

A Comparison of Aboriginal and Non-Aboriginal Students on the Inter-Related Dimensions of Self-concept, Strengths and Achievement

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Abstract

Self-concept has been found to play a key role in academic and psychosocial outcomes for students. Appreciating the factors that have a bearing upon self-concept may be of particular importance for Aboriginal students, many of whom experience poorer outcomes than non-Aboriginal Canadians. In this study, we conducted a quantitative analysis of the relationships between multidimensional self-concept, perceived strengths, and academic achievement among a sample of Aboriginal and non-Aboriginal students. Theories of self-perception development proposed by Marsh, Harter and Eccles were drawn upon to both frame the study and interpret the results. Results indicated that perceived self-concept and strengths were largely similar across groups. However, students in the two groups drew on different strengths to comprise their general self-concept. Findings were explored within the context of existing research and theory and educational implications were presented.

Keywords: Self-concept, Strengths Assessment, Aboriginal students, Academic achievement

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Introduction

The development of a positive general self-concept is an important outcome for students in Canadian schools. Self-concept has been found to play a key role for students in academic achievement, both as a direct or reciprocal influence (Areepattamannil, & Freeman, 2008; De Fraine, Van Damme & Onghena, 2007; Guay, Marsh & Boivin, 2003;) and as an important factor in school engagement (Caraway, Tucker, Reinke, & Hall, 2003; Singh, Chang, & Dika, 2008). Studies have also found that students with a positive self-concept, as one measure of psychosocial adjustment, have higher grades and lower levels of alcohol and drug use, depression, and anxiety (Craven & Marsh, 2008; Deihl, Vicary, & Dieke, 1997; Felner, Brand, & George, 1999; Marsh & Craven, 2006; Marsh, Hau & Kong, 2002; Resnick et al., 1997; Zimmerman, Copeland, Shope, & Dielman, 1997). More specifically, a positive academic self-concept influences academic behaviours such as persistence on academic tasks, motivation, academic choices, educational aspirations, and subsequent achievement (Marsh, Byrne, & Shavelson, 1988; Marsh & O'Mara, 2008; Marsh & Yeung, 1997; Skaalvik & Rankin, 1995). Marsh and his colleagues (Green, Nelson, Martin, & Marsh, 2006; Guay, Marsh & Boivin, 2003; Marsh, Hau & Kong, 2002) have found support for the Reciprocal Effects Model, which stipulates that academic self-concept shares a “reciprocal and mutually reinforcing causal relationship with academic achievement, such that prior academic self-concept causes subsequent academic achievement and prior academic achievement causes subsequent academic-self-concept” (Craven & Marsh, 2008, p. 110). Clearly, identifying and understanding the factors that are positively or negatively related to self-concept in the school context is important, particularly for those who struggle academically.

For Aboriginal students, appreciating the factors that have a bearing upon self-concept may be of particular importance¹. Aboriginal students experience poorer educational and psychosocial outcomes than non-Aboriginal Canadians (Kirmayer, Boothroyd, & Hodgins, 1998; Luffman & Sussman, 2007; Malchy, Enns, Young, & Cox, 1997; Richards, Vining, & Weimer, 2010) and are overrepresented as a group in Special Education programs in Canada, with the exception of those targeting gifted students, where they are underrepresented (McBride & McKee, 2001; Minister's National Working Group on Education, 2002).

Despite these outcomes, research in the area of self-concept and relationships with key outcomes such as academic achievement has focused primarily on non-Aboriginal students. Thus our understanding of the interplay between these constructs, and by extension the foundations upon which academic and psychosocial interventions are based, may not reflect the experiences of Aboriginal students. In an effort to deepen our understanding of the perceptions of Aboriginal students, the current study provides a comparison with non-Aboriginal students in the areas of academic achievement, self-concept and student strengths. Non-Aboriginal students are included in the study not as a normative sample but as the group upon which most research has been focused and upon whom our knowledge in the area is primarily based. An examination of similarities and differences between the groups will shed light on whether or not our understanding of the relationships between important constructs such as self-concept and achievement is accurate for both groups of students. This understanding can then better inform

¹ Aboriginal Canadians are defined by the Canadian constitution as comprising First Nations, Métis and Inuit peoples.

interventions aimed at improving academic outcomes in particular.

The literature exploring self-concept and the relationships between this construct and academic achievement will be reviewed, with a particular focus on research pertaining to Aboriginal students. However, before this synthesis is presented, a brief discussion of the literature surrounding the academic achievement of Aboriginal students is presented. It is hoped that this will provide necessary context within which our study is situated.

