

Cultural Identity, Intelligence, and Self-Esteem: Towards Enriching the Understanding of

Academic Outcomes in a Community of First Nation Students

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Abstract

Cultural identity, intelligence, and self-esteem were examined in a proposed model of academic success among 53 First Nation adolescents from northern Quebec. Intelligence and cultural identity uniquely affected academic success, whereas self-esteem was not associated with academic success. The findings support the growing literature on cultural identity as a protective factor to academic outcomes and the well-being of First Nations students, and point towards the importance of culturally compatible programs for First Nations students.

Résumé

L'identité culturelle, intelligence, et l'estime de soi ont été examinées dans un modèle proposé de réussite scolaire parmi 53 adolescents des Premières Nations du Nord-du-Québec. Les résultats de l'étude ont révélé que l'intelligence et l'identité culturelle ont uniquement touché la réussite scolaire, mais en contraste, l'estime de soi n'a pas produit d'effet appréciable. Les résultats confirment, comme de plus en plus de littérature sur l'identité culturelle, un facteur de protection pour les résultats scolaires et le bien-être des élèves des Premières nations, et nous orientent vers l'importance de programmes culturels compatibles pour les étudiants des Premières Nations.

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Introduction

Learning is a 'total way of life' (Okuma, 2000) among many Aboriginal¹ peoples that involves a constant social interaction with others in their respective cultures. For example, Okuma (2000) writes that the Nisga'a² view school education as a part of the lifelong learning process of an individual. Aboriginal peoples have distinctive histories, languages, cultural traditions and identities that are linked to community, traditional knowledge, and the land. Traditionally, the combination of these factors held a key role in the teaching and learning process of Aboriginal peoples (Pewewardy, 2002). Within many Aboriginal communities, the role of cultural identity is seen as contributor to academic success (Antone, 2000). It is understood as essential in meeting the academic needs of Aboriginal students and in providing an effective education (Goulet, 2001).

Research on culture and education is focused on distinguishing the factors that may account for the gap in educational achievement of students from different cultural backgrounds (Warikoo & Carter, 2009; Whitesell, Mitchell, Spicer, & The Voices of Indian Teens Project Team, 2009). In Canada, Aboriginal students are reportedly at a higher risk for high school drop out and lower levels of school attainment relative to the mainstream population. According to the 2006 census figures for First Nations living on reserve, graduation rates have largely remained unchanged since the previous census of 2001 (Statistics Canada, 2008). Mendelson (2008) reports that approximately 60 percent of First Nations on-reserve residents aged 20 to 24 in Canada reported not having completed high school. Non completion of high school has far reaching ramifications including limited economic opportunities (Fryberg & Markus, 2003), as well as negative effects on the overall mental health and well-being of the student (van der Woerd & Cox,

2003).

There has been an increase in research pertaining to success (e.g., academic success) among Aboriginal youth that underscores their strength and resilience (Fryberg & Markus, 2003). For example, many personal, familial, and community factors have been identified as contributing to the academic success and psychological well-being of Native American³ adolescents (Lafromboise, Hoyt, Oliver, & Whitbeck, 2006). Given the considerable cultural diversity between groups of Aboriginal peoples of Canada (Mushquash & Bova, 2007), these factors need to be examined on a community-to-community basis. Moreover, understanding the trajectories to academic success within the current academic setting of each First Nation community can help to further develop and refine curricula that can better enhance educational outcomes, and ultimately, contribute to the well-being of First Nations youth more generally.

One such factor, noted to contribute to academic success is that of cultural identity, which for the purposes of this study is defined as the degree to which the person's self-concept incorporates the culture (Whitbeck, Hoyt, Stubben, & LaFromboise, 2001). Cultural identity is integral to distinguishing First Nations of Canada as separate peoples from the rest of society. It has been examined as a protective factor that promotes academic success and strength of First Nations students. Researchers must understand the local environment where learning takes place and know how culture plays out in these settings in order to foster or refine successful pedagogies (Baydala et al., 2009) and better understand its role in developing the students' understanding of the world. One means of understanding the relationship between culture and learning among First Nations youth is through the theoretical perspective of

social constructivism and a historical overview of Aboriginal education. In this introduction, I will provide a theoretical foundation for the present study through: 1) a discussion on social constructivism as it relates to the Aboriginal context; and 2) a background on the early history of the educational policy of Aboriginal Education in Canada. To further frame the context as well as the measures used in the present study, the concepts of cultural identity, intelligence, and self-esteem will be discussed as predictors to academic success. This introduction will conclude with an overview of the present study and the study hypotheses.

