

CORRELATES OF SUICIDE IDEATION FOR INDIGENOUS PEOPLES IN CANADA:

FINDINGS FROM THE ABORIGINAL PEOPLES SURVEY

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Anthony L Elsom

Regina, Saskatchewan

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### **Abstract**

It has been estimated that Indigenous people of all ages are more than twice as likely than those in the general population to commit suicide and these rates only seem to be steadily rising. There are numerous theories within the literature that seek to explain why this striking disparity exists, such as intergenerational trauma as a result of the residential school system, loss of culture and language, and problems maintaining social support within urban settings. The examination of data collected by Statistics Canada's 2012 Aboriginal People's Surveys (APS) was performed to determine the correlates that appear to be associated with the disproportionate rates of suicides experienced by the Indigenous population of Canada. The prevalence rate of Indigenous peoples that contemplated suicide within the last 12 months was found to be 3.5%, and the lifetime prevalence rate was found to be 13.7%. Evidence from the study was inconclusive in terms of establishing if suicide ideation was positively or negatively associated with the correlates examined. Interestingly, findings do suggest that those that have a history of residential school experience in the family appears to be positively correlated with increased knowledge and interest in Aboriginal languages and traditional activities.

*Keywords:* suicide ideation, residential school system, language and culture Aboriginal People's survey, Canada,

## **Introduction**

### **Indigenous Peoples and Suicide**

Certain populations have been found to be at a significantly higher risk of suicidal behaviour (Elliott-Groves, 2018). Specifically, the Indigenous population of Canada is more than twice as likely than the general public to commit suicide (McQuaid et al., 2017). According to Kirmayer & Aboriginal Healing Foundation of Canada (2007), the rate of suicide is even greater among Inuit, ranging anywhere from 6 to 11 times higher than the general population. Suicide ideation has been found to be a major predictor of suicide attempts, likewise, suicide attempts have been found to be a significant predictor of completed suicide. Both thoughts about committing suicide ideation and attempts are considered to be critical indicators of suicide (McQuaid et al., 2017). Other factors in Indigenous peoples known to be associated with this increased risk are the impact of the residential school experience, the loss of language, and cultural practices.

While mental health problems, indicated by suicide risk factors are generally found to be higher among the indigenous population, the rates themselves vary substantially with regards to different communities (Nelson & Wilson, 2017). Findings in the 2018 First Nations Regional Health Survey (RHS), which are based on Indigenous and Northern Affairs Canada (INAC) Indian Registry counts from 2014 of those living on-reserve or on Crown land, found that adult lifetime suicide ideation is approximately 16.1%. This is a noticeable decrease from 22% from the previous RHS conducted in 2010. In comparison, only 9% of non-Indigenous Canadians reported lifetime suicide ideation (McQuaid et al., 2017).

One of the major challenges that researchers face regarding suicide is obtaining accurate

as well as current statistical data related to suicide ideation, suicide attempts, and completed suicide. Unfortunately, this can become an arduous task as data associated with suicide, particularly completed suicide, are often found to be under-reported for a variety of reasons (Pritchard & Hansen, 2015). Some of these are due to ethno-cultural factors, traditionally held religious beliefs, and misreporting of death by the coroner wishing to spare a family further distress, (Pritchard & Hansen, 2015). Unfortunately, these unique obstacles are only further compounded by the restrictions that are placed on this kind of data, due in part to its sensitive nature.

### **Residential School Experience**

Before the introduction of residential schools in the 1850s, Traditional Indigenous communities were built around both the nuclear family as well as the extended family (Aguilar, 2015; Haig-Brown, 1988). This is important because it exposes the problematic colonial policies that have over many generations, manifested into adverse experiences ranging from abuse, neglect, and substance abuse to poverty, violence, and discrimination for many that identify as Indigenous (Bombay, Matheson, & Anisman, 2009). One of the main events that has and to this day continues to perpetuate intergenerational trauma was the residential school experience, that at its peak, 75% of First Nations children between the ages of 6 and 15 attended. (Armitage, 1995; Claes & Clifton, 1998) In terms of the proportion of the Indigenous population that was affected, 1 in 5 adults living on-reserve in 2008 to 2010 reported having attended a residential school (Bombay et al., 2009).

According to (Lafrance & Collins, 2003), Residential schools were designed with the sole purpose of assimilating the Indigenous population into the dominant society through the forced

removal of children from their families, communities and culture. In retrospect, these institutions eroded and undermined all aspects of well-being that the Indigenous peoples had established prior to colonialism (Aguiar, 2015). Children were made to feel ashamed of their cultural background and that by choosing to engage in any aspect of that background was cause for punishment, leading to their Indigenous identities being stripped away from them and their peers (Bombay et al., 2009; Truth and Reconciliation Commission of Canada, 2015) In addition to the forced assimilation practices, children were further subjected to starvation, incarceration, and physical and sexual abuse (Heart, 1999). All of these traumatic experiences were only further exacerbated by the isolation that these children experienced as a direct result of the separation policy created by the Canadian government and enforced by the office of Indian Affairs (Aguiar, 2015).

The situation for most children returning home upon completing their residential school education was in most cases no better than their prior experiences at the institutions themselves. There now existed a rift between children and their parents that was caused by the internalized feeling of inferiority and shame about their cultural background that were instilled within them through the residential school experience (Aguiar, 2015). Furthermore, it left both the parents and their offspring doubting themselves, their own culture and even their traditional ways of living (Evans-Campbell & Walters, 2006). The institutions that were meant to provide the Indigenous peoples with a “proper” education was generally considered to be inadequate at best, with most of the students leaving poorly equipped for occupations beyond menial labor (Tait & Aboriginal Healing Foundation of Canada, 2003). It’s believed that these institutions did nothing more than result in enduring intergenerational trauma related to substance abuse, child abuse, mental health problems, and family dysfunctions that have been passed on through families for

generations (Government of Canada, 2002a).

### **Suicide and Major Depressive Disorder (MDD)**

In Canada, it is estimated that approximately four thousand people die by suicide each year with 90% having experienced a mental health problem or illness (Government of Canada, 2016a). According to the Government of Canada, 2016, for every completed suicide, there are as many as 25 to 30 suicide attempts. Suicide, the 9<sup>th</sup> leading cause of death in Canada is considered to be a serious public health problem that is known to result in lasting, harmful effects on individuals, families, and society and is found to be a significant cause of premature death affecting people of all ages, backgrounds, and regions of the country equally. (Government of Canada, 2016a; Mental Health Commission of Canada, 2019). In regards to sex differences, males have been found to be more likely to die from suicide, whereas females are three to four times more likely to attempt (Statistics Canada, 2017) Additionally, those that were married were the least likely group to commit suicide, single (never married) people were the most likely, at a rate 3.3 times higher, followed by widowed and divorced (Statistics Canada, 2017).

Suicide is broadly defined as death resulting from intentional self-injurious behaviour associated with any intent to die as a result of the behaviour (Nock et al., 2014). The term suicide is a composite term in that it encompasses a myriad of associational nuances including suicide ideation and suicide attempts, in addition to suicide or completed suicide. The DSM-5 characterizes suicide ideation as having thoughts about self-harm, with deliberate consideration or planning of possible techniques of causing one's own death (American Psychiatric Association, 2013). In contrast, suicide attempts are described as nonfatal self-directed potentially injurious behaviour with an intent to die as a result of the behaviour (Nock et al.,

2014). Depression is the most common illness among those that who die from suicide, with about 60% suffering from this condition (Cavanagh, Carson, Sharpe, & Lawrie, 2003; Lesage et al., 1994)

Major depressive disorder (MDD) is considered a mood disorder and is one of the most common forms of depression (Canadian Mental Health Association, 2013; Patten et al., 2009). It is characterized by feelings of intense sadness, misery, and/or hopelessness that are experienced over the duration of at least 2 or more weeks and is not a temporary change in mood, rather it is a real medical condition associated with emotional, physical, behavioural, and cognitive symptoms (American Psychiatric Association, 2013; Kennedy et al., 2016; National Collaborating Centre for Mental Health (UK), 2010). MDD affects about 1 in 20 people in the general population each year and is associated with increased rates of suicide, in fact, approximately 15% of those suffering from depression eventually die by suicide (National Institute of Mental Health, 2018; Ontario & Ministry of Health, 1994).

Research done by Knoll and MacLennan, 2017, determined that the 12-month prevalence of MDD in Canada was approximately 4.7%, while lifetime prevalence rates were around 11.2%. The rates of depression between men and women are consistently found to be higher in females; however, the reasons for this are still unclear (Antonucci & Akiyama, 1987; Knoll & MacLennan, 2017). It is believed that decreased social supports and hormonal differences in women may explain the differences seen between males and females in terms of MDD prevalence rates (Knoll & MacLennan, 2017).

**Social Support.** Social support is defined as a broad construct that is related to the social structure of an individual's life and the various interpersonal relationships that are formed and

maintained throughout their lives (Kent de Grey, Uchino, Trettevik, Cronan, & Hogan, 2018). In terms of the Indigenous population, it has been found that past disruptions of important social and cultural formations have undermined the individual and collective ability to effectively cope with specific situations. (Elliott-Groves, 2018) In particular, centuries of colonial policies and practices concerned only with the suppression and undermining of the Indigenous culture through mechanisms such as childhood assimilation in residential schools, have resulted in severe trauma being passed down through the generations (Ross, 2006). Nowhere is it more apparent than throughout Indigenous communities, that there remains a heavy cost associated with a failure to properly achieve a sense of individual and cultural continuity (Hallett, Chandler, & Lalonde, 2007). Over this extended period of time, the effects of the trauma have resulted in what is now referred to as Historic Trauma. This is trauma that has been built upon by earlier forms of oppression and injustice in such a way as to lead to a sense of shame and hopelessness that is transmitted throughout generations producing physical, psychological, and economic disparities (Duran, 2006; Sotero, 2006). To better understand how far reaching Historic Trauma extends and the implications it may have with regards to suicide, this study will primarily focus more on indigenous peoples that reside within urban areas.