Achievement among Aboriginal Students

A small body of research and theory, in Canada as well as the United States and Australia has explored the oft-cited issues experienced by many Aboriginal students in mainstream educational settings. As has been mentioned, as a group, Aboriginal students experience less success in Canadian classrooms than their non-Aboriginal peers (e.g., Richards, Vining, & Weimer, 2010). Explanations for these difficulties include the mismatch between the formal, mainstream school environment (e.g., instructional and assessment approaches, explicit and implicit curricula) and the learning preferences and values of Aboriginal students and their families (Brady, 1996; Kanu, 2002; Neeganagwedgin, 2013; Royal Commission on Aboriginal Peoples, 1996; Schissel & Wotherspoon, 2003; Snively & Williams, 2006; Toulouse, 2010). Other explanations include racism and prejudice, which result in lowered expectations of success for students (Battiste & McLean, 2005; Brown, Rodger, & Fraehlich, 2009; Richards et al., 2010; Richardson & Blanchet-Cohen, 2000) and the intergenerational effects of residential schools, which may prevent the development of positive, collaborative relationships and shared goals between families and school staff (Battiste & McLean, 2005; Brown, et al., 2009; Goddard & Foster, 2002). Despite these challenges within the school system, and the links between self-concept and academic achievement, limited information is available about how Canadian Aboriginal students regard their own self-concept, and how this self-concept is linked to other constructs.

Self-Concept Defined

Self-concept can be broadly described as a person's perceptions of his or her self. According to Shavelson, Hubner, and Stanton (1976), "These perceptions are formed through his [or her] experience with his [or her] environment ... and are influenced especially by environmental reinforcements and significant others" (p. 411). The model proposed by Shavelson and his colleagues (1976) and later revised with Marsh (Marsh & Shavelson, 1985) views self-concept as comprising multiple, distinct dimensions (e.g., verbal, math, school, physical abilities, etc.), as well as having a hierarchical order with general self-concept at the top and increasingly specific areas (e.g., physical abilities, peer relationships, reading, etc.) towards the base of the model. Each dimension within this model is also believed to reflect qualities of both competence (good at, learning things quickly) and affect (interested in, looking forward to). This multi-dimensional model has gained widespread acceptance among researchers and is the one adopted in this study.

One important aspect to highlight in the Marsh/Shavelson model (1985) is the developmental nature of self-concept. As children develop into adolescence, it is hypothesized that they discover their relative areas of strength and weakness and develop the skill to be able to appreciate the difference between these areas such that their self-concept overall declines as their self-concept becomes more differentiated and more highly related to external indicators of

success. Research supports this decline across childhood until early adolescence, when a plateau has been observed, assumedly when “social comparison processes and cognitive abilities are adequately developed” (Marsh, Craven, & Debus, 1999, p. 570). Other theorists, including Harter (2012) and Eccles and colleagues (1993), have also documented the decline in self-concept explained as a move from an optimistic bias seen in young children to a more accurate self-perception resulting from increased cognitive abilities. Harter (2012) describes the increasing abstraction of self-concept, which shifts from concrete, behavioural descriptions in early childhood to more trait labels in middle childhood that rely in part on comparisons with peers (e.g., I’m smart), to more abstract, differentiated constructs in adolescence where social comparisons eventually take a lesser role.

A second, related aspect of this model of self-concept that is important for the current study is the influence of the environment, particularly significant others on the development of self-concept. This element exists in other models as well, such as those described by Harter (1998, 1999; Bouchey & Harter, 2005) in her *reflected appraisal* theory, and Wigfield and Eccles’ (2000) *expectancy-value* theory where the role of perceived competence, basically internalized messages transmitted by teachers and parents, is a powerful one in terms of predicting and shaping the self-concept of children and adolescents. This finding has been reported even after controlling for grades (Madon et al., 2001). Given the various explanations for the academic difficulties experienced by many Aboriginal students in minority contexts, and the role that negative messages from family, school staff, and broader communities could play in these difficulties, Aboriginal students may certainly perceive their competence in less positive ways in a social context that historically has been discriminatory (Bombay, Matheson, & Anisman, 2010).

Self-Concept of Aboriginal Students

Several studies were conducted in Canada around the 1980s that explored the racial self-identity of Aboriginal elementary-aged students using racially diverse pictures or dolls (Annis & Corenblum, 1986; Corenblum & Annis, 1993; George & Hoppe, 1979; Hunsberger, 1978). The findings from these studies implied a preference for the pictures or dolls that displayed Caucasian attributes among Aboriginal children and were considered to reflect a lower self-concept on the part of young Aboriginal students (Corenbaum & Annis, 1993). More recent studies based in Australia, however, have found no such relationship between in-group preference and measures of self-concept for children aged between 6 and 12 years (Pedersen & Walker, 2000; Pedersen, Walker, & Glass, 1999). Studies of American Indian youth in the United States have similarly failed to find a relationship between identification or enculturation and self-esteem (Jones & Galliher, 2007; Pittenger, 1999; Rumbaugh Whitesell, Mitchell, Spicer, & Voices of Indian Teens Project Team, 2009; Whitbeck, Hoyt, Stubben, & La Framboise, 2001).

Several authors have put forth the hypothesis that Aboriginal students with a stronger sense of cultural identity as well as greater participation in cultural activities will report higher self-concept and/or academic achievement (e.g., Rumbaugh Whitesell et al., 2009). A student’s perception of being involved in cultural or spiritual activities may serve as a protective or resilience factor against difficulties arising from cultural conflict with the education system or the larger society (Vadas, 1995; Whitbeck et al., 2001; Zimmerman, Ramirez, Wahienko,

Walter, & Dyer, 1994).

