

## DEPRESSED AFFECT AND HISTORICAL LOSS AMONG NORTH AMERICAN INDIGENOUS ADOLESCENTS

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*Abstract: This study reports on the prevalence and correlates of perceived historical loss among 459 North American Indigenous adolescents aged 11-13 years from the northern Midwest of the United States and central Canada. The adolescents reported daily or more thoughts of historical loss at rates similar to their female caretakers. Confirmatory factor analysis indicated that our measure of perceived historical loss and the Center for Epidemiologic Studies Depression scale were separate but related constructs. Regression analysis indicated that, even when controlling for family factors, perceived discrimination, and proximal negative life events, perceived historical loss had independent effects on adolescents' depressive symptoms. The construct of historical loss is discussed in terms of Indigenous ethnic cleansing and life course theory.*

For the past several years there has been considerable interest in the potential long-term emotional consequences of the ethnic cleansing of Indigenous people in North America. Various conceptualizations as “intergenerational posttraumatic stress disorder” (Duran & Duran, 1995); “historical trauma,” and “historical grief” (Brave Heart, 1998; 1999a, b; Brave Heart and DeBruyn, 1998), conferences, workshops, and therapeutic approaches have proliferated as the concept resonated among many Indigenous people (see Evans-Campbell, 2008 for a recent review). These early theoretical arguments led to our attempts to measure the prevalence of perceived historical loss and associated emotional responses to it. We found that one-fifth to one-third of Indigenous adults reported thoughts pertaining to historical loss daily or several times a day, and that these thoughts have negative emotional consequences (Whitbeck, Adams, Hoyt, & Chen, 2004).

Yet, as with any new concept, there are many aspects that remain unclear. Early conceptualizations have been diffuse, enumerating a wide range of internalizing and externalizing psychological symptoms and insufficiently distinguishing between the confounding factors of proximal versus distal causes. For example, it is difficult to disentangle the proximal emotional

effects of chronic economic disadvantage, discrimination, severe health and mental health disparities, and high mortality rates from the long-term emotional consequences of genocide and ethnic cleansing. This investigation is particularly challenging because of the high rates of trauma exposure among American Indian (AI) people. Manson and colleagues (2005) report that more than two-thirds of AI adults have experienced at least one traumatic event which is “at the upper end of the wide range previously reported among other populations” (p. 857). These current conditions may be the result of historical causes, but the origins of the symptoms may be attributable to contemporary experiences.

More important, perhaps, is the nature of the construct itself. Because historical loss connotes grief, trauma, and sadness, there has been concern that the concept is merely a cultural expression of depressed affect. That is, “historical loss” is not a separate construct from depressive symptoms; rather, it simply reflects existing negative affect among some Indigenous adolescents and adults. The research reported here is an incremental step towards understanding the characteristics of historical loss, the prevalence of thoughts about historical loss among adolescents, and correlates of historical loss. We hypothesize that growing up in a cultural context of reminders of ethnic cleansing may contribute to adolescent depression and demoralization, which in turn contribute to negative developmental outcomes such as early-onset alcohol and drug use, school leaving, and the high suicide rates found in some Indigenous communities.

### **Loss and Trauma Across Generations**

Although there is some evidence of intergenerational transmission of trauma across one generation (Yehuda, Schmeider, Giller, Siever, & Binder-Byrnes, 1998; Yehuda, Schmeider, Weinberger, Binder-Byrnes, & Duvdevani, 1998) we don’t know for how many generations this effect may persist. The ethnic cleansing of North American Indigenous people took place over a period of several centuries culminating with military defeat in the battles of the late 1800s and the subsequent relocation to what amounted to penal colonies (Brave Heart, 1998; 1999a, b; Brave Heart & DeBruyn, 1998; Duran & Duran, 1995). There they were starved, neglected, and forbidden to practice their traditional means of survival and spiritual traditions. As part of a government policy of forced assimilation, their children were taken from them and reeducated in settings that ignored kinship patterns, punished the use of traditional language, and sought to replace traditional religious beliefs with Christianity. There has been no specific end to government policies of assimilation, no acknowledgement of ethnic cleansing or apology for it from the U.S. government. The Canadian parliament has issued a formal apology to former students in Canadian boarding schools (Apology, 2008), and the Canadian government has provided monetary reparations to First Nations people for its policies of child removal to boarding schools.

Placement of children in boarding schools in the U.S. and Canada persisted into the 1950s. European encroachment on tribal lands continues in the U.S. with special Department of Interior long-term leases for European farmers on reservations well below market value. There remain enormous disparities in medical care, housing, education, and employment on many reservations. Indigenous people are subject to discrimination and disrespect not tolerated for other minorities in the U.S. Indeed, the name of the professional football team for our nation's capital is the "Redskins."

