you ever think of not staying? If so why?

15. Are there things that have made it easier for you to be here/to come back?

16. Do you have any ideas about why first year students often drop out? Why first year Aboriginal students, in particular, often don't come back the following year or have problems with adjustment? Any ideas of what could have been done to help?

**For discontinuing students:**

17. Why did you leave the U of S/SIAST?

18. Are there things that would have made it easier for you to continue with your studies? Do you feel that your experience is common amongst other students – or just reflects your own experience?

19. Any thoughts about coming back to the U of S/SIAST or another institution in the future? Are there things that would make this decision easier?

# Appendix J

Table 1

*Multivariate Analysis of Variance for Adjustment, Time, Sex and Ethnicity*

Source	<i>df</i>	<i>F</i>	$\eta_p^2$	<i>p</i>
Between subjects				
Sex (S)	1	5.69	.037	.018
Ethnicity (E)	1	0.47	.003	.494
S X E	1	0.63	.004	.429
Within-group error	150			
Within subjects				
Time (T)	1	.101	.001	.751
T X S	1	2.77	.018	.098
T X E	1	3.47	.023	.064
T X S X E	1	.027	.000	.869
Error	150			
Adjust (A)	2	.732	.010	.483
A X S	2	.361	.005	.698
A X E	2	2.15	.028	.120
A X S X E	2	.140	.002	.869
Error	149			
T X A	2	1.23	.016	.295
T X A X S	2	.034	.000	.967
T X A X E	2	.802	.011	.450
T X A X S X E	2	1.73	.023	.181
Error	149			

# Appendix J

Table 2

*Analysis of Variance for the Multivariate Effect of Sex on Academic Adjustment*

Source	<i>df</i>	<i>F</i>	$\eta_p^2$	<i>P</i>
Between subjects				
Sex	1	3.74	.024	.055
Within Group	152			
Error				
Within subjects				
Time	1	.002	.000	.969
Time X Sex	1	1.04	.007	.310
Error (Time)	152			

# Appendix J

Table 3

*Analysis of Variance for the Multivariate Effect of Sex on Social Adjustment*

Source	<i>df</i>	<i>F</i>	$\eta_p^2$	<i>P</i>
Between subjects				
Sex	1	2.89	.019	.091
Within Group	153			
Error				
Within subjects				
Time	1	.232	.002	.631
Time X Sex	1	1.47	.010	.227
Error (Time)	153			



# Appendix J

Table 4

*Analysis of Variance for the Multivariate Effect of Sex on Personal-Emotional Adjustment*

Source	<i>df</i>	<i>F</i>	$\eta_p^2$	<i>p</i>
Between subjects				
Sex	1	4.66	.030	.032
Within Group	153			
Error				
Within subjects				
Time	1	2.99	.019	.086
Time X Sex	1	1.59	.010	.209
Error (Time)	153			

# Appendix K

Table 1

*Multivariate Analysis of Variance for Adjustment and Institution*

Source	<i>df</i>	<i>F</i>	$\eta_p^2$	<i>p</i>
Between subjects				
Institution (I)	1	.291	.008	.593
Within-group error	38			
Within subjects				
Time (T)	1	.603	.016	.442
T X I	1	1.30	.033	.262
Error	38			
Adjust (A)	2	1.75	.087	.188
A X I	2	1.60	.080	.216
Error	37			
T X A	2	1.61	.080	.213
T X A X I	2	4.12	.182	.024
Error	37			

## Appendix K

Table 2

*Analysis of Variance for the Multivariate Effect of Institution on Academic Adjustment*

Source	<i>df</i>	<i>F</i>	$\eta_p^2$	<i>p</i>
Between subjects				
Institution	1	2.24	.056	.143
Within Group	38			
Error				
Within subjects				
Time	1	2.06	.052	.159
Time X Institution	1	.114	.003	.738
Error (Time)	38			

## Appendix K

Table 3

*Analysis of Variance for the Multivariate Effect of Institution on Social Adjustment*

Source	<i>df</i>	<i>F</i>	$\eta_p^2$	<i>p</i>
Between subjects				
Institution	1	.064	.002	.802
Within Group	38			
Error				
Within subjects				
Time	1	.983	.025	.328
Time X Institution	1	.101	.003	.752
Error (Time)	38			

## Appendix K

Table 4

*Analysis of Variance for the Multivariate Effect of Institution on Personal-Emotional Adjustment*