Various theories have been established around social support and the idea that it may provide certain protective factors to individuals such as the stress-buffering hypothesis of social support and the belongingness hypothesis. The stress-buffering hypothesis posits that the support provided by spouses, friends, and family members “buffers” (protects) individuals from the potentially pathogenic influence of stressful events (Cohen & Wills, 1985). The belongingness hypothesis on the other hand proposes that human beings have an innate drive to form and maintain a certain number of lasting, positive, interpersonal relationships that if not adequately

met, has the very real potential to cause a variety of negative effects (Baumeister & Leary, 1995).

**Distress.** Psychological distress is defined as a non-specific state of mental health that occurs due to connections with adverse mental and physical conditions (Canadian Institute for Health Information, 2012; Dohrenwend, 1980). According to Ridner (2004), “distress is characterized as a perceived inability to effectively cope and is likely to result in changes to emotions, discomfort, and temporary or permanent harm to an individual as a result”. These negative states of mental health are found to both directly, and indirectly affect many Canadians over their lifetimes, most often due to interactions with pre-existing health conditions such as depression and anxiety and is found to also increase the risk of chronic and severe physical illness (Cairney, Veldhuizen, Wade, Kurdyak, & Streiner, 2007; Canadian Institute for Health Information, 2012; Kessler et al., 2002). In fact, it is believed that approximately one in five Canadians experience higher than normal levels of psychological distress at any given point, with those within the Indigenous community suffering more considerable rates than individuals within the general population (Hossain & Lamb, 2019). The Health Council of Canada (2005), found that Indigenous peoples in Canada continue to experience some of the poorest levels of health status, with their overall health being similar to that of developing countries. Pre-existing health conditions in combination with persistent inequalities faced by Indigenous peoples would then appear to substantially increase the risk of this particular population experiencing disproportionate rate of psychological distress (Canadian Institute for Health Information, 2012; Hajizadeh, Hu, Bombay, & Asada, 2018).

The 2012 APS utilized the ten-item Kessler Psychological Distress Scale (K-10) to assess the psychological well-being of Indigenous peoples within the survey (Hossain & Lamb, 2019).

The K-10 is based on 10 items that measure the frequency of non-specific distress symptoms that respondents experienced during the previous month. The total K-10 score for each respondent is summed by the 10 items that are on the assessment, where scores range from 0 to 40. Higher scores indicate that there are higher levels of psychological distress present. The K-10 has been found to be a valid and reliable instrument to measure non-specific distress for First Nations peoples residing off reserve, Métis, and Inuit (Bougie, Arim, Kohen, & Findlay, 2016).

**Language.** Language is considered to be one of the most important symbols of culture and group identity. Specifically it connects people with where they came from and possesses the unique ability to ground their emotional, spiritual, and social strengths (Government of Canada, 2005). Throughout much of the literature, it is made clear that for the early government of Canada, the elimination of their Aboriginal way of being, through things such as loss their native language, was of great importance if successful assimilation was to take place. For example, Duncan Campbell Scott, Deputy Minister of Indian Affairs 1920 is noted for stating, “residential schools were explicitly intended to eradicate Aboriginal peoples until there is not a single Indian in Canada that has not been absorbed into the body politic” (Government of Canada, 2002b). A study conducted by Hallett et al. (2007), found that bands that had higher levels of language knowledge had fewer suicides than bands that had lower levels. These findings appear to support the idea that specific components of a person’s cultural identity have the potential to act as buffers against stressors that could lead to increased suicide ideation. For many of the parents whose children were forced to adapt to a new way of life that included the loss of their language, It was the realization of a shared fear, that if all the fluent speakers of their language die without being able to pass on their mother tongue, then so too does their culture (Hallett et al., 2007).

**Culture.** Culture is defined as a way of life, especially the general customs and beliefs of

a particular group of people at a certain time (“Cambridge English Dictionary,” 2018). In the context of Indigenous peoples, it is important in regards to suicide ideation because of how the direct intervention of colonial policy caused major fractures resulting in disruptions within their social, environmental, cultural, and political ways of living. According to (Elliott-Groves, 2018), “this disruption between children and their Indigenous identities and cultural practices have resulted in the elimination, replacement, or alteration of families and other organizing structures that formerly ensured the communities capacity to change and direct it’s future livelihoods”.

Throughout the literature review process, there appeared to be frequent mention of how much of an impact the loss of land has had on Indigenous community in relation to their cultural background. Removal from land prevented them from engaging in things such as traditional hunting and the harvesting of essential plants/herbs for medicinal and spiritual practices (Whyte, 2018). Without a way to engage with the land for these important gathering of vital materials, the cultural practices that ensured collective-being were threatened or completely loss (Elliott-Groves, 2018). It has been argued that, if Indigenous communities are to thrive, both individual persons and whole Indigenous communities must figure out a way to necessitate a sense of continuity in regards to identity, in a world that is always changing (Hallett et al., 2007).

The production of arts and crafts is in many ways perceived as an activity that is strongly tied together with cultural identity and spiritual practices (Pritzker, 1999). For the Indigenous peoples of Canada, the art that was created and practiced before the arrival of the Europeans was influenced by every aspect of their lives (Ewers, 1939). “They did not set out to create art for its own sake. In Indigenous traditional thinking, there is no separation between art and life or between what is beautiful and functional. Art, beauty and spirituality are so firmly entwined in the routine of living that no words are needed or allowed to separate them” (Walters, 1989). To

many outsiders, there is a falsely notion that traditional Indigenous societies were far too preoccupied with survival to engage in leisure activity or artistic expression; Interestingly, the very opposite appears to be true (Ewing, 1998; Friesen & Friesen, 2006). Creative designs, styles, and methods were apparent in terms of their clothing, utensils, weapons, tools, and burials (Ewers, 1939). Their cultures were built on a foundation of reverence for the universe and for all living things (Friesen & Friesen, 2006). The threads of ordinary life and spiritual life were so tightly interwoven that the sacred and the secular were indistinguishable (Zimmerman & Molyneaux, 2000).

Historically, Indigenous peoples were subsistence oriented, organized around activities like hunting, fishing, and gathering (Trovato, Pedersen, Price, & Lang, 2018). These natural resources did more than provide Indigenous peoples with materials and food, it also contribute to an important basis for social identity, cultural survival, and spiritual life (Nuttall et al., 2005). Hunting was perceived as more than simply tracking and killing animals, for many, it was a spiritual activity that involved ceremonial acts that allowed them to obtain their livelihoods from nature (McMillan, 1995, p. 113). The specific region that a community resided in to a great extent determined the kinds of animals that were accessible to be used as sources of food and materials (Trovato et al., 2018). For example, Indigenous peoples that resided mainly on the plains were highly dependent on the buffalo as it was the foundation of their economy, providing them with all their basic needs – food, shelter, tools, and clothing (Friesen & Friesen, 2006, p. 97). In contrast, Indigenous peoples living in the resource rich Eastern Woodlands would set up year-round settlements. Here they would hunt various kinds of game like deer, rabbits, and beavers as well as grow the crops that have come to be known as the “three sisters” – corn, squash, and beans during the long hot summers (Babiuk, 2004, p. 12; Friesen & Friesen, 2006, p.

72). Most Indigenous cultures had designated roles for men and women when it came to hunting, fishing, and gathering. For most, it was the men's duty to engage in hunting and fishing so that their communities had the necessary sustenance and materials required to survive and thrive (McMillan, 1995, p. 73). At a young age, boys would accompany their fathers on hunting trips to impart important knowledge related to these skills so they too could become a successful hunter (McMillan, 1995, p. 73; Nuttall et al., 2005). The successful first kill by a boy was means of a celebration and feast that not only recognized the boy's development as a hunter, but also served as a statement of the vitality and cultural importance of the hunting way of life (McMillan, 1995, p. 107; Nuttall, 1992). Women on the other hand were responsible for life within the camps. Here they performed a variety of tasks such as watching over the children, working in the vicinity of the camps collecting wild berries, gathering nuts, and digging up edible roots (Friesen & Friesen, 2006, p. 71; McMillan, 1995, p. 144). They were also in charge of processing the spoils of the hunt and depending on the animal was eaten raw, cooked, or sliced and dried for the winter as well as ground and mixed with berries and fat to make pemmican (Brasser, 2019). spent a considerable amount of time and energy scrapping and tanning hides to make clothing or tipi coverings (McMillan, 1995, p. 146).

A variety of animals were hunted depending on the region. These ranged from beavers, deer, caribou and elk to moose, bears, and buffalo (Friesen & Friesen, 2006, p. 71,97; McMillan, 1995, p. 60,112,114). Unfortunately, big game was not always available which meant that smaller more plentiful animals such as hares, geese, and other waterfowl were also crucial for survival (McMillan, 1995, p. 112). The animal skins that were acquired during a hunt would be put to a multiplicity of uses by various Indigenous groups. For example, the large-game animals provided a host of useful materials that could be used. The skins provided material that could be

sewn together and used for lodge covers and the winter hides covered with fur could be wrapped around the body to make warm overcoats, mittens, and moccasins. Rawhide was also used to secure clubs, mauls, and berry mashers to wooden handles (Friesen & Friesen, 2006, p. 97). Hunting was an essential part of most of the Indigenous cultures in Canada as the animals provided them with food, shelter, clothing, containers, and tools.