In summary, the historical losses experienced by North American Indigenous people are not "historical" in the sense that they happened long ago and a new life has begun. Rather, they are "historical" in that they originated long ago and have persisted. The reminders of historical loss remain ever present, represented by economic disadvantage on rural reservations, national disrespect, discrimination, and a sense of continual erosion of traditional cultures.

### **Growing Up in the Context of Historical Loss**

From the life course developmental perspective, historical periods and social location shape life trajectories by influencing the occurrence and timing of major life transitions such as completing one's education, marriage, entry into the work force, and career trajectories. They also contribute to shaping values, beliefs, and personality characteristics. For example, coming of age during the Great Depression influenced young people to be frugal, hardworking, and distrusting of the future (Elder, 1974). Elder's work with adolescents from the Great Depression indicates that boys from deprived households "were less likely to be hopeful, self-directed, and confident about their future" than those from non-deprived households (Elder & Caspi, 1987; p. 34). Adolescent life trajectories develop their own momentum or "continuity" as life events and decisions influence the probability of subsequent events or block later opportunities (Caspi & Bem, 1990). We believe that cultural contexts shape adolescent lives in much the same ways as do historical periods.

Growing up on a reservation/reserve represents a unique developmental context historically and socially. For Indigenous nations lucky enough not to be completely removed from their home territories, reservations/reserves represent the remnant "homeland." However, this "homeland" often occupies the least productive, least desirable area of what was once their vast territory. As a social context, reservations/reserves are at once a symbol of what was and the representation of what has occurred. The land represents a revered past, yet the histories of some reservations/reserves are filled with stories of epidemics, corrupt government agents, food shortages, and repression. Simply living on reservations/reserves can be a reminder of ethnic cleansing, broken promises, continual encroachment on tribal lands, and continuing pressures of assimilation. At the same time, reservations/reserves may be a refuge from discrimination and the land a symbol of the living culture. They hold sacred places, and remain the repository of cultural knowledge.

This ambivalence about life on reservations/reserves is best expressed in the words of the people themselves. As part of a larger longitudinal study (of which this research is also a part), we conducted several focus groups with elders and service providers who lived on various participating reservations and reserves (see Method section for a discussion of the focus group procedures). A service provider on one of the reserves told us:

. . . well there's a host of things that we need you know to, economics, unemployment situation in reserves. It's horrible. But, you know we want to live in our reserves, this is our home. And we even have to like these, these reserves are the only lands that we have left and we want to keep them. We want these, to keep our communities but we desperately need jobs and stuff like that. (Focus Group, Male service provider, August 2005)

There is simultaneously the love of the land and the appreciation of its symbolic meaning for the culture as it once was and the contrasting sadness and anger over the economic deprivation that exists in the contemporary culture.

It [contact with Europeans/relocation/forced removal] was a disconnection of what we had with the land. We've been looking at the poverty, the environment that we're living in today. We did not create the poverty in our community. We did not choose to be born in this community. And the lack of economic opportunity, this community has created the anxiety, the depression, the hope and the addiction of drugs in this community. We did not choose you know for our families to be dysfunctional here in this community and other communities because what was taught to us was nothing less than dysfunction. (Focus Group, Male Elder, August, 2005)

Although there is enormous variation across nations, the social conditions on some reservations/reserves indicate they have never fully recovered economically or socially from military defeat and relocation. Health and social problems endemic to reservation/reserve life have been well documented (Indian Health Services, 2001; Sandefur, Rindfus, & Cohen, 1996). Reservation/reserve Indigenous adolescents are often exposed to chronic economic disadvantage (Gregory, Abello, & Johnson, 1996; Trosper, 1996), discrimination (Whitbeck, Hoyt, McMorris, Chen, & Stubben, 2001), educational disadvantage resulting in high dropout rates (Chavers, 1991; Swisher & Hoisch, 1992); high rates of alcohol and drug use among adults and adolescents (May, 1994; Substance Abuse and Mental Health Services Administration, 2003), violence (Bachman, 1992), and for some, high rates

of youth suicide (Garrouette et al., 2003; May et al., 2002). We believe that these social conditions, while exerting direct effects on child outcomes, also serve as chronic reminders of ethnic cleansing and historical loss that have independent demoralizing effects on adults and children.