In terms of differences between the self-concept of Aboriginal and non-Aboriginal students, mixed findings have been reported. In theory, given the areas of difficulty, particularly academic, which are experienced by many Aboriginal students, and the negative messaging described previously, their sense of self-competence may be assumed to be lower than their non-Aboriginal peers. A longitudinal study by Beiser, Sack, Manson, Redshirt, and Dion (1998) examined the psychosocial development of Aboriginal and non-Aboriginal elementary-aged children in Canada and the United States. They found the developmental trajectories of Aboriginal students' self-esteem, as divided into Instrumental Competence (reflecting a child's feeling that he or she is dependable and able to accomplish tasks) and Social Competence (ability to make and keep friends), differed significantly from those of non-Aboriginal students. Self-rated levels of both Instrumental and Social Competence were said to be commensurate for both Aboriginal and non-Aboriginal children at Grade 2. But by Grade 4, the non-Aboriginal children achieved higher scores than the Aboriginal students.

More recently, studies from the United States and Australia reveal that the self-concept or self-esteem of Aboriginal students may be higher (Bodkin-Andrews, Craven, & Marsh, 2005; Craven & Marsh, 2004; Purdie & McCrindle, 2004; Purdie, Tripcony, Boulton-Lewis, Fanshawe, & Gunstone, 2000) or lower than non-Aboriginal students (Bodkin-Andrews et al., 2005; Craven et al., 2005; McInerney, 2001). Such dichotomous research clearly points to the need for multidimensional operationalization of self-concept. For example, in a survey of students attending 17 secondary schools in Western Australia, Aboriginal students reported significantly lower academic self-concept in the areas of math, school, verbal abilities, and peer relations than their non-Aboriginal peers. However, the opposite relationship was found for general and physical self-concept as well as self-concept regarding artistic ability with Aboriginal students reporting significantly higher scores than their non-Aboriginal peers. Similar results have been reported both in Australia (Purdie & McCrindle, 2004; Purdie et al., 2000) and the United States (Bodkin-Andrews., 2010). Aboriginal students may see themselves as less competent in academic areas such as math and reading but equally or even more competent in a general domain or those related to family, peers, art, or physical competence.

While indications are that a significant positive relationship exists for Aboriginal students between self-concept and academic achievement, as it does for non-Aboriginal students, further research in this area is required. The present study aims to fill this gap in part by examining the association between these variables for groups of Aboriginal and non-Aboriginal students.

Self-Concept and Strengths

One approach to further understanding the relationship between self-concept and school-related outcomes such as academic achievement is a strengths-based perspective. The strengths perspective is consistent with the growing move away from continually documenting deficits, such as the academic and mental health difficulties experienced by many Aboriginal students, to identifying and adopting proactive approaches grounded in positive psychology (Craven & Marsh, 2008; Frederickson, 2001). Both the strengths perspective and positive psychology are based on the understanding that all individuals, even individuals who might experience difficulties in life, have areas of capability or assets that can be built upon to achieve growth and development.

While numerous theories and models related to the strengths-based perspective exist, Rawana and Brownlee (2009) defined strengths as “a set of developed competencies and characteristics that is valued both by the individual and society and is embedded in culture” (p. 256). Rawana and Brownlee (2010) included in their measure of strengths domains focused on personal strengths in areas of the child’s life such as, school, home, community involvement, faith and culture, and goals and dreams. Identifying strengths in domains of life functioning is consistent with the above definition of self-concept as a phenomenon that is influenced by environmental reinforcements and significant others, which would occur within different social contexts. A potentially significant aspect of the relationship between strengths domains, self-concept and academic achievement is that the domains may reflect aspects of the child’s world that are accorded varied relevance across cultures in relation to the self-concept. Rotenberg and Cranwell (1989) provided support for this differential perception of oneself. They reported that Canadian Aboriginal children emphasized and valued different personal attributes in relation to self-concept, as well as a greater external orientation, as compared to non-Aboriginal children. There has also been the suggestion that for Aboriginal students, self-concept develops more often from students’ perceptions of their relationships with family and their perception of being a valuable member of their community as opposed to the individual perception of competence more typical of non-Aboriginal students (Dvorakova, 2003). Kanu (2002), in her study with a group of First Nations students in a Winnipeg high school found that students described how, for them, the self was constructed in terms of interdependence, communality, and social relatedness. Thus strengths perceived by Aboriginal students in particular areas including family or community life may contribute to their overall sense of self-concept, far more so than non-Aboriginal students who may rely upon strengths in areas related to school or individual functioning.

Research in the area of strengths-based assessment and interventions is growing. The identification of strengths that influence self-concept and academic achievement may lead to more effective interventions as well as a better theoretical understanding of the relationships between these constructs. Exploring whether there are differences in the construction of self-concept between Aboriginal and non-Aboriginal students is a first step in developing this understanding. Accordingly, the current study explored the relationships between multidimensional self-concept, perceived strengths and academic achievement among a sample of Aboriginal and non-Aboriginal students in Northwestern Ontario. This study is particularly timely given the paucity of contemporary research focused on the self-concept of Aboriginal students, and the need to conduct research that allows for the identification and inclusion of student strengths in relation to achievement, rather than solely deficits.