Fishing was a crucial part of many Indigenous peoples cultural identity and played a prominent role in many of their diets (McMillan, 1995, p. 114; Whiteduck, 2018). Similar to hunting, the region that a specific group resided or fished in determined the kinds of available fish that could be caught and used for food and materials (Trovato et al., 2018). For example, the Mi'kmaq of what is now known as Nova Scotia were transformed from a migratory people who lived in the woods during the winter and returned to the seashore in the summer months to being almost entirely reliant on the produce of the sea (Friesen & Friesen, 2006, p. 57). Fish such as sturgeon, smelt, salmon and lobster were important staple foods for these peoples (Friesen & Friesen, 2006, p. 57). In contrast, the Inuit who were heavily dependent on the sea for resources utilized marine mammals such as the seal, walrus, whale, narwhal, and beluga to both provide the group with crucial sustenance and important materials such as oil to heat their homes and thick hides as covers for their boats (McMillan, 1995, p. 269).

Much like hunting, fishing had designated roles for men and women in most Indigenous groups. Men would typically be the ones to construct fishing gear and were responsible for fishing, while women would clean and prepare the catch (Friesen & Friesen, 2006, p. 118; McMillan, 1995, pp. 73, 170). The amount of overall fish that could be caught was decided by the number of women that were available to help with cleaning and preparation of the catch (McMillan, 1995, p. 170). Fish such as salmon was preserved for later use by first filleting them

and then placing them on a drying rack (McMillan, 1995, p. 170). The Plateau Indians for example, preserved salmon through a method of roasting, then drying and pounding it in a powder known as “salmon pemmican” (McMillan, 1995, p. 170). Also, certain fish such as the eulachon, located mainly on the west coast of Canada, were well known for their oil or “grease” that could be used as a condiment with many foods such as dried fish, edible roots, green vegetables, and berries (Stephenson, 1995, p. 139). Many groups would stockpile eulachon and its oil in permanent lodges, particularly because it did not spoil and could be stored for up to two years (Goddard, 1924; Sanguin & Halpin, 1990). Meat and berries were also dried and stored so that it could also be used during any hardships that different Indigenous groups might encounter during the winter months (Canada & Indigenous and Northern Affairs, 2013).

Most of the Indigenous peoples across what is now known as Canada, primarily made their clothing from materials that were obtained from tanned animal hides (Crown-Indigenous Relations and Northern Affairs Canada, 2017). Consisting largely of moose, deer, caribou, buffalo, elk and deer, these animal skins would be prepared by women using a smoke tanning process that served to preserve the hides (Crown-Indigenous Relations and Northern Affairs Canada, 2017). An example of an Indigenous group that did not rely as heavily on animal skins for their clothing was the Nau-chah-nulth or “Nootkans” by Europeans, were located on the Pacific Coast (Crown-Indigenous Relations and Northern Affairs Canada, 2017; Pegg, 2000). They would use raw materials such as bark, wood, and roots from western red and yellow cedar to weave long robes were sometimes also interwoven with goats wool (Crown-Indigenous Relations and Northern Affairs Canada, 2017; Pegg, 2000). Some of the decorations would sometimes consist of porcupine quills, used to make specific designs on their clothing or dyes that were obtained from plants and roots (Crown-Indigenous Relations and Northern Affairs

Canada, 2017). In contrast, the Dene, an Athapaskan-speaking peoples of Canada's North West Territories, developed a distinct clothing style that protected them from the cold and insects during the summer; additionally, it allowed for easy movement during hunting and gathering activities (Thompson, 1994, p. 4,5). All clothing was made from the skins of land mammals, with moose and caribou being the most important of these (Thompson, 1994, p. 5). Things such as wood and bone were made into scrapers used on the skins, while animal brains and grease were used to soften the hides giving it an almost white colour (Johnson & Yenne, 2011, p. 225; Thompson, 1994, p. 5). According to Johnson and Yenne (2011), sometimes the hides were smoked over a fire, a process that resulted in the rich golden shade of the animal hides that afforded some additional protection against the wet weather (Johnson & Yenne, 2011, p. 225).

The many tasks associated with creating clothing consumed a great deal of energy and time of the Dene women, yet they seem to have taken great pride in the respect they received from their community for their labour intensive work – a sign of her ensuring physical protection and comfort for her family (Thompson, 1994, p. 5). Alexander Mackenzie describing the ornaments of the people he met in July 1789, “Their ornaments consisted of gorgets, bracelets for the arms and wrists, made of wood, horn, or bone, belts, garters, and a kind of band to go around the head, embroidered with porcupine quills and stuck round with the claws of bears or wild fowl” (Thompson, 1994, p. 23).

Traditionally, Indigenous peoples have used thousands of different plants for both sources of food and medicines (Turner, Arnason, Hebda, & Johns, 2014). The most notable of these is the planting of corn, beans, and squash in a method that is referred to as companion planting (Turner et al., 2014). The diets of Indigenous peoples residing in the eastern woodlands relied heavily on the agriculture of these crops as a means of continued sustenance (McMillan,

1995, p. 72,83,106). Generally these plants were planted together because of the unique way that they benefited one another, specifically, the beans set the nitrogen in the soil, enriching it for the corn and squash, the corn allowed for the bean plants to grow up the stalks, and the squash formed a ground cover that preserved soil moisture while also keeping it at a moderate temperature (Crawford, 2016, p. 303). In addition to these three plants, there was also over 500 species of wild plants that were also crucial to many Indigenous communities throughout Canada (Turner et al., 2014). These included fruits and vegetables, roots, nuts, berries, seeds and mushrooms as well as exotic plants such as algae, lichens, flowers, and the bark of inner bark trees (Kuhnlein & Turner, 1991, p. 8).

In addition to being used as a source of food, various plants were also used extensively for medicinal and ceremonial purposes (Assembly of First Nations, 2019; Canadian Cancer Society, 2019; Turner et al., 2014). Those with special knowledge about herbal medicines were adept at selecting and preparing herbal medicines to treat a variety of ailments (Turner et al., 2014). In fact, it is believed that more than 500 plants were used as a form of medicine that were administered in forms such as teas, powders or ointments (Canadian Cancer Society, 2019; Turner et al., 2014). Plants were harvested at different times of the year depending on the season and ultimately how they were going to be used (First Nations Health Authority, 2019). Traditional medicine was rooted in holistic beliefs and practices that emphasize the integration of emotional, physical, mental, and spiritual aspects in an individual (First Nations Health Authority, 2019). A prevailing belief that was held by many Indigenous communities was that health was interconnected with morality and spirituality, and that if harmony was not maintained in a individual, it would manifest as an illness (Crawford O'Brien & Kelley, 2005, p. 374).

Plants that played an important role in ceremonies were cedar, tobacco, sage, and sweetgrass (Assembly of First Nations, 2019; First Nations Health Authority, 2019). Cedar leaves could be used for purposes of smudging (purification) or medicinal purposes, tobacco was used as an offering for ceremonies or healing, and sage and sweetgrass while also used in ceremonies or for purposes of healing, could also be given as gifts; furthermore, all four of these important plants were used for various spiritual purposes in smudging ceremonies (Assembly of First Nations, 2019; Turner et al., 2014).

## **Purpose**

The following study is being conducted to better understand the factors most likely associated with the increased rate of suicide ideation currently experienced within the Indigenous population in Canada. Through the examination of both the 2012 APS as well as the most recent literature on various possible factors, the aim was to identify correlates that are most likely associated with the disproportionate rate of suicide ideation within the Indigenous community when compared to that of the general population.

## **Methods**

The data source for this study was the Aboriginal Peoples Survey (APS) 2012 focus content cycle. The APS is a sample survey with a cross-sectional design that utilized data from the 2012 Aboriginal Peoples Survey (APS), which is a national survey of First Nations living off-reserve, Métis and Inuit aged six years and older. The APS initially used the Census of Population for the previous 3 cycles until it was modified in 2011 and moved to the 2011 National Household Survey (NHS). The 2012 APS version used within this study represents the fourth cycle of the survey and is unique in that it collects data that falls into four content areas:

education component, employment component, health supplement, and additional core content that are not included in other surveys that are relevant to the current study. The goal of the APS is to fill data gaps on a wide range of questions and inform decision making in program and policy planning and development. Data for the APS was conducted from February 6, 2012 to July 30, 2012 (Statistics Canada, 2012a, 2012c).

### **Sampling**

The sample was selected from the 2011 National Household Survey (NHS) respondents who reported an Aboriginal identity or ancestry. These NHS respondents make up the APS frame. The sampling unit is the individual. Sampling is a process of selecting some part of the population to examine so as to estimate something of interest regarding the whole of the population. The sample was identified through reported answers in the 2011 NHS by respondents who answered specific questions to four screen testing questions on the NHS questionnaire, which had two versions, the N1 form and the N2 Form (See Appendices B) The benefits of linkage between APS-NHS is reduced response burden for the target population of the APS and the establishment of survey weights that are important to providing valid estimates. The data from the two sources provide a more detailed statistical portrait of First Nations people living off-reserve, Métis, and Inuit in Canada – data which are not available from any other source. (Statistics Canada, 2012a, 2012c).