Social Constructivism, Culture, and Aboriginal Peoples

Social constructivism, whereby students bring their world knowledge to their learning context parallels the traditional holistic philosophies of the learning of some First Nations peoples. In this context, learning happens socially, as social elements are used to comprehend learned material. According to this theory, the human mind can be viewed as a cultural and historic product of the continual transformation of the humans within the learning process, which in turn, transforms their respective cultures and histories through social interactions (Nasir & Hand, 2006; Peters, 2007). While culture is often reproduced from generation to generation, it can also be transformed as individuals actively respond to the social world (Nasir & Hand, 2006). Culture is learned, and more specifically, learners learn 'how to learn' through processes that occur within societies (Vygotsky, 1986). Vygotsky emphasized the role of social interactions in learning when he claimed that children form their learning from everyday interactions with parents, other adults, and peers in their community, and are guided by resources and tools around them (Grosser & Lombard, 2008). Language serves as the primary cultural tool and

medium for transmitting meaning and concepts. Moreover, patterns of social interactions are transmitted from one generation to the next through language.

This worldview of social constructivism parallels the traditional holistic philosophies of some Aboriginal groups. Traditional education prepared Aboriginal children to live successfully within their respective societies through experiential learning and an oral tradition system. For example, children were informed of techniques and locations related to hunting, fishing and gathering by elders and community members. Accordingly, the representation of the self among Aboriginal peoples is visibly grounded in the historical and cultural social context (Fryberg & Markus, 2003). Fryberg & Markus (2003) note that people acquire cultural specific forms of identity through their interactions with institutions that reflect patterns of historically derived ideas, practices, and artifacts.

History of Educational Policy of Aboriginal Education in Canada

The experiences of First Nations peoples with education highlights the evolution of what is currently determined to be essential to their learning and identity. The time prior to the first European contact has been described as a time when spiritual, educational and political practices were thriving for Aboriginal peoples (Montour, 2000). The education of Aboriginal children was tied to a place, spiritual beliefs, values and the needs of the community (Montour, 2000). In contrast, the residential school era marked a time in which education was the tool for assimilating Aboriginal peoples, with the attempted abolishment of their languages and cultural traditions (Ormiston, 2002). Many injustices in the treatment and harsh practices toward Aboriginal students and their families were common. Generally, it included the forced removal of over 150,000

Aboriginal children from their families (Parliament of Canada, 2008), who were sent off to federally-funded church-run residential schools. The devastating effects on Aboriginal students, families, and communities have been long-lasting and include loss of language and culture, alcoholism, disruption in parenting abilities, as well as adverse psychological effects on subsequent generations (Kirmayer, Simpson, & Cargo, 2003).

The movement for assimilation of First Nations students changed in 1951 with the amendment of the *Indian Act* policy that included the integration of First Nations students into provincially run schools alongside students from the mainstream population (Okuma, 2000). This policy change was designed to facilitate a prompt integration of First Nations people into the dominant society. Despite major advances in the past few decades, the current framework of Aboriginal education as a truly different kind of education is limited due to the control of funding by the federal and provincial governments (Orminston, 2002).

The Predictors of Academic Success: Cultural Identity, Intelligence, and Self-Esteem

Academic success is seen as relevant to long-term personal adaptation to contemporary Western society (Masten & Powell, 2003). Cultural discontinuity theory between the mainstream education and the cultural values of Aboriginal students is cited as an explanation for the lack of academic achievement (Powers, 2006). According to this theory, minority children (e.g. Aboriginal students) often enter into a school system that promotes the values of the majority culture rather than those of their cultural background. This clash of cultures leads a student to feel forced to choose one culture at the expense of the other.

Several researchers, along with First Nations communities, have noted that the bridging of traditional knowledge and western education is essential for academic success (Melnechenko & Horsman, 1998). For example, Battiste (2002) noted that where Aboriginal languages, heritages, and communities are respected, supported and connected to elders and education, educational success among Aboriginal students can be found. Similar claims have been echoed by other researchers who noted that the ability for First Nations students to navigate the differences in values and ideals between their own communities and mainstream culture may be the key to successful adaptation (Huffman, 2001). Thus, Aboriginal students must have the ability to “walk in two worlds” (Okagaki, Helling, & Bingham, 2009), maintaining a strong cultural identity and participating in the mainstream culture.

Cultural identity as a predictor of academic success.

Evidence from studies on resilience reflects the critical role of culture in the learning process of students, as students with a strong cultural identity were found to thrive academically. For example, Whitbeck et al. (2001) developed and investigated a resiliency model of academic success to examine the role of culture in a sample of 196 American Indian children between grades 5 and 8. They found that an increased identity with traditional culture was positively associated with school performance.

Culture is a complex construct, comprised of multiple dimensions, that provides one with a unique way of viewing and interacting with the world. It has been defined as “a way of life of a people...including the people’s behaviour, the things they make and their ideas” (Rosman & Rubel, 1995, p. 5). Current understandings involve viewing culture as a dynamic process created in moments of life (Nasir & Hand, 2006), as well as

being carried by the individual. Cultural identity is the degree to which the person's self-concept incorporates the culture and constitutes one dimension of enculturation (Whitbeck et al., 2001). Although this project cannot capture the many levels of culture, nor its extensive influence on cognitive ability, the goal is to provide an index of the effects of cultural identity on the learning process in a mainstream style high school.