Method

The current study consisted of a quantitative examination of self-concept, strengths, and achievement among a small sample of Aboriginal and non-Aboriginal students. Details regarding the participants, procedures, and measures are detailed next.

Participant characteristics

Participants in the study were recruited from two elementary schools in Northwestern Ontario. Approximately 30% of students at each school self-identified as Aboriginal. Of the approximately 352 potential student participants at the two schools, parental consent and student assent was obtained for 103, resulting in a return rate of 29%. Equal numbers of students participated at the two schools ($n = 50$ at school 1 and 53 at school 2) and no significant differences were found by Aboriginal status, gender, or grade. The average age of the student participants was 11.49 years of age ($SD = 1.67$) and equal numbers of male and female student took part. Information about Aboriginal status (Aboriginal or non-Aboriginal) was provided for 101 of the 103 students either through the Aboriginal Self-Identification process or by the student themselves on the demographic portion of one of the measures. Thirty-six students were identified as Aboriginal (36%) and 65 were identified as non-Aboriginal (64%); each group comprised equal numbers of male and female students as well as similar average ages (Aboriginal: 11.56 years, $SD = 1.42$; non-Aboriginal: 11.45 years, $SD = 1.27$).

Sampling procedures

The data for the present study were drawn from a larger study focusing on reducing bullying and violence in two elementary schools in northwestern Ontario. Because the anti-bullying intervention is not the focus of the present study, it will not be described here. The data was based on the initial survey data from the larger study. Students completed several measures related to their experiences with bullying, their behaviours, self-concept and their strengths in a number of domains. Students' report card grades were also collected as a measure of academic achievement.

Consent packages were sent home with all students in Grades 4 – 8. The consent packages invited parents to provide consent for their child or children to participate in the study. Students were included in the study if their parent/guardian had returned a signed consent form and if the student had also completed and signed an assent form. Participation was limited to students in Grades 4 – 8 because a number of the measures required the student to read and complete the form on their own, namely, they were what is described as self-report measures in the literature, and these measures required a Grade 4 reading level for accurate comprehension. Participation was also limited to students who were at least in Grade 4, given the developmental nature of self-concept described previously.

Variables Measured

Within this study, we concentrated on measuring three aspects of the student: self-concept, individual strengths, and academic achievement. Each are of these topics are discussed below.

Self-Concept. The measure chosen to assess student self-concept was the Self-Description Questionnaire – I (SDQ-I; Marsh, 1988). The SDQ is a multidimensional measure of self-concept for children and adolescents. The use of the SDQ-I and II among Aboriginal children and adolescents has been the focus of extensive research and it has been shown high internal consistency and test-retest reliability as well as extensive validity evidence (Bodkin-Andrews et al., 2005; Craven, Yeung, & Ali, 2008; Whitcomb & Merrell, 2013). In reviewing the SDQ-I, Byrne (1996) concluded that “in using the SDQ-I, researchers, clinicians,

counsellors, and others interested in the welfare of preadolescent children can feel confident in the validity of interpretation based on responses to its multidimensionally sensitive items” (p. 117). Although the SDQ-I comprises 11 subscales in three domains (Academic, Non-Academic and Global), only the peer and general factors were included in the present study.

The Peer Self-Concept scale of the SDQ-I (Marsh, 1988) measures “student perceptions of how easily they make friends, their popularity, and whether others want them as a friend” (Marsh, Craven, & Debus, 1998, p. 1051). The Peer Self-Concept scale consists of nine items, which were rated by students on a five point scale ranging from 1 = *false* to 5 = *true*. Items include (a) I have lots of friends, (b) I make friends easily, and (c) Most other kids like me. Cronbach’s alpha was reported by Marsh (1990) as 0.85. In the present study, Cronbach’s alpha was 0.88, with no significant differences between internal consistency for Aboriginal and non-Aboriginal students.

The General Self-Concept scale of the SDQ-I is intended to measure “student self-perceptions of themselves as effective, capable individuals who have self-confidence and self-respect and are proud and satisfied with the way they are” (Marsh et al., 1998, p. 1051). Students responded to 10 items on a five point scale ranging from 1 = *false* to 5 = *true* including (a) Overall I am no good, (b) I can do things as well as most other people, and (c) A lot of things about me are good. Marsh (1990) reported Cronbach’s alpha for the factor as 0.81. In the present study, Cronbach’s alpha was 0.88, with no significant differences between internal consistency for Aboriginal and non-Aboriginal students.