**Stratification-specific domains of estimation.** This survey utilizes stratification of the domains of estimation. These are groups of units in which estimations are derived. The domains of estimation coincide to geographical regions in which estimates with an “acceptable” level of accuracy for a particular Aboriginal group (i.e., First Nations, Métis or Inuit) are directed.

Stratification produces more precise estimates if the units are homogenous within a strata and heterogenous between strata and having stated Aboriginal identity only on the NHS is a very important stratification factor. The APS design can be considered a three-phase design in which the first two phases relate to the selection of the NHS sample and the third phase relates to the selection of the APS sample. Once the frame had been produced, it was stratified according to domain of estimation and then stratified again by type of region (N1 vs. N2), type of respondent (initial respondent vs. NRFU respondent) and Aboriginal type (ID vs. AO). A systematic random sample was then selected with each stratum, the frame having been sorted by household and person number. The reason for this was to make sure that there was proper distribution of the sample geographically within the strata as well as across as many households as possible (Statistics Canada, 2012a, 2012c).

### **Data Collection**

Two computer assisted interview questionnaires were used for this survey: The first was a Computer Assisted Telephone Interview (CATI), In most regions, CATI was used for individuals that did not have a telephone number. The second a Computer Assisted Personal Interview (CAPI), was used for individuals who did not have a telephone number or who could not be contacted by telephone even when there was a number available. Qualitative testing of the survey questionnaire was completed by Statistics Canada's Questionnaire Design Resource Centre (QDRC) with the assistance of First Nations people, Métis, and Inuit and adjustments were performed to wording and flow based on those results (Statistics Canada, 2012a, 2012c).

### **Derived Variables**

The APS dataset provided 326 grouping variables. This comprehensive grouping

provided an extensive range of variables that included important information ranging from demographic and general health to education and employment variables. Upon careful examination and review of the most recent literature on Indigenous suicide, a number of variables within the dataset were identified as being potentially important to the research question. These variables were then statistically transformed into 15 derived variables which were created with the use of the Statistical Package for Social Sciences (SPSS) using the 2012 APS dataset (see Appendices A for derived variables). This produced the four main categories, suicide ideation, social support, residential school experience, and language/culture outlined in this paper.

### **Analysis Procedures**

**Minimal Sample.** According to Statistics Canada (2003), establishing the appropriate sample size is dependent on the precision of the survey estimates. The precision of the estimate,  $t$ , can be expressed in terms of the allowable standard of error,  $SE(t)$ , the margin of error,  $z \times SE(t)$ , or the coefficient of variation  $SE(t) / t$ . Deciding the sample size for a survey often includes one or more of these measures to be used. To assess what the appropriate minimal sample size should be for the APS, the population of the sample within Canada was taken into account. This would indicate the sample size required to estimate  $P$  with a margin of error of .05 and a 95% confidence level, using stratified random sampling, when  $P=.05$ . It was determined that the minimum number of participants required for the survey was 398, with a confidence interval of +/-5 to satisfy the proportion (Statistics Canada, 2003).

**Weighting.** The APS corrected for sampling biases through the use of a method referred to as weighting of cases. A weight is characterized as the typical number of units in the general

population that a unit in a survey represents. These units represent things such as a person or a household. In a sample survey, each person represents more than just themselves, they also represent others who were not included in the sample. Thus, a weight is associated with each selected person to signify the number of others in the population that they represent. Statistics Canada emphasizes that the use of APS person-weights is essential for all population estimates based on the APS survey data. Regarding the primary weight of a unit in a given APS stratum, it is comprised of two main components: the inverse of the stratum sampling fraction and the NHS weight changed for non-response for the unit in question. Two adjustments were made for two kinds of non-response: non-contact and non-response with contact.

Distinct adjustments were also made for NHS respondents under the age of 15 (children) and NHS respondents aged 15 and over (adults). In terms of the response of children, the person with the most knowledge about the selected child, also known as Person Most Knowledgeable (PMK), completed the questions about the child or children through proxy interview. In most instances, the PMK was the parent or guardian of the child. In addition to the adjustments made for non-response, the APS also applied two post-stratification adjustments. The first made sure that the sample did not over or under represent certain combinations of Aboriginal groups, region and age groups of the NHS. The second was made to ensure that the Aboriginal population estimation that was derived from the APS screening questions was consistent with population defined from the NHS screening questions within each post-stratum defined by the cross-tabulation of region (Statistics Canada, 2012a, 2012c, 2012b).

**Coefficient of Variation.** The sampling error measure that the APS uses is the coefficient of variation (CV), which conveys the sampling error associated with an estimate. In a sample survey, the results are used to estimate how the data would appear if the entire population

was to be surveyed; however, due to the process of estimation, there is going to be some level of error that occurs. For the APS survey, when the CV of an estimate was found to fall within a specific range, specifically between 16.6% and 33.3%, it was provided with a letter value. For example, if a CV of an estimate was above 16.6% but below 33.3%, it was denoted with the letter value of “E”, this meant that the data should be used with caution. Any CV of an estimate greater than 33.3% was replaced with the letter “F”, meaning that the data is suppressed for reasons related to reliability. An important note to make is that a lower CV, the higher quality of data (Statistics Canada, 2012c).

**Bootstrapping.** The bootstrap method is used for estimating error in a dataset related to sampling. As data are not taken from the entire population, sampling errors sometimes occur in the sub-section called a sample. These are samples used to make estimates for the whole population. There are many ways for estimating the level of sampling error, the bootstrap method for example usually selects a number of subsamples from the main sample and produces estimates for each subsample. Specifically, for this study the bootstrapping method is achieved by completing 1,000 sets of bootstrap weights, the default in the Statistical Package for the Social Sciences (SPSS). The sampling error rate is estimated as a function of the observed differences between estimates from the different subsamples and estimates from the complete survey. A particular type of bootstrap method was developed in order to provide estimates of sampling error for statistics produced in the APS. While many bootstrap methods already exist in the literature, none of them were appropriate for the APS sampling design. Considering the NHS was a voluntary survey, the non-response was greater than it had been for the 2006 long form questionnaire and a subsample of non-respondents was selected from non-response follow up (NRFU), this made the sampling design more complex. Because non-response to the NHS was

important, for the purpose of calculating variance only, NRFU respondents were considered a third phase sample (Statistics Canada, 2012c).

## **Participants**

The 2012 APS target population consisted of the Aboriginal ancestry population (i.e., First Nations, Métis, and Inuit) of Canada. The breakdown of Aboriginal respondents was 51.3% First Nations, 42.7% Métis, 5.4% Inuk (Inuit), and .7% identifying having multiple aboriginal identities. Excluded from the study were people that resided on Indian reserves, settlements, and First Nations communities in the Yukon and Northwest Territories (NWT). The sample contains 24,803 individuals, specifically those 6 years of age and over residing in private dwellings living off-reserve (Statistics Canada, 2012a). The sex of the respondents in the sample consisted of 46.7% male and 53.3% female. Since the sample contained a relatively high number of children (26.3% under the age of 18), they were excluded from data analysis associated with marital status. Accounting for these cases, it was determined that 50.5% reported having been married (or common-law, separated, divorced or widowed), while those that reported a status of single or never married were around 32%.

## **First Nations Background.**

In Canada, the Indigenous peoples are constitutionally defined as First Nations, Métis peoples, and Inuit, collectively referred to as “Aboriginal peoples” and are considered the descendants of the original inhabitants of North America (Nelson & Wilson, 2017; Reed, Beeds, & Filion, 2011). While the term “Aboriginal” in many ways fails to accurately capture the heterogeneity that each of these three groups represent in regards to their wide range of unique cultures and backgrounds, they do share many similarities when viewing the world. These

include things such as placing a high value on their oral traditions (languages), developing and maintaining a close spiritual connection to the natural world (hunting and fishing), and holding the family and community in high regard (collectivist society) (Reed et al., 2011).

First Nations is a term that is normally used in contrast to the name “Indian”, which many people find to be offensive (Reed et al., 2011). However, the term Indian is still used for the purpose of a legal meaning in Canada, as in “Status Indian” under the federal government’s law, the Indian Act (Reed et al., 2011). The Métis (derived from a French word meaning “mixed”) are the Aboriginal people who share many aspects of their traditions with First Nations and European Ancestors (McMillan, 1995; Reed et al., 2011). Historically, the term “half breed” has been used to characterize them or anyone of mixed racial heritage, specifically of aboriginal and non-aboriginal descent in Canada (McMillan, 1995; Pritzker, 1999). The Inuit or *Inuk* are the native people of the Arctic and reside primarily in Nunavut, the North West Territories, Northern Quebec, Northern Ontario, and Labrador (McMillan, 1995; Pritzker, 1999).

**Status and Non-Status.** In 1876, Canada passed the *Indian Act* which has since been amended numerous times, most significantly in 1951 and in 1985 (Henderson, 2018). The Indian Act provided the government with the capacity to control and regulate many facets of Indigenous people’s lives, including Indian status, band administration, political structures, land, and cultural practices and education (Canadian Broadcasting Corporation, 2011; Henderson, 2018). In Canada, to be considered “status” (or registered), a set of specific criteria must be met under the Indian Act. As mentioned prior, the term “Indian” was and continues to be used largely as a legal definition for those who fall under the provisions of the Indian Act (McMillan, 1995). For most Indigenous peoples, the right to be registered under a band is determined by the Department of Indian Affairs and Northern Development (INAC), which maintains an Indian Register

(McMillan, 1995). In contrast, Non-status Indians are generally not considered by the government to be Indians under the Indian Act itself.