In contrast to cultural identity, acculturation refers to the process of cultural change that occurs as two cultures encounter each other over an extended period of time (Berry, 2001). It includes the process of assimilating new ideas into an existing cognitive structure. However, the construct of acculturation in relation to Aboriginal peoples is more commonly understood to include the process in which "the Aboriginal child sheds enough of his Aboriginal traits to enable him to function like Whites within the mainstream society" (Ormiston, 2002). This continues to be a risk for First Nations of Canada.

Powers (2006) examined whether culturally based programming was a predictor in academic success in American Indian students and whether cultural identity moderated the effects of culturally based programs. These variables were measured with a well-validated survey, the National American Indian Adolescent Health Survey, in a sample of 240 American Indian students between the ages of 9 to 18 who attended an urban public school. Powers (2006) found that cultural programming influenced academic success among urban American Indian students and was more strongly associated to positive educational outcomes for students who identified strongly with their culture.

Intelligence as a predictor of academic success.

Intelligence (general intelligence; *g*) is regarded as a stable characteristic of individuals that is understood as involving complex cognitive abilities such as: problem solving, understanding complex instructions, and ability to learn (Eysenck, 1982). It is measured through intelligence quotient (IQ) testing and is mainly used to predict the academic achievement of students as well as other social outcomes (Neisser et al., 1995). The extent to which intelligence is a result of hereditary or environmental factors continues to be debated in scientific literature. There is, however, empirical evidence that IQ scores can be substantially affected by environmental factors in some cases (Suzuki & Aronson, 2005). This notion is consistent with the cultural-environmental perspective (Suzuki & Aronson, 2005) that conceptualizes intelligence as involving the ability to adapt to one's environment (Sternberg, 1988). As cultures provide different environments, the view of intelligence differs considerably (Senior, 1993, Neisser et al., 1995). For example, while the western perspective might consider intelligence as doing well in school, Aboriginal cultures might consider intelligence in terms of the knowledge that is acquired through direct experience in relation to the natural world (Barnhardt & Kawagley, 2005). Such cultural differences need to be taken into consideration when IQ testing is used.

Cultural factors inherent to IQ tests underscore the need for the use of culturally-fair IQ tests which are said to be more appropriate and effective in assessing intelligence in students of other cultural backgrounds. Several examples of research highlight the misuse of IQ testing. For example, in a longitudinal study of the relationship between IQ and academic achievement, self-perceived competence and depression, Beiser, Sack,

Manson, Redshirt and Dion (1998) found that First Nations students scored lower on IQ tests as compared to the majority population. However, this finding does not signify that First Nations students are inherently lower in intelligence, but rather that the assessment tool used in the study may have been culturally inappropriate for First Nations students. Indeed, while caution should be used when using and interpreting standardized tests in Aboriginal populations (Mushquash & Bova, 2007), the use of quantitative measurements when administered respectfully can provide valuable understandings of unobservable phenomena.

Self-esteem as a predictor of academic success.

Global self-esteem is defined as an individual's overall feeling of high or low self-worth (Lockett & Harrell, 2003). Cultural identity has been noted to contribute to a high self-esteem, which is said to make students more likely to succeed by increasing other personal qualities such as competences and coping skills.

Fryberg and Markus (2003) studied the representations of self between East Asian and American Indian university students. They found that American Indians were more likely than East Asians to emphasize interdependence in their self-descriptions. However, they also expressed some type of individuality in their descriptions. In examining their possible selves, American Indians generated more possible selves related to failure as well as to social and structural inequalities compared to East Asians. These findings support the notion that some American Indian self-representations include a number of independent and interdependent aspects. Furthermore, the degree to which these aspects define an individual is a delicate balance that differs among various groups

of American Indians depending on their respective social context (Fryberg & Markus, 2003).

In a longitudinal study, Whitesell et al. (2009) examined the effects of self-esteem and cultural identity on academic achievement among 1611 American Indian students from three different tribal communities of the United States. The participants were tested in 6 waves over a 3-year period. The findings suggest that self-esteem was strongly related to academic achievement, but no relationship was found between American Indian identity and academic success. Whitesell et al. provided valuable insights into the role of cultural identity and self-esteem, but did not examine how intelligence affected the model of academic success. Additionally, academic success in this study was obtained through self-reported grade point averages rather than actual grades. Whitesell et al. speculated that the participants might have underreported their achievements in keeping with their cultural values of humility. Measuring academic success in terms of actual grades could provide a more accurate reflection of a student's academic success.

The Present Study

First Nations peoples have historically taught their children through social interactions. Social, cultural and historical factors have shaped the current framework of education for First Nations peoples. While many gains have been made in terms of the education of their children, there are still concerns about the academic success of First Nations children. Cultural identity, intelligence, and self-esteem were examined as factors that promote academic success and strength of in a sample of First Nation students. Understanding the social context in which learning takes place and the

significance of these variables within this setting could offer further support for the need for culturally specific programs.

The present study is part of a larger longitudinal examination of the risks and resilience of First Nations youth. The goal of this project is to provide a current examination of the relationship among cultural identity, intelligence, self-esteem, and academic success. Intelligence was chosen as the marker in the cognitive domain, and identity with First Nation culture as the marker of cultural domain. The cognitive and cultural domains were examined in relation to academic success among students in grades 6 through secondary 5 (grade 11) in the remote school. While academic success is viewed as a westernized concept, the community requested this program of research in order to gain a better understanding of the contributors of success.