### **Evidence of Perceived Historical Loss among Indigenous Adults**

We have reported evidence of perceived historical loss among Indigenous adults (Whitbeck, Adams et al., 2004). Nearly one-fifth (18.2%) of Indigenous parents/caretakers of children aged 10-12 years thought daily or several times per day about loss of land. An additional 10.1% had such thoughts weekly. More than one-third (36.3%) thought daily or several times per day about loss of traditional language. Similarly, one-third (33.4%) thought daily or several times per day about loss of traditional spirituality. This number increases to more than one-half (54.8%) when those who had such thoughts at least on a weekly basis are taken into consideration. One-third (33.7%) thought daily or more about losing their culture; one-half (48.1%) thought of this at least weekly. Alcoholism was very much on everyone's mind. Only 7.5% "never" thought of it. Almost one-half (45.9%) thought of it daily or more; two-thirds (63.5%) thought of it at least weekly. Loss of respect for elders was also frequently thought of. Sixty-five percent of the respondents thought about this at least weekly; 37.5%, daily or more. Loss due to early deaths was thought of daily or more by 33.2% of the respondents and at least weekly by 54.5% of the respondents. Finally, loss of respect by children for traditional ways was thought of daily or more by 35.2% of the adults, and weekly or more by 52.8% of the adults.

These persistent thoughts of historical loss appear to have emotional and behavioral consequences. They are associated with alcohol abuse, anger, and symptoms of internalization among adults (Whitbeck, Adams et al., 2004). If historical loss is much on the minds of their caretakers, we were concerned about the potential impact of perceived historical loss on the development of their adolescent offspring.

### **Investigating Characteristics, Prevalence, and Consequences of Historical Loss among Indigenous Adolescents**

This research had three goals. The first was to investigate the prevalence of perceptions of historical loss among adolescents aged 11-13 years. Second, we wanted to distinguish our construct of "historical loss" from depressive symptoms to be certain that the former was not simply a cultural measure of depressive symptoms but a separate (though related) construct. If the construct was indeed separate from depressive symptoms, our third goal was to explore correlates of historical loss when taking into account other factors known to affect adolescent outcomes.

### **Historical Loss and Depressive Symptoms: Are They Separate Constructs?**

First, we needed to test our hypothesis that historical loss represents a construct separate from depressed affect. To do this, we ran a series of confirmatory factor analyses to investigate the potential overlap of the Center for Epidemiological Studies Depression Scale (CESD; Radloff, 1977) and our adolescent historical loss scale. The CESD has been used with Indigenous adolescents; the factor structure has been compared with that used for non-Indigenous adolescents, and the measure has been validated for adolescents from Indigenous cultures by comparing it to two other measures of depressive symptoms (Beals, Manson, Keane, & Dick, 1991; Manson, Ackerson, Dick, Barón, & Fleming, 1990; Thrane, Whitbeck, Hoyt, & Shelley, 2004).

### **Emotional and Behavioral Correlates of Perceived Historical Loss**

To investigate adolescent emotional correlates of perceived historical loss we hypothesized that, when taking into account measures of family structure, family financial strain, perceived family warmth and supportiveness, parent/caretaker's perceived historical loss, and adolescent perceptions of discrimination, adolescent perceived historical loss would be associated with depressive symptoms. To provide a stringent test of the strength of historical loss on depressive symptoms, we added contemporary family and child negative life events into the model after historical loss to take into account proximate influences on emotions and behaviors.

## **METHOD**

These data were collected as part of a longitudinal lagged sequential study currently underway on four AI reservations in the Northern Midwest and four Canadian First Nations reserves. Three of the Canadian reserves are classified as “remote” in that they are located at considerable distances from even small towns and are accessed by non-paved roads, by boat, over ice in winter, or by airplane. The reserves and reservations included in this sample share a common cultural tradition and language with minor regional variations in dialects. The sample is representative of one of the most populous Indigenous cultures in the United States and Canada. The long-range purpose of the longitudinal study is to identify culturally specific resilience and risk factors that affect children's well-being and to then use the information to guide the development of culturally based interventions.

The project was designed in partnership with the participating reservations and reserves. Prior to the application funding, the research team was invited to work on these reservations/reserves, and tribal resolutions were obtained. As part of our agreement to work together, the researchers promised that participating reservations/reserves would be kept confidential in published reports. On each participating reservation/reserve, an advisory board was appointed by the tribal council. The advisory boards were responsible for providing advice on handling difficult personnel problems,

providing advice on questionnaire development, helping to develop culturally specific measures, reading reports to ensure respectful writing, and assuring that published reports protected the identity of the respondents and the culture. Upon advisory board approval of the questionnaires, the study procedures and questionnaires were submitted for review by the university Institutional Review Board for approval.