**Estimates of Sampling Error.** For the results of the APS to be representative of the population, a set of survey weights referred to as person-weights were created, where one person-weight was associated with each of the survey respondents. In the process of generating estimates for a population, some level of error is going unavoidable. The difference between an estimate that is derived from a sample and one that is based on an extensive list is attributed to the estimates “sampling error”. The actual size of the standard error of an estimate is not as meaningful than the size compared to the estimate itself, for this reason, the standard error of an estimate is divided by the estimate itself, where the resulting fraction is demonstrated as a percentage. The sampling error measure used for the APS is the coefficient of variation (CV) of the estimate (Statistics Canada, 2012a, 2012b, 2012c).

## **Results**

The analysis of various derived variables within the 2012 APS dataset were conducted utilizing cross-tabulations, independent sample t-tests, and correlations. It was determined that correlates related to residential school experiences, knowledge of an Aboriginal language, interest in traditional activities, and having contemplated suicide over the lifetime produced the strongest effect sizes. To better determine if there were effects between these constructs, derived variables were created to test various research questions.

### **Prevalence of Suicide Ideation**

Based on the current sample of 24,803 participants, the current prevalence rate of suicide ideation during the last 12 months for Indigenous peoples living within urban centres in Canada

is approximately 3.5%, while the current prevalence rate of suicide ideation over the lifetime was found to be 13.7%. In terms of sex differences for those that have considered suicide during the last 12 months, the prevalence rates for females was approximately 6.1% and males was about roughly 5.2%. As shown in Table 4, there appears to be sex differences related to having contemplated suicide over the lifetime for both males and female's prevalence rates. Females were found to have a lifetime prevalence rate of 21.5% and males were found to have a prevalence rate of 15.8%.

Analysis was performed utilizing cross-tabulation to determine if residential school experience in the family (no =5, yes =1 & 4) and thoughts about suicide during the lifetime (no =0, yes =1) are independent of one another. The differences between these two statistics is significant ( $\chi^2 = 207.95$ ,  $df = 1$ ,  $p < 0.01$ ) As an estimate of effect size the phi-correlation is .11. As seen in Table 6a and 6b, those that have residential school experiences within the family are more likely to have thoughts about suicide than those that do not have residential school experiences within their family.

To test if there was a statistically significant difference between having contemplated suicide during the lifetime and interest in traditional Aboriginal activities, an independent samples t-test was utilized. Scores on the traditional interest subscale were higher for those that had contemplated suicide within their lifetime  $M = .978$  ( $SD = 1.05$ ) then for those who did not contemplate suicide within their lifetime  $M = .737$  ( $SD = .896$ ),  $t(4268.66) = 12.2$ ,  $p < .001$ ,  $d = .01$ . Levene's test indicated unequal variances ( $F = 6.05$ ,  $p = .014$ ), so degrees of freedom were adjusted from 16485 to 4268.66. The results indicate that those that have contemplated suicide sometime during their lives are more likely to be interested in traditional Aboriginal activities such as arts and crafts, fishing/hunting, gathering plants, and making clothing (Table 5).

### **Residential School Experience**

Two independent samples t-tests were conducted to examine the relationship between having residential school experiences in the family and having knowledge of an Aboriginal language as well as showing an interest in traditional Aboriginal activities. The first test found that scores on the language subscale were higher for those with residential school experience in the family  $M = 1.68$  ( $SD = .98$ ) than for those with no residential school experience in the family  $M = .610$  ( $SD = .82$ ),  $t(7628.78) = 62.6$ ,  $p < .001$ ,  $d = .25$ . Levene's test indicated unequal variances ( $F = 143$ ,  $p = .001$ ), so degrees of freedom were adjusted from 13121 to 7628.78. As demonstrated in Table 6, Having residential school experiences in the family appears to increase that chances of someone within the family having knowledge of an Aboriginal language when compared to those that do not have residential school experiences in the family. The second independent samples t-test determined that scores on the traditional interest subscale were higher for those with residential school experience in the family  $M = .996$  ( $SD = 1.02$ ) than for those with no residential school experience in the family  $M = .608$  ( $SD = .829$ ),  $t(6114.20) = 19.9$ ,  $p < .001$ ,  $d = .04$ . Levene's test indicated unequal variances ( $F = 81$ ,  $p = .001$ ), so degrees of freedom were adjusted from 10832 to 6114.20. It would appear that having residential school experiences in the family increase the likelihood of having knowledge about an Aboriginal language; interestingly, it also points to those that have residential school experiences within the family as being overall more interested in traditional Aboriginal activities than those that do not have residential school experiences in the family.

Cross-tabulations were performed to examine if having residential school experiences in the family influenced the ability to speak as well as having been exposed to an Aboriginal language. The first analysis was performed to determine if residential school experience in the

family (no =5, yes = 1 & 4) and speaking an Aboriginal language (no =0, yes =1) are independent of one another. The differences between these two statistics is significant ( $\chi^2 = 2801.06$ ,  $df = 1$ ,  $p < 0.01$ ). As seen within Table 9a and 9b, the estimate of effect size of the phi-correlation is 0.46. Having residential school experiences within the family was found to have a medium to large effect on one's ability to speak an Aboriginal language. The second analysis that was performed was to assess if residential school experience in the family (no =5, yes = 1 & 4) and exposure to an Aboriginal language (no =0, yes =1) are independent of one another. Table 10a and 10b demonstrates the differences between the two statistics is significant ( $\chi^2 = 1631.21$ ,  $df = 1$ ,  $p < 0.01$ ). As an estimate of effect size the phi-correlation is 0.35. It is evident that having residential school experiences in the family increase the likelihood of being exposed to an Aboriginal language when compared to those that have not had residential school experiences in the family.

### **Knowledge of Aboriginal Language**

Two tests of correlations were conducted to examine if there was a positive or negative relationship between having knowledge of an Aboriginal language and showing both an interest in traditional Aboriginal activities as well as the frequency of engaging in these traditional activities. The first correlation as seen in Table 11, found that the relationship between having knowledge of an Aboriginal language and showing interest in traditional activities was statistically significant,  $r(18354) = .21$ ,  $p < 0.01$ . This appears to indicate that there is a positive relationship between these two variables, suggesting that if someone has knowledge of an Aboriginal language, they are more likely to show some interest in traditional Aboriginal activities. The second correlation also found that the relationship between having knowledge of an Aboriginal language and the frequency engaging with traditional activities was statistically

significant,  $r(11674) = .13, p < 0.01$ . Table 12 demonstrates that having knowledge of an Aboriginal language tends to increase the frequency that someone would choose to engage with traditional Aboriginal activities.

### **Traditional Aboriginal Activities (Last 12 Months)**

A test of correlation was conducted to determine if traditional Aboriginal activities engaged in during the last 12 months had an influence on how frequently someone would engage in traditional Aboriginal activities. The test of correlation as seen in Table 13, found that there is a positive relationship between traditional activities engaged in within the last 12 months and the frequency engaged with traditional activities was statistically significant,  $r(11674) = .78, p < 0.01$ . This seems to indicate that the more someone chooses to engage with traditional Aboriginal activities, the more frequently they will end up engaging with traditional Aboriginal activities.

### **Living Situation**

To test if living with someone and number of individuals with whom an individual can turn to for social support have a positive or negative relationship, an independent samples t-test was conducted. As shown in Table 14, the independent samples t-test determined that scores on the social support subscale were higher for those that were living with someone  $M = 1.75 (SD = 1.17)$  then for those that were not living with someone  $M = 1.53 (SD = .985), t(17490.27) = 14.3, p < .001, d = .01$ . Levene's test indicated unequal variances ( $F = 155.35, p .001$ ), so degrees of freedom were adjusted from 18306 to 17490.27. This finding support the social buffering hypothesis proposed by Cohen & Wills (1985); specifically, that if someone is living with one or more other people, they will have higher rates of perceived social support than those that live alone.

## Discussion

The examination of the 2012 APS determined that the prevalence rate of suicide ideation experienced during the lifetime for Indigenous peoples living off-reserve or in urban centers is 13.7%, compared to 16% of Indigenous peoples living on-reserve or in rural areas (First Nations Information & Governance Centre, 2018). This difference while not surprising, is likely the result of the unfortunate living conditions that many communities face due in part to a variety of factors that include: lower levels of income, poorer quality of housing, domestic abuse, poor parenting styles, and disproportionate rate of substance abuse (Aguiar, 2015; Heath, Torrie, & Gill, 2019; Kendall, 2001; Mehl-Madrona, 2016). When compared to the non-Indigenous peoples prevalence rate of suicide ideation, 11.3%, reported by Knoll & MacLennan (2017), the findings within the current study demonstrates that the rate of suicide ideation with the Indigenous population of Canada continues to be greater than that of the general public. In terms of breakdown of suicide ideation by sex, the male prevalence rate of contemplating suicide during the last 12 months was found to be around 5.2%, while female prevalence rates were 6.1%. The lifetime prevalence rate of suicide ideation during the last year was 15.8% for males, while females had an even greater rate of 21.5% (Table 1). The rates of contemplating suicide both during the last 12 months and during the lifetime for both sexes, was established as being greater than non-Indigenous peoples reported by the 2011 CCHS.