Student strengths. Student strengths were assessed using the Strength Assessment Inventory (SAI; Rawana & Brownlee, 2010), which is a measure that has seen increasing use with children and youth across Ontario and beyond as an effective approach to documenting perceived areas of competence (Anderson, Rawana, Brownlee, & Whitley, 2010; Brazeau, Teatero, Rawana, Brownlee, & Blanchette, 2012; Rawana & Brownlee, 2009; Rawana, Latimer, Whitley, & Probizanski, 2009; Welsh, 2003). The SAI differs from similar measures in that it “provides a comprehensive assessment of strengths that are intrinsic to the individual as well as strengths associated with an individual’s interaction with his or her environment” (Brazeau et al., 2012, p. 384). Eight domains of the SAI were included: (a) *School*, (b) *Peer Relationships*, (c) *Leisure/Recreation*, (d) *Personality Functioning*, (e) *Home*, (f) *Community Involvement*, (g) *Faith & Culture*, and (h) *Goals and Dreams*. The SAI contains descriptions of characteristics or behaviours (e.g., When I set goals, I try hard to reach them; I have a good sense of humour) that indicate strength in a particular area of functioning. Students responded on a three-point scale ranging from *Not At All* to *Almost Always*. Scores were calculated for each domain to indicate areas of relative strength for children. The SAI has been found to have good internal consistency and acceptable to good levels of test-retest reliability among samples that include Canadian Aboriginal children, a claim that cannot be made for other measures (Anderson et al., 2010; Brazeau et al., 2012; Welsh, 2003).

Academic Achievement. Academic achievement was assessed through student grades, which were obtained from student report cards. Numerical grades were provided for students in Grades 7 and 8, and letter grades for students in Grades 4, 5 and 6. Letter grades were transformed into numerical grades to allow for quantitative analyses by choosing the midpoint of each grade range. For example, a grade of B- represented a mark range of 70 to 72 (Ontario

Ministry of Education, 1998), so a 71 was assigned for each B-. The academic average used in the present analyses was obtained by calculating the mean of the three strands of English Language Arts (i.e., reading, writing, oral/visual communication), one strand of Mathematics (i.e., number sense/numeration) and Science and Technology. These subjects/strands were chosen because they appeared in all reporting periods, for students in every elementary grade (4 through 8).

Limitations of the Study

Generalization of findings from this study is limited due to the small number of participants, particularly those who were Aboriginal. Also, the experiences of students in an urban setting in Northwestern Ontario may not extend to students in more rural or remote settings or in larger centres across Canada. As such, findings should be viewed as providing suggestions for potential areas for future research as well as identifying elements to explore when developing interventions for students struggling academically.

Findings

Descriptive analyses were first conducted in order to explore the self-concept, the eight domains of perceived strengths and academic achievement of Aboriginal and non-Aboriginal students. Next, the contribution of Peer Self-Concept, perceived strengths, and academic achievement to General Self-Concept was assessed using a regression analysis.

Mean scores on all variables were not found to differ significantly across school, gender, or grade so we analysed the data as a single set. Of the 101 students who were eligible to participate in the study, complete data on the self-concept and strength variables was available for 96 (32 Aboriginal and 64 Non-Aboriginal) and academic achievement data was available for 81 (29 Aboriginal and 52 Non-Aboriginal). Missing data for the self-concept and strength data was largely due to student absence; a greater number of Aboriginal students were absent as compared to non-Aboriginal students. For academic achievement, data were generally missing due to incomplete student records because of recent moves, school changes, etc. We decided to deal with missing data for the regression using pairwise deletion of cases as a visual inspection of the data identified no particular pattern. For Aboriginal students, sample sizes ranged from 30 to 32 for self-concept and strength scores respectively; for non-Aboriginal students, sample sizes ranged from 62 to 64.

Average scores on all variables were calculated for both groups and a univariate analysis of variance was conducted with a Bonferroni adjustment for multiple comparisons applied ($.05/11 = .005$). Effect sizes calculated using Cohen's d (1969) were small to moderate; results can be seen in Table 1 below. Students in both groups were generally similar in their self-concept and perceived strengths; significant differences were found for strengths at School, strengths in Personality Functioning, and strengths in Goals and Dreams, as well as academic achievement with non-Aboriginal students reporting higher scores in these areas.

In order to assess the influence of Peer Self-Concept, perceived strengths and academic achievement on General Self-Concept, two stepwise regression analyses were conducted; one for Aboriginal and one for non-Aboriginal students. The resulting models were significant and

explained approximately 63% of the variance in General Self-Concept for Aboriginal students and 61% for non-Aboriginal students. For Aboriginal students, the sole variable in the significant model, $F(1, 26) = 42.27$, $p < .001$, was strengths in Faith and Culture. For non-Aboriginal students, the two variables that comprised the significant model, $F(2, 49) = 36.93$, $p < .001$, were strengths in Personality Functioning and Peer Self-Concept.

