

Residential Schooling Attendance and Negative Adult Outcomes

Chelsea Ernhofer

Introduction: The Aboriginal Experience

Psychological research concerning depression has determined that Aboriginal Americans are at a heightened level of risk for developing depression and other psychological disorders (Baddely and Singer 2008). Additionally, Aboriginal populations in both the United States and Canada experience higher levels of suicide (Elias et al. 2012), addiction (Loppie and Wien 2009), and learning disabilities (Ziegler and Goswami 2005) and lower levels of health (Barton et al. 2005), income (Barner et al. 2006), and educational attainment (Barnes et al. 2006). These poor adult outcomes have been widely explored in both psychological and sociological fields, however, the mechanisms behind these statistics is what motivates my research.

A popular and well-developed theory concerning why First Nations individuals have generally negative psychological outcomes involves their history and colonization. Beginning in the 16th century, European colonizers claimed land once pertaining to First Nations tribes and drove their communities to less fruitful areas. Settlement and increased hunting also led to scarcity of animals which First Nations peoples depended on for food and clothing. Once established as an independent country, Canadian governments began to seek for First Nations adoption of a Euro-Christian belief system and way of life. This attempt to force acclimation, at the expense of Aboriginal culture and heritage, is argued, by many scholars, to have had a significant negative influence on the development of individual First Nations peoples (Dorrell 2009).

This desire for acclimation also led to a host of harmful legislation, including the implementation of the Canadian Residential School System (Law Commission of Canada 2000). Current academic discussion points to the adoption of Residential Schools as a singular trauma-inducing event, which has negatively affected First Nations communities, generations down the line. Negative adult outcomes experienced by Aboriginal individuals have been directly linked to Residential School attendance, with Residential School survivors experiencing higher rates of depression, substance abuse, and suicide when compared to both non-Aboriginal populations and Aboriginal peoples who did not attend Residential Schools (Milloy 1999; Kirmayer et al. 2003).

Residential Schools and Negative Adult Outcomes: Exploring the Mechanism

My research concerns the negative effects of Residential School attendance, and specifically, the mechanisms behind the relationship between Residential School attendance and negative psychological outcomes. Although the correlation between Residential School attendance and negative adult outcomes has been well established, little research has been done concerning the mechanisms behind this relationship. Two main theories were developed in an attempt to explain why children who attended Residential Schools faced such harsh opposition as adults. These two theories are Historical Trauma and Adverse Childhood experiences.

Historical Trauma

As previously discussed, Aboriginal peoples in many western countries have experienced a severe loss of culture following European colonization (Royal Commission on Aboriginal Peoples 1996). The theory of Historical Trauma posits that the experience of losing one's culture can lead to identity confusion and psychological disorders, most notably depression (Berry 1999). Researchers claim that by forcing children to attend Residential Schools, the Canadian government was robbing First Nations students of important social and cultural experiences (Berry 1999; Dorrell 2009; Bombay 2013). This cultural oppression subsequently led to the negative psychological outcomes experienced by Residential School survivors today, such as depression and substance abuse (Kirmayer et al. 2000). Historical trauma differs from standard Post Traumatic Stress Disorder because it impacts entire communities, not just individuals directly affected by trauma (Gone 2013).

Adverse Childhood Experiences

A competing theory suggests that trauma experienced in the Residential Schools is the cause of negative psychological outcomes. Adverse Childhood Experiences (ACEs), is a theory widely explored in the field of psychology and cognitive development. It posits that traumatic events experienced as a child permeate into adult life, causing negative consequences (Edwards et al. 2003). Exposure to ACEs is significantly correlated with adult depression and mental health illnesses (Chapman et al. 2004; Dahl et al. 2017), learning disabilities (Feletti et al. 1998), alcohol and drug abuse (Anda et al. 2002; Dube et al. 2003), and early death and suicide attempts (Dube et al. 2003; Afifi et al. 2008).

Aboriginal peoples, on average, experience more ACEs than the general population, with 47% of Aboriginal youths claiming to have been exposed to at least one form of trauma (Boyd-Ball 2006). Childhood physical abuse among First Nations members was found to be a significant predictor of later psychological disorders for both males and females (Libby et al. 2005).

Since many survivors of Residential Schools report both sexual and physical abuse, researchers theorize that these traumatic experiences are key mechanisms in the relationship between Residential School attendance and negative psychological adult outcomes (Boyd-Ball 2006). This suggests that the negative adult experiences, in the case of Residential School attendees, are not a result of culture loss, but rather, indicative of traumatic events experienced at a Residential School.

Quantifying Relationships: Digging Deeper

My research follows the concept of Adverse Childhood Experiences. Through quantitative text analysis of Residential School survivors' testimonies, I seek to measure the effect of ACEs, specifically physical and sexual abuse, experienced during an individual's time in the Residential School system and use that metric to explain differing psychological states. Results from this analysis will then be able to indicate if traumatic experiences suffered in

Residential Schools had lasting effects on First Nations children, independent from the loss of culture and heritage.

This research fills an important role in First Nations and Residential School research. Although theories, like those discussed above, concerning the mechanisms behind Residential School attendance and poor psychological outcomes are prevalent in current discussion, none have been quantifiably tested. This is due, in part, to the fact that the majority of past analysis has relied on survey data and neglected to quantitatively research the exact experiences undergone by children in Residential Schools (Kirmayer et al. 2003; Robertson 2006). Some qualitative work has been completed in an attempt to understand the living situations of Residential Schools and the experiences of Residential School students, however little analysis has been done using these data.

Proposed Data and Methods: Quantitative Text Analysis on First Nations' testimonies

The data I will use in my research comes from testimonies taken by the Truth and Reconciliation Commission in Canada, from 2008-2015. In total, over 4,000 public testimonies were given, involving individual's experiences in the Residential School system. These testimonies were given at various public events, including Sharing Circles and Sharing Panels. Data to be used in analysis will include testimonies given by Residential School Survivors from all types of events. This includes almost 75 events and over 200 hours of video. It is expected that this will include testimonies from approximately 600 First Nations individuals who attended Residential Schools.

In order to analyze these testimonies, the available video must be divided, creating 'observations' that each include the testimony of only one Residential School survivor. I will then create transcriptions of the testimonials using the Google Speech API and manual accuracy testing. Then, using quantitative text analysis methods, I will extract features of the text in order to create a final data set on which an OLS regression will be run.

Feature Extraction: Measuring Experience and Psychological State

The main indicator variable I plan on using in my research is exposure to or experience of physical or sexual abuse. Through basic feature extraction I will be able to detect if an individual speaks about abuse and if that individual is the subject of the abuse (Pennebaker and Stone 2003; Mehl et al. 2006; Newman et al. 2008). This will then create a dichotomous variable of abuse which will be key in my analysis.

Detecting psychological state solely from First Nations' testimonies presents a more complex challenge. However, by using latent semantic analysis to look beyond the identity of words and consider the style and structure of language, psychological conditions such as PTSD and depression can be identified (Arguello et al. 2006; Baddeley and Singer 2008). Latent semantic analysis depends on the use of term dictionaries to classify different parts of speech, which are then linked to psychological state. One key feature of interest is use of pronouns. Past research has discovered that increased use of singular pronouns is indicative of poor psychological health (Pennebaker and Lay 2002), while the use of first-person, plural pronouns

suggests social connections to a larger group (Pressman and Cohen 2007). Using these, and other similar, metrics, I will create a measure for psychological state which will act as the response variable in my analysis.

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