The current study found that having residential school experiences increased the likelihood of considering suicide during the lifetime. This is consistent with the literature, For example, Evans-Campbell & Walters (2006), found that intergenerational trauma experienced by the Indigenous population has resulted in increased rates of psychological distress, suicide ideation, and suicide attempts for those living both on and off-reserve that have residential

school experiences in their family. The main argument for the increased prevalence rate is largely due to historic trauma that resulted from the residential school system; particularly, chronic neglect and physical, sexual, psychological, and cultural abuse were pervasive (McQuaid et al., 2017). These traumatic experiences would have gradually resulted in intergenerational trauma that is passed down through the generations (Aguiar, 2015), resulting in the increased suicide ideation found within this study.

To the best of my knowledge, there has been no research done examining the impact that contemplating suicide (during the lifetime) has in regards to interest in traditional Aboriginal activities. The results suggest that having contemplated suicide during one's lifetime seems to increase the interest of wanting to possibly explore some form of traditional Aboriginal activities. A possible explanation for this could be that a loss of cultural knowledge due to the Canadian Governments assimilation policy, which included the residential school system has resulted in a journey of self-discovery for many that have been denied various important cultural components important to forming and maintaining their personal identity.

The derived variable that produced the greatest effect sizes between correlates in the sample was having residential school experiences. In particular, having residential school experiences in the family appears to act as a catalyst in increasing desirability to reclaim and experience various cultural aspects related to traditional Indigenous knowledge, such as their language(s), and traditional activities. It's important to note that the findings in terms of the relationships between the correlates of residential school experiences in the family, Aboriginal languages, and traditional Aboriginal activities are unique to this current study. In particular, there is unfortunately little to no research that has been performed that has examined Indigenous

people living off-reserve and the effect that the residential school system has had in relation to the correlates of Indigenous heritage (i.e., language and traditional activities).

It appears that Indigenous families that have a history of residential school experiences consider it important know an Aboriginal language. This includes being able to speak an Aboriginal language and having been exposed to Aboriginal languages. The following is speculative, but offers some possibilities on why this might be the case. Those that experienced the residential school system firsthand would have witnessed the attempt by the Canadian Governments to assimilate Indigenous peoples by shaping and molding those individuals with the most malleable identities – the children (Tait & Aboriginal Healing Foundation of Canada, 2003). Through this process, it was made apparent that the aim was to eliminate their understanding of their cultural background (Aguiar, 2015). These individuals have not only experienced the abuse, but have also seen the devastating effect these policies and practices have had on the younger generations of Indigenous peoples, particularly in loss of language and understanding of their own cultural practices. Thus, it is not a far-stretch to assert that those that experienced the system realize how vitally important it is to engage with foundational cultural components to develop a better understanding of who they are as Indigenous peoples. This could be one of the reasons as to why this study found that having residential school experiences in the family, increases the likelihood of knowing an Aboriginal language and interest in engaging with traditional Aboriginal activities.

Interestingly, the more that Indigenous peoples know about their Aboriginal languages, the more they are inclined to engage with traditional Aboriginal activities such as arts and crafts, hunting and fishing, gathering of plants, and making traditional clothing. This could be due to the realization that these important cultural components are instrumental in developing a strong and

enduring sense of self. In fact, according to the Government of Canada (2005), language is widely regarded as “one of the most tangible symbols of culture and group identity – a link which connects people with their past, and grounds their social, emotional and spiritual vitality”. This supports the results found in the study, specifically that language increases the interest in traditional Aboriginal activities as well as the frequency in which they choose to engage with traditional activities.

Lastly, it was found that individuals that were living with someone had higher rates of social support than those that were not living with anyone. This increase in social support individuals receive while living with another person, according to Cohen & Wills (1985) is hypothesized to buffer individuals from potentially pathogenic influence of stressful events. Simply stated, buffering received from living with someone would act as a buffer against increased stress that could result in an increase in suicide ideation. Unfortunately, the current study also found that a relatively large proportion of respondents reported to living alone (43.1%) when compared to those that are living with another individual (39.3%). Thus, those that do not live alone appear to have some protection against suicide ideation.

While this study failed to reject the null hypothesis, specifically not clearly identifying important correlates in the 2012 APS that appear to be associated with the disproportionate rates of suicides experienced by the Indigenous peoples of Canada, valuable findings were still obtained. The overwhelming impact that the residential school system has had on Indigenous peoples is illustrated through the results found within this study as well as other research. The promising findings that those that have residential school system experiences within their family seem to be more inclined and interested in reaching out to Aboriginal languages and traditional Aboriginal activities in increasing frequency indicates that developing a sense of sense through a

more thorough understanding of their cultural heritage is slowly occurring. While the eradication of traditional Aboriginal knowledge was perpetuated early on in Canada's history, resulting in a loss of overall traditional knowledge (Aguilar, 2015; Truth and Reconciliation Commission of Canada, 2015), the findings within are encouraging in that it appears that many within this community realize the immense importance their cultural backgrounds play in living a well-balanced life in terms of their emotional, spiritual, physical, and psychological well-being. The findings of the study support the notion that among Indigenous peoples living off-reserve, an increasing number are exhibiting a resurgence of interest to reclaim their cultural identity.

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## Appendix A

The following is a list of the fifteen derived variables that were created using SPSS utilizing the 2012 APS dataset;

1. **New\_Wgt** -New\_Wgt = PUMFWGHT \* 24803 / 963108 (Use as Default when doing simple descriptive statistics)
2. **Int\_Wgt** -Int\_Wgt = rmd(New\_Wgt) (Use when looking at 2 variables and need to use bootstrapping)
3. **Residential** -Residential school experience in family (5 = No, 1 & 4 = Yes)
4. **Suicide12** -Considered suicide (Last 12 months) See DSUICG
5. **SuicLife** -Considered suicide (Lifetime) See DSUICG
6. **Living** -Living with someone IF (MS\_01G = 1)(MS\_01G = 2) = 1, IF (MS\_01G = 3 ) (MS\_01G = 4) = 0)
7. **Lan01** -Speak an Aboriginal language (0 = No, 1 = Yes) All other continuous variables exempt
8. **Lan05** -Understand an Aboriginal language (0 = No, 1 = Yes) All other continuous variables exempt
9. **EX** -Exposure to an Aboriginal language
10. **FL** -First language learned
11. **Lang** -Language = Sum(Lan01,Lan05,EX,FL)
12. **SocSupp** -recode 2=0;Social Support = SUM(CS\_01B,CS\_01C, CS\_01D, CS\_01E, CS\_01F, CS\_01G, CS\_01H, CS\_01I, CS\_01J, CS\_01K, CS\_01L, CS\_01M)
13. **Trad12M** -Traditional activities interested in engaging in. recode 2=0;Trad12m=sum(TA\_01F,TA\_02F,TA\_03F,TA\_04F)
14. **TradInt** -COMPUTE TA\_01BG=4-  
TA\_01BG...TradFreq=Sum(TA\_01BG,TA\_02BG,TA\_03BG,TA\_04BG)
15. **TradFreq** -Traditional activities in last 12 mo. recode 2=0;Trad12m=sum(TA\_01A,TA\_02A,TA\_03A,TA\_04A)

## Appendix B

The APS sample was selected from respondents who answered specific questions to four screen testing questions on the NHS questionnaire, which had two versions, the N1 form and the N2 form.

The N1 form was completed by the respondents themselves and was provided to approximately one in three households in Canada (N1 regions). The N1 form contains certain basic census demographic questions as well as questions on labour market activity, housing, ethnic origin, etc. This form is considered a two-phase sampling design in the N1 regions.

The N2 form was very similar to the N1 form, except for some changed examples and removed questions and was given by personal interview to all households in remote areas, Inuit communities and Indian reserves (N2 regions). This form is considered a single-phase sampling in the N2 regions.

For a list of the four screen testing questions used to identify the Aboriginal population, please see the Aboriginal Peoples Survey, 2012: Concepts and Methods Guide.

Table 1

**Demographic Variables**

	Unweighted (%)	Weighted (%)
<b>Sex</b>		
Female	51.7	53.3
Male	48.3	46.7
<b>Age</b>		
6-8	8.7	5.9
9-11	8.9	5.6
12-14	9.3	5.9
15-18	12.3	8.9
19-24	11.8	10.7
25-34	15.1	14.8
35-44	15.4	15.4
45-54	8.0	15.2
55+	10.5	17.6
<b>Identity</b>		
First Nations	45.1	51.3
Métis	40.6	42.7
Inuit	13.5	5.4
Multiple Aboriginal Identities	.8	.7
<b>Marital Status</b>		
Married	21.2	27.6
Common-Law	11.7	11.8
Separated/divorced/or widowed	6.7	11.1
Single, never married	33.6	32
Valid skip	26.9	17.4

Table 2

<b>Contemplated Suicide Within Last 12 Months</b>		
	Unweighted (%)	Weighted (%)
No	50.1	57.6
Yes	3	3.5
Total	53.1	61.1
Missing	46.9	38.9
Total	100	100

<b>Contemplated Suicide Within the Lifetime</b>		
	Unweighted (%)	Weighted (%)
No	50.1	57.6
Yes	11.6	13.7
Total	61.7	71.2
Missing	38.3	28.8
Total	100	100

Table 3

**Prevalence Rates of Suicide Ideation during the Last Year**

			Prevalence rates of suicide ideation in last year		Total
			No	Yes	
Sex	MALE	Count	6177	337	6514
		% Within Sex	94.8	5.2	100
		% Within Considered Suicide	45.4	41.3	45.2
		% of Total	42.8	2.3	45.2
	FEMALE	Count	7432	479	7911
		% Within Sex	93.9	6.1	100
		% Within Considered Suicide	54.6	58.7	54.8
		% of Total	51.5	3.3	54.8
Total	Count	13609	816	14425	
	% Within Sex	94.3	5.7	100	
	% Within Considered Suicide	100	100	100.	
	% of Total	94.3	5.7	100	