Table 1

Ratings of self-concept, strengths and academic achievement by group

	Aboriginal		Non-Aboriginal		F value	Effect size (<i>d</i>)
	Mean	SD	Mean	SD		
Self-Concept						
General	3.91	.72	4.20	.73	3.26	0.20
Peer	3.70	.69	3.84	.78	0.74	0.10
Strengths						
School	32.69	4.88	35.67	3.68	11.13*	0.35
Peer Relationships	24.59	3.44	26.12	3.26	4.64	0.23
Leisure/Recreation	42.37	5.74	44.30	6.44	2.05	0.16
Personality Functioning	42.01	6.86	46.70	6.51	10.44*	0.35
Home	29.30	3.97	31.15	3.72	5.04	0.24
Community Involvement	14.53	2.76	14.78	2.23	0.22	0.05
Faith & Culture	23.62	4.08	23.52	4.53	0.01	-0.01
Goals and Dreams	16.34	3.67	19.17	2.06	22.96*	0.49
Academic Achievement	70.15	5.99	75.48	6.81	12.41*	0.42

* $p < .001$

Discussion

Descriptive Analyses

Our analyses revealed several interesting findings. First, the General Self-Concept of Aboriginal and non-Aboriginal students were not significantly different. Peer Self-Concept was also similar between groups. While small sample sizes limit the generalizability of these results, this finding is positive and indicates that on average, students in this sample, regardless of whether they were Aboriginal or non-Aboriginal, felt a strong sense of self-worth and competence. It also aligns with the findings of other studies, largely conducted outside of Canada, where Aboriginal students were found to have similar or higher levels of general self-concept as compared to non-Aboriginal students (e.g., Bodkin-Andrews et al., 2005; Corenbaum & Annis, 1993; Craven & Marsh, 2004).

In contradiction, however, while student reports of perceived strengths were also largely similar, Aboriginal students reported fewer strengths in the area of *Personality Functioning*. This domain focuses on a students' sense of themselves as generally capable, positive, self-aware individuals. Items assessing this domain include: (a) *I am happy about life*, (b) *I know my own strengths*, (c) *I can ask for help when I need it*, (d) *I can tell right from wrong*, and (e) *I can cope when something happens that makes me very sad*. While the strengths measure is more behaviourally-based and less evaluative than the General Self-Concept measure, it is a similar and likely overlapping construct. Lower scores in this domain (Aboriginal students: $m = 42.01$ for; non-Aboriginal students: $m = 46.70$; $F(2, 7) = 10.44$, $p < .001$; $d = 0.35$) indicates that on average, Aboriginal students in the current sample believe that they have fewer skills in terms of self-awareness and ability to moderate their own thoughts, feelings, and actions. As little research has been done in this area, it is not possible to determine if this finding is consistent with other findings and might generalize to other Aboriginal students. However, as noted previously, it suggests that exploring the general self-evaluations of students through various measures and lenses may allow for a more complete understanding of student self-perceptions. It is also important to note that Aboriginal students may not place as much value on strengths in this area of functioning, as it is focused on individual competencies and at odds with a cultural emphasis on collective well-being (Dvorakova, 2003; Kanu, 2002).

Significant differences were seen in two other strengths domains: Strengths at School and strengths in Goals and Dreams, with Aboriginal students reporting lower scores in both. Academic achievement was also significantly lower for the Aboriginal group on average. As was described previously, the Strengths at School domain included items related to pro-social classroom skills and connectedness with school. Items include (a) *I study for tests*, (b) *I can read at my grade level or higher*, (c) *I do my homework*, and (d) *I enjoy school*. It is not surprising, therefore, that students who have been assessed by their teachers as performing relatively poorly academically, have a perception of themselves as possessing fewer strengths in relation to school. A study by Craven and her colleagues (2005) also reported that while general self-concept was similar, Aboriginal students reported lower competence in school. It is not possible to determine causation in this instance; as described by Wigfield and Eccles (2000) in their expectancy-value model, students who feel they do not have the skills to succeed in class and who feel less involved in their school may feel less motivated, exert less effort in academics, and ultimately perform more poorly academically. Thus poor academic self-concept may lead to academic difficulties. The reverse is also true of course, students who consistently struggle academically develop a poor sense of competence in relation to school; thus academic difficulties may lead to lower academic self-concept. This explanation is supported by findings emerging from work by Marsh and his colleagues (Guay, Marsh & Boivin, 2003; Marsh, 1990; Marsh, Hau & Kong, 2002) focused on the Reciprocal Effects Model, which hypothesizes the reciprocal and mutually reinforcing causal relationship of academic self-concept with academic achievement.

That Aboriginal students reported general self-concept that was similar to their peers, but significantly poorer self-perception in school functioning, speaks to the importance of using multidimensional models of self-concept and may also be explained within the previously described theories of Marsh and Shavelson (1985); Harter (2012; 1998), and Eccles (1984). All describe the key role of the environment, particularly the perceptions and judgements of significant others, on the development of self-concept. The group of Aboriginal students in the

current study were assessed by their teachers as being less successful academically (using report card grades), relative to their non-Aboriginal peers. Thus students are likely receiving messages from their teachers and through peer comparisons about the difficulties they are experiencing and the areas of schooling where they need to improve. This feedback then becomes internalized by the students who begin to judge their school-based strengths in more negative ways.

Students' relatively low self-rating of strengths at school is a cause for concern, particularly when viewed in tandem with a lower sense of competence in the Goals and Dreams domain. This domain reflects the level of aspiration students hold for themselves, as well as their perception of the skills they possess in self-regulating their learning, particularly planning and goal setting. Students who are poor at goal-setting and self-regulating their learning typically exhibit lower motivation and report lower self-efficacy (Zimmerman, 1990). They often feel unable to actually develop and implement strategies that would enable them to complete academic and non-academic tasks competently, and generally have significantly lower academic achievement as a result.