Empirical evidence regarding the unique and shared contributions of cultural identity, intelligence, and self-esteem to academic success will be examined through a regression model. A theoretical order of importance of these variables was used for the regression analysis. Intelligence was entered first since it is noted to contribute the largest effect on academic success followed by cultural identity and self-esteem. A second regression analysis was performed to determine the contribution of acculturation (other-group orientation) in place of cultural identity. An examination of the influence of culture within the current educational system will further inform educators and administrators regarding the importance of developing education for First Nations students to their respective ecological contexts. In order to maintain the confidentiality of the participants and community involved in the present research, the name of the nation cannot be disclosed.

Hypotheses

In line with previous research (Whitbeck et al., 2001), children who report stronger cultural identity were expected to display higher scores of academic success relative to students with lower cultural identity. In addition, intelligence and self-esteem were expected to be predictors of academic success within the context of a mainstream school, each of which revealing a positive relationship with academic success.

Method

Participants

The participants in this study included 53 students (25 males), ranging from 11 to 17 years of age with a mean age of 13.89 ($SD = 1.71$), at the time of the study. All the participants were studying in a remote school in their community in northern Quebec. All the participants self-identified as First Nations, and as having at least one First Nations parent. The school's instruction is exclusively in the community's language until grade 2. In grade 3, the majority of the curriculum is taught in English, and beginning in grade 4 until graduation, the curricula is dictated by the provincial government. The number, grade, and age of students are presented in Table 1.

Measures

The participants completed a series of self-report questionnaires that were selected by the researchers, in collaboration with school administrators. Data were also obtained from school records.

Measure of academic success.

Academic success was assessed through school grades. School grades during the academic year (fall, winter and spring terms) were obtained from school transcripts. For

each student, a cumulative mean grade for the academic year was calculated across the grades for all courses taken in each term.

Measure of intelligence.

The Raven's Standard Progressive Matrices (SPM; Raven, Court, & Raven, 1977) was used to assess intelligence. This test was deemed most appropriate for this sample since it is described as being culturally-fair (Mushquash & Bova, 2007; Wright, Taylor, & Ruggiero, 1996). The SPM is an untimed test that measures abstract nonverbal reasoning ability, more specifically, the test provides an index of the adolescent's ability to think abstractly, form comparisons, reason by analogy, and organize perceptions into systematic related wholes (Luthar & Ripple, 1994).

The SPM is a commonly used intelligence test consisting of five sets of matrices (A through E). For each question, participants are asked to find a missing pattern in a design from a set of 6 possible choices for the set A and B and 8 possible choices for Set C, D and E. Each set of items is progressively harder that requires greater cognitive capacity (Raven et al., 1977). Sets A through D were used in the present study to measure pattern-recognition, attention to details, memory, and spatial reasoning. The last set of matrices (E) was not used in this study since adolescents are rarely able to complete these items (Raven et al., 1977). Since norms have not been established for Aboriginal adolescents on this measure, raw scores are presented rather than percentiles.

Measures of cultural identity.

Each participant completed the Multigroup Ethnic Identity Measure (MEIM), a 23-item questionnaire designed by J. Phinney (1992). Three aspects of ethnic (cultural) identity are assessed through this measure: positive attitudes and sense of belonging,

ethnic identity achievement, and ethnic behaviours or practices. Also included in the MEIM are 6-items that assess other-group orientation that are contrast items used to balance the ethnic identity items (Phinney, 1992). Twenty items are rated on a 4-point Likert scale from 4 (*strongly agree*) to 1 (*strongly disagree*). Scoring for the test is represented as a mean of the total scores for each question. Low scores on this measure reflect a low cultural identity while high scores reflect a high cultural identity. The last three items of the MEIM ask participants to specify from a set of 7 choices their own ethnicity, their father's ethnicity and mother's ethnicity. These three items are not scored, but rather are used as background information (Phinney, 1992).

Measure of Self-esteem (global self-worth).

A subscale of the Self-Perception Profile for Adolescents (Harter, 1988) was used to measure global self-worth (self-esteem). This scale includes 5-items that measures the extent to which the adolescent likes oneself as a person, is happy with the way one is leading one's life, and is generally happy with the way one is. Students are asked to select between a positive or negative description that is most like themselves and then to indicate whether this is 1) really true for me, or 2) sort of true for me. Scoring is on a scale of 1 (low competence) to 4 (high competence).

Procedure

Teachers distributed the parental forms to all potential participants in grades 6 through secondary 5 (grade 11). The letter briefly summarized the purpose of the research, procedures involved, and the rights of the participants. The letter also explained that participation was completely voluntary and withdrawal from the research would be without penalty (see Appendix A).