**Prevalence Rates of Suicide Ideation during the Lifetime**

			Prevalence rates of suicide ideation lifetime		Total
			No	Yes	
Sex	MALE	Count	6177	1155	7332
		% Within Sex	84.2	15.8	100
		% Within Considered Suicide	45.4	36.3	43.7
		% of Total	36.8	6.9	43.7
	FEMALE	Count	7432	2031	9463
		% Within Sex	78.5	21.5	100
		% Within Considered Suicide	54.6	63.7	56.3
		% of Total	44.3	12.1	56.3
Total	Count	13609	3186	16795	
	% Within Sex	81	19	100	
	% Within Considered Suicide	100	100	100	
	% of Total	81	19	100	

Table 4

**Residential school experience in family  
(Unweighted)**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	8735	35.2	61.3	61.3
	Yes	5513	22.2	38.7	100.0
	Total	14248	57.4	100.0	
Missing	System	10555	42.6		
Total		24803	100.0		

**Residential school experience in the family  
(Weighted)**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	9290	37.5	65.1	65.1
	Yes	4984	20.1	34.9	100.0
	Total	14274	57.5	100.0	
Missing	System	10529	42.5		
Total		24803	100.0		

Table 5

**Group Statistics**

	Considered suicide (Lifetime)	N	Mean	Std. Deviation	Std. Error Mean
Traditional activities		13410	.7378	.89613	.00774
interested in engaging in		3077	.9782	1.00479	.01811

**Independent Samples Test**

	Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Traditional activities	6.047	.014	-13.111	16485	.000	-.24042	.01834	-.27636	-.20447
interested in engaging in			-12.205	4268.660	.000	-.24042	.01970	-.27904	-.20180

**Descriptive Statistics**

	Mean	Std. Deviation	N
Considered suicide (Lifetime)	.1897	.39207	16795
Traditional activities interested in engaging in	.7568	.91263	18357

**Correlations**

		Considered suicide (Lifetime)	Traditional activities interested in engaging in
Considered suicide (Lifetime)	Pearson Correlation	1	.102**
	Sig. (2-tailed)		.000
	N	16795	16487
Traditional activities interested in engaging in	Pearson Correlation	.102**	1
	Sig. (2-tailed)	.000	
	N	16487	18357

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Table 6a

**Case Processing Summary**

	Valid		Cases Missing		Total	
	N	Percent	N	Percent	N	Percent
Residential school experience in the family * Considered suicide (Lifetime)	9960	43.7%	12841	56.3%	22801	100.0%

**Crosstabulation**

Count

		Considered suicide (Lifetime)		Total
		No	Yes	
Residential school experience in the family	No	5624	934	6558
	Yes	2517	885	3402
Total		8141	1819	9960

**Chi-Square Tests**

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	207.947 <sup>a</sup>	1	.000		
Continuity Correction <sup>b</sup>	207.159	1	.000		
Likelihood Ratio	200.230	1	.000		
Fisher's Exact Test				.000	.000
Linear-by-Linear Association	207.926	1	.000		
N of Valid Cases	9960				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 621.31.

b. Computed only for a 2x2 table

Table 6b

**Symmetric Measures**

		Value	Asymptotic Standard Error <sup>a</sup>	Approximate T <sup>b</sup>	Approximate Significance
Nominal by Nominal	Phi	.144			.000
	Cramer's V	.144			.000
	Contingency Coefficient	.143			.000
Interval by Interval	Pearson's R	.144	.010	14.572	.000 <sup>c</sup>
Ordinal by Ordinal	Spearman Correlation	.144	.010	14.572	.000 <sup>c</sup>
N of Valid Cases		9960			

- a. Not assuming the null hypothesis.
- b. Using the asymptotic standard error assuming the null hypothesis.
- c. Based on normal approximation.

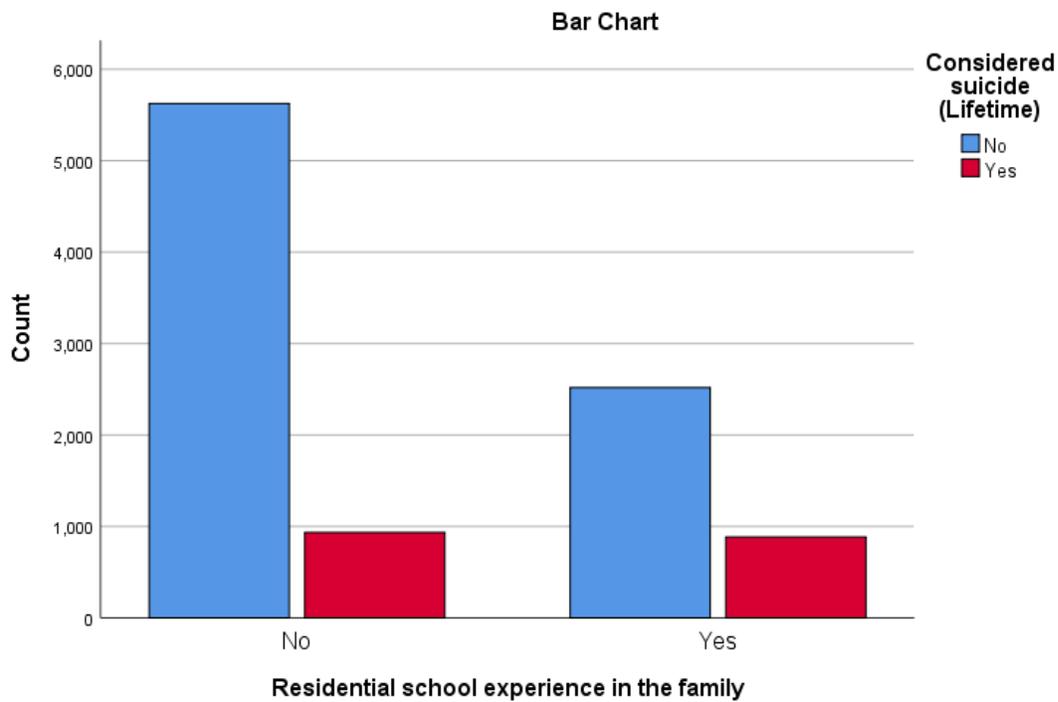


Table 7

**Group Statistics**

	Residential school experience		N	Mean	Std. Deviation	Std. Error Mean
Language			8717	.6102	.82019	.00878
			4406	1.6813	.97466	.01468

**Independent Samples Test**

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Language	143.330	.000	-66.219	13121	.000	-1.07116	.01618	-1.10286	-1.03945
			-62.601	7628.789	.000	-1.07116	.01711	-1.10470	-1.03761

**Descriptive Statistics**

	Mean	Std. Deviation	N
Residential school experience in family	.3357	.47227	13123
Language	1.0008	1.01073	22382

**Correlations**

		Residential school experience in family	Language
Residential school experience in family	Pearson Correlation	1	.500**
	Sig. (2-tailed)		.000
	N	13123	13123
Language	Pearson Correlation	.500**	1
	Sig. (2-tailed)	.000	
	N	13123	22382

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Table 8

**Group Statistics**

	Residential school experience in family	N	Mean	Std. Deviation	Std. Error Mean
Traditional activities interested in engaging in		7212	.6079	.82978	.00977
		3622	.9956	1.01493	.01686

**Independent Samples Test**

	Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Traditional activities interested in engaging in	80.571	.000	-21.249	10832	.000	-.38771	.01825	-.42347	-.35194
			-19.892	6114.203	.000	-.38771	.01949	-.42591	-.34950

**Descriptive Statistics**

	Mean	Std. Deviation	N
Residential school experience in family	.3357	.47227	13123
Traditional activities interested in engaging in	.7568	.91263	18357

**Correlations**

		Residential school experience in family	Traditional activities interested in engaging in
Residential school experience in family	Pearson Correlation	1	.200**
	Sig. (2-tailed)		.000
	N	13123	10834
Traditional activities interested in engaging in	Pearson Correlation	.200**	1
	Sig. (2-tailed)	.000	
	N	10834	18357

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Table 9a

**Case Processing Summary**

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Residential school experience in family * Speak an Aboriginal language	13118	57.5%	9683	42.5%	22801	100.0%

**Crosstabulation**

Count

		Speak an Aboriginal language		Total
		No	Yes	
Residential school experience in family	No	7148	1564	8712
	Yes	1581	2825	4406
Total		8729	4389	13118

**Chi-Square Tests**

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	2801.064 <sup>a</sup>	1	.000		
Continuity Correction <sup>b</sup>	2798.991	1	.000		
Likelihood Ratio	2769.249	1	.000		
Fisher's Exact Test				.000	.000
Linear-by-Linear Association	2800.850	1	.000		
N of Valid Cases	13118				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 1474.15.

b. Computed only for a 2x2 table

Table 9b

**Symmetric Measures**

		Value	Asymptotic Standard Error <sup>a</sup>	Approximate T <sup>b</sup>	Approximate Significance
Nominal by Nominal	Phi	.462			.000
	Cramer's V	.462			.000
	Contingency Coefficient	.419			.000
Interval by Interval	Pearson's R	.462	.008	59.674	.000 <sup>c</sup>
Ordinal by Ordinal	Spearman Correlation	.462	.008	59.674	.000 <sup>c</sup>
N of Valid Cases		13118			

- a. Not assuming the null hypothesis.
- b. Using the asymptotic standard error assuming the null hypothesis.
- c. Based on normal approximation.