In the expectancy-value model of achievement-related choices developed by Eccles, Wigfield and others (Eccles & Wigfield, 2002; Wigfield & Eccles, 2000, 1992), students' academic persistence and performance on tasks is influenced by their expectations of success and their valuing of the task which are in turn influenced by their self-evaluation of competence, goals, and socialization factors such as stereotypes. It can be expected then, that students who are unsure of how to set goals, who see themselves as less capable than their peers in terms of school success, and are less connected to school are more likely to do poorly academically and to make academic choices (e.g., whether or not to study, whether or not to attend a class, what courses to select) that are less likely to engender success.

Regression Analyses

With respect to the regression analyses, findings indicated that the variance in General Self-Concept was influenced differently depending on students' Aboriginal identification. Students in the non-Aboriginal group drew on strengths in *Personality Functioning* to comprise their sense of self. This finding is expected given the complementary nature of the General Self-Concept and *Personality Functioning* constructs described previously. Students who are aware of and able to moderate their own thoughts, feelings, and actions, who report being happy, hopeful and confident, are likely those who have a positive sense of self-worth. Peer Self-Concept also made a significant contribution to General Self-Concept which is to be expected given previous research (Marsh, Craven, & Debus, 1998; Marsh & McDonald-Holmes, 1990); students with more positive perceptions of their peer relationships, who have greater facility in developing friendships and feel that they are liked by others, overall feel better about themselves.

For students in the Aboriginal group, the sole variable that contributed significantly to self-concept was strengths in *Faith and Culture*. What is interesting and unique about this strength domain is that it is not specific to any particular cultural group or practice. It assesses the beliefs, practices, and perspectives of students related to faith and culture. Items include (a) *I pray or go to worship with others*, (b) *I feel I am part of a culture that is special*, (c) *I think it is important to honour my culture*, and (d) *I am proud of who I am and where my people came from*. There were no differences between the levels of strength reported by students on this domain. In fact, mean scores were almost identical (Aboriginal group, $M = 23.50$, $SD = 4.08$;

non-Aboriginal group, $M = 23.63$, $SD = 4.53$). However, the students in the Aboriginal group drew more strongly on this area of their lives in the development of their sense of worth and competence as an individual than non-Aboriginal students did.

Although there is little existing research that aligns with the above finding, it may support the assertions of researchers and theorists who believe that students who identify with, place value on, and take part in practices related to any cultural group will hold a more positive view of themselves as a result. The fact that previous studies do not support this finding may relate to the type of measure employed. For example, two recent studies, Jones and Galliher (2007) and Rumbaugh Whitesell et al. (2009) used the Orthogonal Cultural Identification Scale (OCIS; Oetting & Beauvais, 1990-1991), which was developed to assess immersion and feelings of success in the American Indian culture. Students respond to six items on a four-point scale regarding their involvement in and knowledge of cultural values, traditions, and activities as well as their subjective capacity to be successful in the culture. Items include (a) *Does your family live by or follow an American Indian way of life?*, (b) *Some families have special activities or traditions that take place every year at particular times. How many of these special activities did your family have when you were growing up that were based on American Indian culture?*, and (c) *Is your family a success in the American Indian culture?* These types of questions rely heavily on the knowledge and identification of respondents with a particularly defined culture rather than in individuals who have a broader view of cultural belonging as is used in the present study.

Perhaps it is the perception of the student as belonging to a group that they value, rather than their identification with an Aboriginal culture specifically, that relates to self-concept in the present study. This point may be particularly the case for students who have been raised, or who are living in an urban setting away from their families' First Nation reservation and who may not identify overtly with specific practices or terminology associated with First Nations cultures. Results of a few Canadian studies support this interpretation. For example, research conducted by Berry (1999) captured the perceptions of groups of Aboriginal adult and youth from various parts of Canada through a number of learning circles. Participants described the positive impact of a strong cultural identification on their sense of self and how this empowered them. However Belanger, Barron, McKay-Turnbull, and Mills (2003) interviewed groups of urban youth in Canada and found that approximately half equated Aboriginal culture with traditional pursuits (e.g., smudging, attending powwows) and half associated culture retention with becoming involved with programs focused on urban Aboriginal youth. Thus, participants perceived an association with Aboriginal culture in very different ways.

However participants in the present study viewed or defined their participation in Aboriginal culture, they placed great value on their strengths in the *Faith and Culture* domain and drew upon it in developing their relatively positive overall sense of self. This is an important finding as it allows insight into the construction of self-concept among a group of Aboriginal students, which has been largely missing from the research literature to date, and potentially informs school-based programs and interventions targeted at improving academic success for this group.