A team of graduate students and research assistants from McGill University travelled to a First Nation community school in northern Quebec for one week to collect data. The school obtained consent from the parents, and the researchers obtained verbal assent from each of the students (Appendix B). All paper and pencil questionnaires were administered to the students in a group format. The participants completed all questionnaires in the classroom with their peers over the course of a week. The sessions varied between one to three sessions a day depending on the class schedule. The questionnaires were read aloud by research assistants to avoid confounds associated with reading level and were presented in the same order for each grade level. The graduate students remained in the classes during the administration of the entire test in order to answer any questions by the students. The participants were offered small gifts at the end of the testing week.

Results

The results reported below include the examination of gender, age, intelligence, cultural identity, and self-esteem on academic success through a hierarchical regression model. The model tested the unique and shared contributions of each predictor on the criterion. Data were obtained from 53 First Nation adolescents attending a remote school ($N = 53$). All the variables were on a continuous scale except for gender. Gender was coded as a dummy variable (0 = female, 1 = male).

Descriptive Statistics

Correlations were conducted to examine the relationship among the predictor variables of gender, age ($M = 13.85$, $SD = 1.71$), intelligence ($M = 36.66$, $SD = 5.66$), global cultural identity ($M = 2.92$, $SD = .372$), other-group orientation ($M = 2.80$, $SD =$

.533) and self-esteem ($M = 2.84$, $SD = .566$), as well as the criterion variable of academic success ($M = 59.85$, $SD = 10.20$). The Pearson Correlations between all the variables are presented in Table 1. Intelligence was positively correlated with academic success ($r = .359$), $p < .001$, and with age ($r = .280$), $p < .001$). Although there is no direct evidence for a relationship between self-esteem and final grades in this data set, there is a non-significant trend that warrants further exploration with a larger sample size. In terms of gender, this result signifies that males did better than females in regards to their final grades. Also, final grades decreased between younger and older students. As final grades lowered, self-esteem was found to have a slight decrease.

Hierarchical Multiple Regression Analysis with Cultural Identity as a Predictor

Predictor variables were entered into the regression model in five steps according to the following hypothesized model of gender (step 1), age (step 2), intelligence (step 3), cultural identity (step 4) and self-esteem (step 5). Each step tested the main effects of each predictor on the criterion. The results of the regression including the standardized regression coefficients (β), R^2 change, and F change are displayed in Table 2. In step 1, no significant effect was obtained for gender. Similarly, in step 2, no significant effect was obtained with the addition of age. In step 3, when intelligence was entered into the model, the overall ANOVA was significant in predicting the variance in academic success, $Adjusted R^2 = .139$; $F(3, 52) = 3.803$, $p < 0.05$. The model remained significant after the addition of cultural identity, $Adjusted R^2 = .145$; $F(4, 48) = 3.816$, $p < 0.05$, and self-esteem $Adjusted R^2 = .138$; $F(5, 52) = 3.148$, $p < 0.05$. The R^2 change, the amount of unique variance accounted for by the addition of new variables, with the addition of cultural identity in step 4, was significant, R^2 change = .052; $F(1, 48) = 2.099$. Also, in

step 5 with the addition of self-esteem, no significant difference was obtained indicating that this variable made no unique contribution in predicting academic success. The results of the coefficients indicate an effect of intelligence on academic success, $\beta = .374$, $t(53) = 2.746$, $p < .05$, as well as a significant effect of cultural identity on academic success, $\beta = .240$, $t(53) = 1.821$ at $p < .10$.

Hierarchical Regression Analysis with Other-Group Orientation as a Predictor

A second hierarchical regression was performed to determine if the second factor measured through the MEIM, other-group orientation (OGO), was a predictor of academic success.

All of the steps remained the same as in the previous regression analysis with the exception of step 4. This step included other-group orientation subscale of MEIM for cultural identity. The results of the regression are displayed in Table 3. No significant results were obtained for either gender (step 1) or age (step 2), and a significant result was obtained for the overall ANOVA when intelligence was entered into the model in step 3. The overall ANOVA remained significant after the inclusion of both other-group orientation (step 4) and self-esteem (step 5), $Adjusted R^2 = .145$; $F(5, 52) = 2.763$, $p < 0.05$. However, the R^2 change was not found to be significant in either step 4 (with the addition of other-group orientation) or step 5 (self-esteem) indicating that neither of these variables made a unique contribution to the overall model. The results of the coefficients indicate an effect of intelligence on academic success, $\beta = .374$, $t(53) = 2.746$, $p < .05$, although OGO and self-esteem yielded no significant effects.

Discussion

The goal of this study was to examine a hypothesized model of academic success among a sample of First Nation students in a northern Quebec community. The proposed model of academic success suggested that cultural identity, intelligence, and self-esteem were predictors of academic success. The proposed model was found to be statistically significant. Furthermore, each of the predictors varied in regards to their unique contribution to the model.