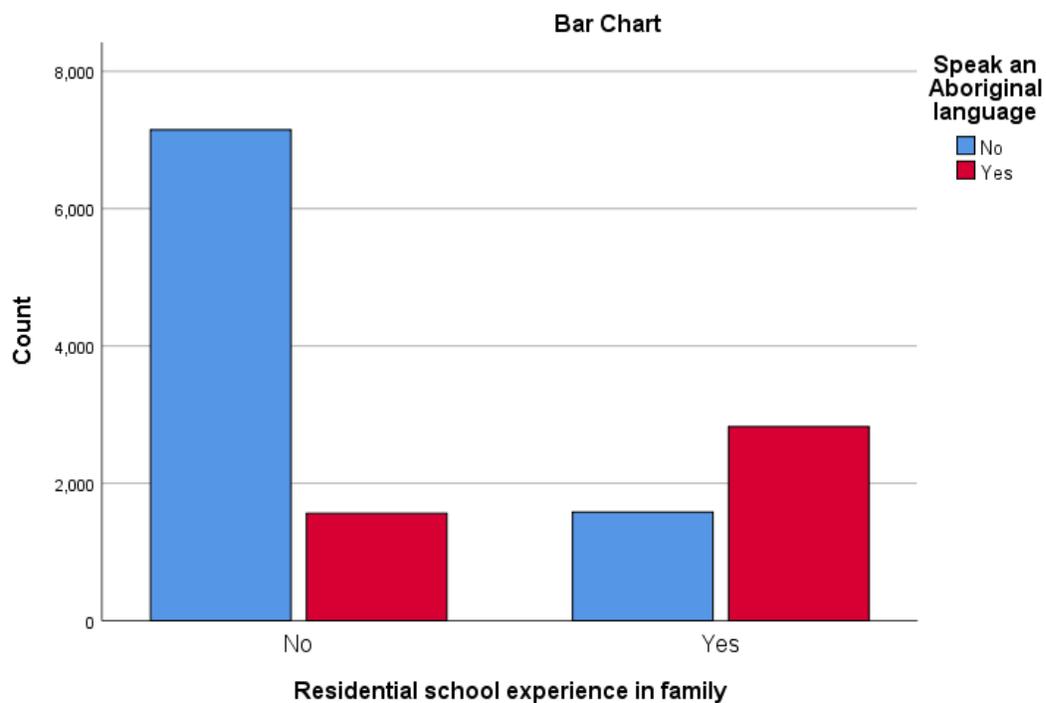


Table 10a

**Case Processing Summary**

	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
	Residential school experience in family * Exposed to an Aboriginal language	13075	57.3%	9726	42.7%	22801

**Crosstabulation**

Count

		Exposed to an Aboriginal language		Total
		No	Yes	
Residential school experience in family	No	5806	2878	8684
	Yes	1300	3091	4391
Total		7106	5969	13075

**Chi-Square Tests**

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	1631.214 <sup>a</sup>	1	.000		
Continuity Correction <sup>b</sup>	1629.713	1	.000		
Likelihood Ratio	1660.103	1	.000		
Fisher's Exact Test				.000	.000
Linear-by-Linear Association	1631.089	1	.000		
N of Valid Cases	13075				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 2004.58.

b. Computed only for a 2x2 table

Table 10b

		Symmetric Measures			
		Value	Asymptotic Standard Error <sup>a</sup>	Approximate T <sup>b</sup>	Approximate Significance
Nominal by Nominal	Phi	.353			.000
	Cramer's V	.353			.000
	Contingency Coefficient	.333			.000
Interval by Interval	Pearson's R	.353	.008	43.168	.000 <sup>c</sup>
Ordinal by Ordinal	Spearman Correlation	.353	.008	43.168	.000 <sup>c</sup>
N of Valid Cases		13075			

- a. Not assuming the null hypothesis.
- b. Using the asymptotic standard error assuming the null hypothesis.
- c. Based on normal approximation.

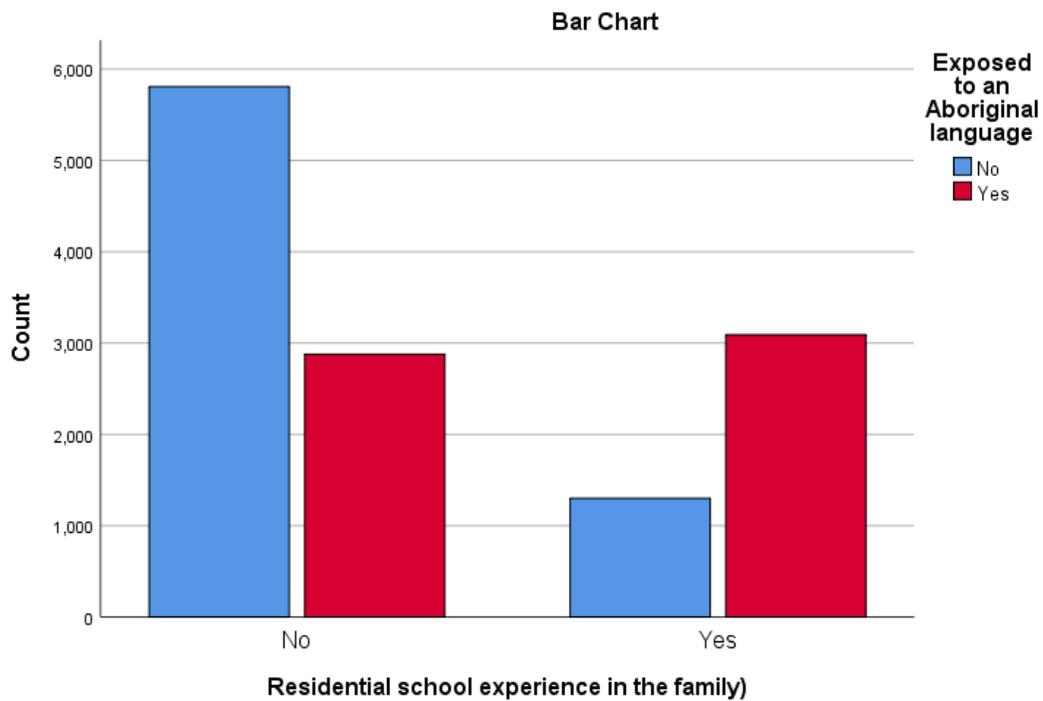


Table 11

<b>Descriptive Statistics</b>			
	Mean	Std. Deviation	N
Language	1.0008	1.01073	22382
Traditional activities interested in engaging in	.7568	.91263	18357

<b>Correlations</b>			
		Language	Traditional activities interested in engaging in
Language	Pearson Correlation	1	.206**
	Sig. (2-tailed)		.000
	Sum of Squares and Cross-products	22863.986	3503.522
	Covariance	1.022	.191
	N	22382	18356
Traditional activities interested in engaging in	Pearson Correlation	.206**	1
	Sig. (2-tailed)	.000	
	Sum of Squares and Cross-products	3503.522	15288.458
	Covariance	.191	.833
	N	18356	18357

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Table 12

<b>Descriptive Statistics</b>			
	Mean	Std. Deviation	N
Language	1.0008	1.01073	22382
Frequency engaging with traditional activities	3.1491	1.79415	11676

<b>Correlations</b>			
		Language	Frequency engaging with traditional activities
Language	Pearson Correlation	1	.129**
	Sig. (2-tailed)		.000
	Sum of Squares and Cross-products	22863.986	2761.514
	Covariance	1.022	.237
	N	22382	11676
Frequency engaging with traditional activities	Pearson Correlation	.129**	1
	Sig. (2-tailed)	.000	
	Sum of Squares and Cross-products	2761.514	37581.401
	Covariance	.237	3.219
	N	11676	11676

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Table 13

<b>Descriptive Statistics</b>			
	Mean	Std. Deviation	N
Traditional activities in last 12 months	6.9589	1.03620	18714
Frequency engaged with traditional activities	3.1491	1.79415	11676

<b>Correlations</b>			
		Traditional activities in last 12 months	Frequency engaged with traditional activities
Traditional activities in last 12 months	Pearson Correlation	1	-.778**
	Sig. (2-tailed)		.000
	Sum of Squares and Cross-products	20092.318	-13298.077
	Covariance	1.074	-1.139
	N	18714	11676
Frequency engaged with traditional activities	Pearson Correlation	-.778**	1
	Sig. (2-tailed)	.000	
	Sum of Squares and Cross-products	-13298.077	37581.401
	Covariance	-1.139	3.219
	N	11676	11676

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Table 14

**Group Statistics**

	Living with someone	N	Mean	Std. Deviation	Std. Error Mean
Social Support		9370	1.5260	.98511	.01018
		8938	1.7543	1.16898	.01236

**Independent Samples Test**

	Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Social Support	155.346	.000	-14.311	18306	.000	-.22827	.01595	-.25953	-.19700
			-14.254	17490.268	.000	-.22827	.01601	-.25966	-.19688

**Descriptive Statistics**

	Mean	Std. Deviation	N
Living with someone	.4837	.49975	19369
Social Support	1.6743	1.09161	21656

**Correlations**

		Living with someone	Social Support
Living with someone	Pearson Correlation	1	.105**
	Sig. (2-tailed)		.000
	N	19369	18308
Social Support	Pearson Correlation	.105**	1
	Sig. (2-tailed)	.000	
	N	18308	21656

\*\* . Correlation is significant at the 0.01 level (2-tailed).