Source	<i>df</i>	<i>F</i>	$\eta_p^2$	<i>p</i>
Between subjects				
Institution	1	.060	.002	.809
Within Group	38			
Error				
Within subjects				
Time	1	.154	.004	.697
Time X Institution	1	5.72	.131	.022
Error (Time)	38			

# Appendix L

Table 1

*Multivariate Analysis of Variance for T1 Subjective Fit Group and Ethnicity on Adjustment Types at U of S*

Source	<i>df</i>	<i>Error df</i>	<i>F</i>	$\eta_p^2$	<i>p</i>
Between subjects					
T1 Subjective Fit Group (SF)	6	536	3.62	.039	.002
Ethnicity (E)	3	267	3.56	.039	.015
T1 SF X E	6	536	1.28	.014	.267
Error					
T1 SACQ - A	274				
T1 SACQ - S	274				
T1 SACQ - PE	274				

## Appendix L

Table 2

*Independent T-Tests Examining for Time 1 Adjustment Differences Between Aboriginal and non-Aboriginal Participants at the University of Saskatchewan*

Variable	<i>t</i>	<i>df</i>	<i>P</i>
T1 SACQ – A	.74	280	.463
T1 SACQ – S	-1.39	280	.165
T1 SACQ – PE	-.25	280	.805

## Appendix L

Table 3

*Univariate Analysis of Variance for Time 1 Subjective Fit Group – U of S Sample*

Source	<i>df</i>	<i>Error df</i>	<i>F</i>	$\eta_p^2$	<i>p</i>
Between subjects					
T1 Subjective Fit Group (SF)					
T1 SACQ - A	2		1.21	.009	.301
T1 SACQ - S	2		10.14	.069	.000
T1 SACQ - PE	2		3.67	.026	.026
Error					
T1 SACQ - A		272			
T1 SACQ - S		272			
T1 SACQ - PE		272			



# Appendix M

Table 1

*Multivariate Analysis of Variance for T1 Objective Fit Group and Ethnicity on Adjustment Types at U of S*

Source	<i>df</i>	Error <i>df</i>	<i>F</i>	$\eta_p^2$	<i>p</i>
Between subjects					
T1 Objective Fit Group (OF)	6	538	.951	.010	.458
T1 SACQ - A	2		1.93	.014	.147
T1 SACQ - S	2		1.39	.010	.251
T1 SACQ - PE	2		.578	.004	.562
Ethnicity (E)	3	268	1.37	.015	.252
T1 SACQ - A	1		3.06	.011	.081
T1 SACQ - S	1		.000	.000	.987
T1 SACQ - PE	1		.840	.003	.360
T1 OF X E	6	538	1.19	.013	.309
T1 SACQ - A	2		2.27	.016	.106
T1 SACQ - S	2		1.01	.007	.365
T1 SACQ - PE	2		2.88	.021	.058
Error					
T1 SACQ - A	270				
T1 SACQ - S	270				
T1 SACQ - PE	270				

# Appendix N

Table 1

*Univariate Analysis of Variance for T2 Subjective Fit Group on Adjustment Types at U of S*

Source	<i>df</i>	<i>Error df</i>	<i>F</i>	$\eta_p^2$	<i>p</i>
Between subjects					
T2 Subjective Fit Group (SF)					
T2 SACQ - A	2		1.55	.022	.215
T2 SACQ - S	2		11.98	.150	.000
T2 SACQ - PE	2		3.45	.048	.035
Error					
T2 SACQ - A		136			
T2 SACQ - S		136			
T2 SACQ - PE		136			

# Appendix O

Table 1

*Multivariate Analysis of Variance for T2 Objective Fit Group and Ethnicity on Adjustment Types at U of S*

Source	<i>df</i>	<i>Error df</i>	<i>F</i>	$\eta_p^2$	<i>p</i>
Between subjects					
T2 Objective Fit Group (OF)	6	260	.525	.012	.789
T2 SACQ - A	2		.463	.007	.631
T2 SACQ - S	2		.590	.009	.556
T2 SACQ - PE	2		.857	.013	.427
Ethnicity (E)	3	129	.463	.011	.708
T2 SACQ - A	1		.510	.004	.476
T2 SACQ - S	1		.134	.001	.715
T2 SACQ - PE	1		.007	.000	.933
T2 OF X E	6	260	1.27	.028	.271
T2 SACQ - A	2		.847	.013	.431
T2 SACQ - S	2		1.39	.021	.252
T2 SACQ - PE	2		1.71	.025	.185
Error					
T2 SACQ - A	131				
T2 SACQ - S	131				
T2 SACQ - PE	131				