Importance of Cultural identity as a Predictor

Cultural identity, the degree to which a person's self-concept incorporates the culture (Whitbeck et al., 2001), predicted academic success in the present study. This finding is consistent with the research by Whitbeck et al.'s (2001). One explanation that may account for this finding could be situated within the broader societal context at the time the study was conducted. Data collection of this study occurred within months following the Canadian Government's Formal Apology to former students of the Indian Residential schools (Parliament of Canada, 2008). As previously noted, the residential school period is a particular time in history that had devastating impacts upon Aboriginal peoples. It was a time when mainstream populations were denouncing Aboriginal identity, e.g. culture, language and spirituality. However, the apology has been noted to mark the start of the healing process for many Aboriginal peoples, the effects of which might be reflected in the present study. Furthermore, it may have contributed to creating a climate in which the First Nations students were more comfortable with self-reporting and discussing their cultural identity. While the specific impact of the formal apology on First Nations adolescents is unclear, the present results are encouraging in that they might

indicate an important shift between one's cultural identity and a connection to the academic environment. Moreover, in order for education to be positive and effective, educators must respect and integrate the cultural identity of First Nations students within the academic setting.

Importance of Other-group Orientation as a Predictor

In contrast to cultural identity, other-group orientation, one's attitude toward ethnic groups other than their own (Phinney, 1992), was also examined. The students had a relatively positive attitude in regards to learning about and a willingness to interact with people from other ethnic groups. However, this factor was not a significant predictor in the model of academic success. This might be indicative of the sample's level of biculturalism that can best be explained through the alternative model of second-culture acquisition. LaFromboise, Coleman and Gerton (1993) reviewed the literature of biculturalism in respect to American Native and Aboriginal peoples, and explained that according to the alternative model of second-culture acquisition, individuals are able to know and understand two cultures, and to have a sense of belonging in both cultures without compromising their own sense of cultural identity. The community that participated in this study has been described as one that has preserved its traditions, culture, and language. Therefore, this finding could be indicative of the student's successful ability to navigate both their mainstream and cultural worlds (Luther & Burack, 2000).

Importance of Intelligence as a Predictor

Intelligence quotient (IQ) tests were used to measure a child's ability to achieve in school and have been found to predict other social outcomes. In the present study, the

Raven's SPM (Raven et al., 1977) which is considered a culturally-fair measure for Aboriginal students (Mushquash & Bova, 2007) was used as the measure of intelligence. As is commonly found, intelligence scores were strongly associated with academic success, suggesting that First Nations students are also able to identify the knowledge, skills and abilities needed to be successful in the academic setting (Aragon, 2002).

Importance of Self-esteem as a Predictor

Self-esteem, defined as the individual's overall feeling of high or low self-worth (Harter, 1988), did not support the original hypothesis as a predictor of academic success. This finding is inconsistent with Whitesell et al.'s (2009) research of a strong relationship between academic success and self-esteem. One possible explanation for this divergence could be in line with Fryberg and Markus' (2002) explanation that high self-esteem assessed through conventional measures requires a more individualist focus. This underscores the complexity of the independent-interdependent self-representations of the self within Canadian First Nations. Since self-esteem signifies an independent rather than interdependent representation, the significance of these characteristics will require further investigation among youth from this community. Again, as this community is closely linked to its culture and language, interdependence among others might be deemed more valuable.

Limitations

There are certain limitations of the present study that relate to the group of participants. One, the small sample size limited the data analyses due to the lack of statistical power that diminished the ability to detect smaller effect sizes. Two, this group included participants from a small, isolated community in Quebec and, like any specific

group, is not representative of other First Nations students. Three, the results are based on self-report measures that could be inaccurate for different reasons including, but not limited to, social desirability bias and ambiguity. Four, the conventional measures of cultural identity, intelligence, and self-esteem may not be entirely sensitive to detect the unique nuances across cultures. For example, the original MEIM is noted not to grasp the communality of people (Worrell, Conyers, Mpofu, & Vandiver, 2006), which as discussed above, is an integral component of First Nations self-representations. Employing the more recently revised version of the MEIM (Multigroup Ethnic Identity Measure-Revised; MEIM-R; Roberts et al., 1999) may yield more relevant results with regards to cultural identity.

Implications

The present study supports the findings from resiliency research on strong cultural identity as a protective factor for academic success. These findings can support the need for culturally based curricula, and underscore the importance of refining instructional practices and the learning environment to reflect the needs of First Nations students. This can serve to further support their academic success and become lifelong learners.

Conclusion

Cultural identity is integral to the self-concept of First Nations of Canada. In this study, intelligence and cultural identity acted as predictors of academic success for First Nation students from a remote community in northern Quebec. The important impact of cultural identity was further highlighted by the finding that acculturation, assessed through other-group orientation, had no impact on academic success. While the effects of the residential school era left devastating marks on Aboriginal cultures, these findings

from a single community are encouraging and may indicate a small step toward truly strengthening the academic outcomes and psychological well-being of future generations of First Nations adolescents.

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Table 1

Means, standard deviations and number of participants by grade

Grade	<i>N</i>	<i>M</i>	<i>SD</i>
6	12	11.83	.389
Secondary I	10	12.90	.568
Secondary II	10	13.50	.527
Secondary III	8	15.13	1.36
Secondary IV	8	15.88	.641
Secondary V	5	16.00	.707
Total	53	13.85	1.71

Table 2

Pearson correlations between the predictor variables and academic success

Variable	1	2	3	4	5	6	7
1. Final Grade	1						
2. Gender	-.244	1					
3. Age	-.055	-.050	1				
4. Intelligence	.359**	-.179	.280*	1			
5. Cultural Identity	.194	.186	.203	.118	1		
6. Other Group Orientation	.057	.283	.156	-.033	.363**	1	
7. Self-esteem	-.092	-.104	.153	.020	.023	.125	1

* $p < .05$, ** $p < .01$.