The absence of the influence of other variables, such as *School Functioning* or *Peer Self-Concept*, on *General Self-Concept* for the Aboriginal group is also notable. Recognizing that student self-concept may be developed in ways that are different than those of the mainstream, non-Aboriginal cultures; for example, that a students' perception of their peer relationships or of

their efforts and achievements in schools do not significantly impact their self-concept shifts our understanding of how to intervene effectively for students who do struggle with poor self-worth. Given the academic difficulties experienced by many of the Aboriginal students in the study, this finding also aligns with research that demonstrates the tendency of students with high self-concept to discount areas of weakness. By not drawing heavily on *School Functioning*, but instead drawing on an area of relative strength which they value, students are better able to maintain a positive overall sense of self (Harter, Whitesell, & Junkin, 1998). While many explanations and hypotheses can be posited to explain the current findings within existing literature and theory, this is, of course, one study based on the self-perceptions of a relatively small group of students, in one particular geographic location. Further research is necessary to explore and confirm the current findings.

Educational Implications

It is important to recognize that, while discussed as a group in this paper, heterogeneity of experiences and self-perceptions exists among both Aboriginal and non-Aboriginal students. Nonetheless, the present findings allow for several threads of discussion regarding educational programming and interventions. First, both groups of students in the sample reported many areas of strength, which, if identified and valued by classroom or resource teachers, can provide direction in terms of developing programs that stem from areas of competence and wellbeing, rather than focusing primarily on academic areas where students may experience frustration and low self-perceptions (Latimer et al., 2009).

Given the lowered average academic achievement, as well as relative weaknesses in Strengths in School Functioning and Goals and Dreams reported by Aboriginal students, it is important that educators recognize the possibility that some Aboriginal students may experience difficulties in a school system that may not align with their traditional ways of learning and the measuring of competence and success (Battiste & McLean, 2005; Canadian Council on Learning, 2009; Kanu, 2002; Toulouse, 2010). Given the intergenerational effects of the residential school system in Canada, many families may view collaboration with school staff and a focus on success in mainstream, off-reserve schools with suspicion or as a low priority (Battiste & McLean, 2005; Brown, Rodger, & Fraehlich, 2009; Goddard & Foster, 2002). These issues are exacerbated by fact that few teachers in off-reserve school settings are Aboriginal and consequently the availability of staff with in-depth understanding of Aboriginal cultures may be limited, also resulting in few school-based role models for Aboriginal students (Ryan, Pollock, & Antonelli, 2009; St. Denis, Bouvier, & Battiste, 1998). Providing authentic, culturally relevant opportunities for families to collaborate with teachers may allow for a shared understanding of the strengths and needs of individual students as well as the goals of the education system in general. As well, involving students, families, and Aboriginal staff members in developing culturally relevant approaches to delivering the provincial curricula may prove valuable for the learning of some Aboriginal students.

Research has also documented the racism and prejudice that exists in many schools and broader communities where Aboriginal students are viewed as less capable and lowered expectations of their success are held by their teachers and other members of the communities (Battiste & McLean, 2005; Brown et al., 2009; Richards et al., 2010; Richardson & Blanchet-Cohen, 2000). It is therefore important that school staff develop an awareness and understanding of these potential barriers by exploring the ways in which students are taught, the messages

students receive within and beyond schools with respect to competence and worth, and the valuing of student interests and strengths. In doing so, school staff move beyond a potentially surface-level peppering of cultural icons or celebrations, or what Battiste and McLean (2005) refer to as the 'add and stir' model of education.

One finding not previously reported in other studies is that Aboriginal students draw on their strengths in *Faith and Culture* to develop and maintain their General Self-Concept. In turn, this finding indicates that emphasizing and valuing the strengths of students in this domain may be an avenue to improve self-concept, goal-setting, school engagement, and academic outcomes. It also suggests that a view of oneself as belonging to a group and being connected to shared practices and spiritual beliefs (a collective view) does have a strong influence on general self-concept (an individual view). Incorporating First Nations cultures into schools, including the teaching of traditional languages, practices, and values as well as focusing on the development of the whole child (spiritual, social, physical, and cognitive) with the collaboration of families and communities may demonstrate to students that their faiths and cultures are important. Interventions that are developed for Aboriginal students need to consider the primary role and valuing of the spiritual and cultural elements of their families and lives, as is the case for students of many cultural backgrounds. These interventions may serve to improve and maintain the self-concept of students from both Aboriginal and non-Aboriginal cultures. The need for this type of approach is supported by recent Canadian reports (Battiste, 2002; Canadian Council on Learning, 2009) and will hopefully continue to infuse and permeate classrooms across the country in the years to come.

This study, while modest in scope, adds to the growing body of research exploring the experiences and perceptions of Canadian Aboriginal students. The academic difficulties experienced by many Aboriginal students have been well-documented, and research that moves beyond this to understanding the relationships between achievement and other key factors such as self-concept, is necessary. Self-concept has long been identified as a key factor in the motivation and success of non-Aboriginal students and the current study demonstrates that, for one group of students, overall self-perceptions are similarly positive for Aboriginal and non-Aboriginal students. This study makes a unique contribution by identifying the key influence of strengths in Faith and Culture to the self-concept of Aboriginal students and thus provides an avenue for future research and potentially more effective psychosocial and academic interventions.

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