# Appendix P

Table 1

*Multivariate Analysis of Variance for T1 Subjective Fit Group on Adjustment Types at SIAST*

Source	<i>df</i>	<i>Error df</i>	<i>F</i>	$\eta_p^2$	<i>p</i>
Between subjects					
T1 Subjective Fit Group (SF)	6	52	.686	.073	.661
T1 SACQ - A	2		.975	.067	.390
T1 SACQ - S	2		1.50	.100	.242
T1 SACQ - PE	2		.384	.028	.685
Error					
T1 SACQ - A	27				
T1 SACQ - S	27				
T1 SACQ - PE	27				

## Appendix Q

Table 1

*Multivariate Analysis of Variance for T1 Objective Fit Group on Adjustment Types at SIAST*

Source	<i>df</i>	<i>Error df</i>	<i>F</i>	$\eta_p^2$	<i>p</i>
Between subjects					
T1 Objective Fit Group (OF)	6	54	1.70	.159	.139
T1 SACQ - A	2		6.09	.303	.006
T1 SACQ - S	2		.449	.031	.643
T1 SACQ - PE	2		1.27	.083	.295
Error					
T1 SACQ - A	28				
T1 SACQ - S	28				
T1 SACQ - PE	28				

## Appendix R

Table 1

*Analysis of Variance for T2 Subjective Fit, Ethnicity on Intentions to Continue (Combined Sample)*

Source	<i>df</i>	<i>F</i>	$\eta_p^2$	<i>p</i>
Between subjects				
Ethnicity (E)	1	20.35	.123	.000
T2 Subjective Fit Group (SF)	2	1.03	.014	.359
T2 SF X E	2	5.35	.069	.006
Error	145			

## Appendix S

Table 1

*Analysis of Variance for T2 Objective Fit, Ethnicity on Intentions to Continue (Combined Sample)*

Source	<i>df</i>	<i>F</i>	$\eta_p^2$	<i>p</i>
Between subjects				
Ethnicity (E)	1	2.55	.017	.113
T2 Objective Fit Group (OF)	2	1.11	.015	.334
T2 OF X E	2	2.51	.033	.085
Error	145			

# Appendix T

Table 1

*Analysis of Variance – SPS change over time*

Source	<i>df</i>	<i>F</i>	$\eta_p^2$	<i>p</i>
Between subjects				
Sex (S)	1	.036	.000	.850
Ethnicity (E)	1	1.35	.009	.248
S X E	1	.752	.005	.387
Error	151			
Within subjects				
Time (T)	1	.741	.005	.391
T X S	1	.935	.006	.335
T X E	1	.013	.000	.909
T X S X E	1	4.33	.028	.039
Error (Time)	151			



# Appendix T

Table 2

*Analysis of Variance – Academic Self-Efficacy change over time*

Source	<i>df</i>	<i>F</i>	$\eta_p^2$	<i>p</i>
Between subjects				
Sex (S)	1	3.00	.020	.085
Ethnicity (E)	1	1.01	.007	.314
S X E	1	1.01	.007	.316
Error	149			
Within subjects				
Time (T)	1	.036	.000	.849
T X S	1	1.66	.011	.200
T X E	1	.046	.000	.830
T X S X E	1	1.46	.010	.229
Error (Time)	149			

# Appendix T

Table 3

*Analysis of Variance – Previous Academic Preparedness change over time*

Source	<i>df</i>	<i>F</i>	$\eta_p^2$	<i>p</i>
Between subjects				
Sex (S)	1	.042	.000	.838
Ethnicity (E)	1	8.08	.050	.005
S X E	1	.015	.000	.904
Error	152			
Within subjects				
Time (T)	1	1.10	.007	.295
T X S	1	3.47	.022	.064
T X E	1	.707	.005	.402
T X S X E	1	.752	.015	.387
Error (Time)	152			

# Appendix T

Table 4

*Analysis of Variance – Beliefs about Transition change over time*

Source	<i>df</i>	<i>F</i>	$\eta_p^2$	<i>p</i>
Between subjects				
Sex (S)	1	5.76	.037	.018
Ethnicity (E)	1	.172	.001	.679
S X E	1	.003	.000	.955
Error	150			
Within subjects				
Time (T)	1	.258	.002	.612
T X S	1	.300	.002	.585
T X E	1	.017	.000	.897
T X S X E	1	1.62	.011	.205
Error (Time)	150			