Table 3

Hierarchical Regression Analysis for Variables (Cultural Identity) Predicting Academic Success

New Variables in Model	ΔR^2	β	<i>F change</i>
Step 1	.060		3.227
Gender		-.244	
Step 2	.005		.243
Age		-.067	
Step 3	.125		7.541
Intelligence		.374**	
Step 4	.052		3.316
Global Cultural Identity		.240*	
Step 5	.010		.600
Self-esteem		-.100	
Total R	.171		
<i>N</i>	53		

* $p < .10$, ** $p < .05$,

Table 4

Hierarchical Regression Analysis for Variables (OGO) Predicting Academic Success

New Variables in Model	ΔR^2	β	<i>F change</i>
Step 1	.060		3.227
Gender		-.244	
Step 2	.005		.243
Age		-.067	
Step 3	.125		7.541
Intelligence		.374*	
Step 4	.025		1.504
Other-group Orientation		.166	
Step 5	.832		.014
Self-esteem		-.120	
Total R	.145		
<i>N</i>	53		

* $p < .05$

Appendix A

Parental Consent Form

Faculty of Education
McGill University
3700 McTavish Street
Montreal, PQ, Canada H3A1Y2

Faculte des sciences de l'education
Universite McGill
3700, rue McTavish
Montreal, PQ, Canada H3A 1Y2

Facsimile/Telecopier
(514) 398- 6968

Dear Parents:

As part of the McGill Youth Study Team's continued research collaboration with [insert school name], we will continue to conduct our project in identifying the factors that predict school and personal success among the high school students. In order to help us better understand the factors that lead to success in school and social relationships, the students from secondary 1 through secondary 5 will be asked to complete a series of questionnaires. These questionnaires cover a range of areas including problem-solving abilities, behavior, relationships with friends and family members, emotions, and identity with their local culture. In addition, we will ask for records of school grades from the entire school year. The students will fill out these questionnaires during 2-3 class sessions when we visit the school during the week of [insert dates].

Please be advised that the data in this study will be used only for research purposes and will be held in the strictest confidence. Your son's/daughter's results will not affect their status at [insert school name] in any way. When the results will be published it will be as group averages and no personal information will be used in the publication of findings.

We would greatly appreciate your child's participation. If you are willing to allow your son or daughter to participate in this study, please sign the attached consent form. Your child will be asked if they wish to participate and will be told that they can stop at anytime. Your child will receive a small present, regardless of whether s/he completes the questionnaires.

If you have any questions, please contact Jake Burack at 514-398-3433.

Sincerely,

Jake Burack, Ph.D.
Professor and Director
McGill Youth Study Team



Faculty of Education
 McGill University
 3700 McTavish Street
 Montreal, PQ, Canada H3A1Y2

Faculte des sciences de l'education
 Universite McGill
 3700, rue McTavish
 Montreal, PQ, Canada H3A 1Y2

Facsimile/Telecopier
 (514) 398- 6968

This consent form specifies the purpose, procedures and conditions required for your child's participation in the study that is being conducted by the McGill Youth Study Team from McGill University.

1. Purpose

The purpose of this research is to study the academic and emotional functioning of school aged children in your community. The data gathered may provide answers to important questions about child development in this community.

2. Procedures

Your child will be asked to complete paper and pencil questionnaires. These questionnaires present no known risks and have been used before with persons of the same age as your child. Everything your child is asked to do will be explained to him/her beforehand and he/she will be asked for verbal assent to participate. If your child wishes to stop or not complete the questionnaires, he or she may do so at any point. Your child's answers to these questions will not affect his or her status, in school or otherwise, in any way. The researchers will have access to your child's report cards in order to record grades and will ask your child's teacher to provide some information. Your child will be told that this is the case before participating in the study.

3. Conditions of Participation

The tasks will be presented as questionnaires in a group setting and your child will receive a small gift regardless of completion of the questionnaires. Your child's name will not be used in reports but his or her identity will be known to the researchers. All data will be stored in a locked cabinet. The researchers will disclose information only if compelled by law in the event that your child reveals information that indicates they may cause harm to themselves or others or if there is a suspicion of child abuse. The data will be used for research purposes only. In the published reporting of this study, the results will be reported as group averages and your child's name or any other personal information will never used in these reports. The researchers involved will be available to answer any questions regarding the procedures of this study.

 If you have any questions or concerns about your rights as a volunteer in this project you may contact the McGill Research Ethics Officer at 514-398-6831

I HAVE BEEN GIVEN INFORMATION ABOUT THE STUDY IN THE PARENT LETTER AND HAVE CAREFULLY STUDIED THE ABOVE AND UNDERSTAND MY PARTICIPATION IN THIS AGREEMENT. I VOLUNTARILY AGREE AND FREELY CONSENT FOR MY CHILD TO PARTICIPATE IN THIS STUDY.

 Child's Name

 Child's date of birth

 Date

 Signature of Parent or Legal Tutor

Appendix B

Student Assent Form

Faculty of Education
McGill University
3724 McTavish, room 100
Montreal, PQ, Canada H3A 1Y2

YOUTH ASSENT FORM**Why are we doing this study?**

The goal of our study is to learn more about children and adolescents your age and what things help you do well in school. We will be asking you about your thoughts on many different things in your lives as school, your culture, your parents and your peers as well as your emotions and behaviors.

What will happen during this study?

You will be asked to fill out some questionnaires in your classroom. A researcher will read out every question and give you time to answer it individually. It will take approximately 3-4 sessions of about 1 hr each to complete all the questionnaires over the course of one week. Your teacher will be asked to provide some information about you and the researchers will also have access to your report cards in order to record your grades.

You can ask questions at any time and you can stop doing the study at any time if you want for any reason.

Are there good things and bad things about this study?

You might find helping out in this study fun. You will also get to learn more about research. You will have to miss some of your classroom activities in order to fill out the questionnaires.

Can I decide if I want to do these activities?

Your parents have given permission for you to participate in this testing. You do not have to participate in this process if you don't want to. Nobody will be angry or upset if you do not want to be in the study. If you do want to participate you can decide not to answer any questions that you don't want to. You can stop participating at any time.

Who will know what I did in this study?

The answers you provide on the questionnaires will only be seen by members of our research team. Your name will never appear on any of the questionnaires you give us and you will be given a code to use instead. The only time we will ever ask you about your answers on the questionnaires, is if you write that you might seriously cause harm to yourself or others. When we present what we find from this study in papers and presentations all of the information will be shown as group averages so that no one will ever be singled out.

Do you have any questions? Would you like to participate?

Assent

I read this form to _____ and acknowledge that he/she gave verbal assent to participate.

Signature _____

Date _____

Appendix C

Multigroup Ethnic Identity Measure (MEIM)

(Phinney, 1992)

MEIM

In this country, people come from a lot of different cultures and there are many different words to describe the different backgrounds or *ethnic groups* that people come from. Some examples of the names of ethnic groups are Mexican-American, Hispanic, Black, Asian-American, First Nations, Anglo-American, and White. Every person is born into an ethnic group, or sometimes two groups, but people differ on how important their ethnicity is to them, how they feel about it, and how much their behavior is affected by it. These questions are about your ethnicity or your ethnic group and how you feel about it or react to it.

In terms of ethnic group, I consider myself to be _____

Use the numbers given below to indicate how much you agree or disagree with each statement.

4: Strongly Agree	3: Somewhat Agree	2: Somewhat Disagree	1: Strongly Disagree
1. I have spent time trying to find out more about my own ethnic group, such as its history, traditions and customs.			_____
2. I am active in organizations or social groups that include mostly members of my own ethnic group.			_____
3. I have a clear sense of my ethnic background and what it means for me.			_____
4. I like meetings and getting to know people from ethnic groups other than my own.			_____
5. I think a lot about how my life will be affected by my ethnic group membership.			_____
6. I am happy that I am a member of the group I belong to.			_____
7. I sometimes feel it would be better if different ethnic groups didn't try to mix together.			_____
8. I am not very clear about the role of my ethnicity in my life.			_____
9. I often spend time with people from ethnic groups other than my own.			_____
10. I really have not spent much time trying to learn more about the culture and history of my ethnic group.			_____

**4: Strongly
Agree**

**3: Somewhat
Agree**

**2: Somewhat
Disagree**

**1: Strongly
Disagree**

- 11. I have a strong sense of belonging to my own ethnic group. _____
- 12. I understand pretty well what my ethnic group membership means to me, in terms of how to relate to my own group and other groups. _____
- 13. In order to learn more about my ethnic background, I have often talked to other people about my ethnic group. _____
- 14. I have a lot of pride in my ethnic group and its accomplishments. _____
- 15. I don't try to become friends with people from other ethnic groups. _____
- 16. I participate in cultural practices of my own group, such as special food, music, or customs. _____
- 17. I am involved in activities with people from other ethnic groups. _____
- 18. I feel a strong attachment towards my own ethnic group. _____
- 19. I enjoy being around people from ethnic groups other than my own. _____
- 20. I feel good about my cultural or ethnic background. _____
- 21. My ethnicity is: _____
- 22. My father's ethnicity is: _____
- 23. My mother's ethnicity is: _____

Footnotes

¹ Aboriginal refers collectively to the Indigenous inhabitants of Canada, including First Nations, Métis, and Inuit peoples (as stated in section 35(2) of the Constitution Act, 1982). While this term implies homogeneity among these groups of peoples, the author understands and respects the diversity that exists among these groups and communities with respect to socio-cultural variables and history.

² Wherever possible, reference to specific First Nation tribes or communities will be presented.

³ Native American is the term used in the United States to refer to the descendants of Indigenous peoples of North America.