All participating staff on the reservations were approved by the advisory board and were either tribal members or, in a few cases, non-members who were spouses of tribal members. To ensure quality of data collection, all the interviewers underwent special training that included practice interviews and feedback sessions regarding interview quality. In addition, all of the interviewers completed a required human subjects protection training that emphasized the importance of confidentiality and taught procedures to maintain the confidentiality of data.

Prior to this project, each tribe provided us with a list of families of enrolled children aged 10-12 years who lived on or near (within 50 miles) the reservation or reserve. We attempted to contact all families with a child of interest within the specified age range. Families were recruited with a personal visit by an Indigenous interviewer, at which time the project was explained to them. (Note: Two non-Indian spouses of enrolled tribal members were employed among more than 30 Indigenous interviewers). The parents were then presented with a traditional gift and invited to participate. If they agreed to be interviewed, each family member received \$40 for their time when the interviews were completed. This recruitment procedure resulted in an overall baseline response rate of 79%. Subsequent retention rates were 95% for Wave 2 and 93% for Wave 3 of data collection.

The data included in this study are from Wave 3 of data collection, the first year the adolescents were asked about perceived historical loss. Among the locations included in the project, all of the reservations/reserves but one U.S. reservation and one Canadian reserve elected to include items pertaining to adolescent historical loss as part of their Wave 3 site questionnaires, reducing the sample to three U.S. reservations and three Canadian reserves. Because so few male caretakers agreed to participate in the study, only female caretakers were included in these analyses. Based on these conditions, the final sample size for these analyses was 459 Indigenous adolescents and their adult female caretakers.

As part of the study, focus groups were conducted on five of the reservations and reserves between 2005 and 2006 as part of an ongoing suicide prevention initiative (Whitbeck & Walls, 2006). Advisory board members from each site agreed to recruit participants for 2 separate focus group sessions at each reserve: The first group included community elders, and the second included mental health service providers who worked in the community. A total of 10 focus groups were planned and completed. Upon recruitment, participants were provided with a brochure containing project information, the goals of the focus groups, and the basic content of our planned discussions. Our

recruitment goals included 10 elders and 12 service providers per site, with an even split by gender; this goal was generally met at each site, with the exception of one or two recruited members being replaced, not being able to attend, or, in some cases, including additional interested community members. All focus groups were co-facilitated by two Indigenous project members.

Prior to each discussion, participants were provided with IRB-approved informed consent forms and were given both written and verbal descriptions of the project, a list of risks and benefits of participation (including confidentiality and audio-taping procedures), and information on their right to remove themselves from the discussions at any time without consequence. In addition, participants were informed that the audio tapes resulting from the group discussions would be returned to their advisory boards upon completion of transcription and data analysis. Signed consent forms were obtained from all participants prior to each discussion. Two quotations from these focus groups are used in the introduction of the paper to illustrate our point regarding emotional ties to reservations and reserves.

## **Measures**

### **Adolescent Measures**

*Adolescent age* was a continuous measure of the target adolescent’s age on his/her last birthday. *Adolescent gender* was a dummy variable indicator coded such that 0 = male and 1 = female.

The *adolescent historical loss scale* was adapted from the adult version of the measure discussed in the Adult Female Caretaker Measures section that follows (Whitbeck, Adams, et al., 2004). It excludes two items that specifically reference adult roles/situations. The response categories were the same as those in the adult version. The 10-item adolescent historical loss scale had high internal consistency (Cronbach’s alpha = .91).

Family *warmth and supportiveness* was measured by a six-item scale of adolescent reported responses to statements regarding warm and supporting acts by members of their family (adapted from Conger, Conger, Elder, Lorenz, et al., 1992). Items in this scale include the following: How often 1) “can you talk to someone in your family when you have a problem and figure out how to deal with it?” 2) “do family members let you know they are pleased when you do what you are supposed to do?” 3) “do you get asked what you think before decisions are made about family activities?” 4) “do you talk to someone in your family about things that bother you?” 5) “does someone in your family let you know that they are proud of you (when you do something good)?” 6) “does someone



in your family tell you they are disappointed when you don't follow the rules?" Responses to these items were coded so that higher scores indicate higher levels of perceived warmth and support (0 = *never*; 1 = *sometimes*; 2 = *always*). Cronbach's alpha for this measure was .69.

Adolescent perceived *discrimination* was measured by a 10-item mean-scored scale (Whitbeck, et al., 2004). The adolescents were asked to report the number of times they had experienced negative or unfair treatment because of their ethnicity. Examples of questions in this measure include being insulted, being hassled by police, being ignored or left out of other kids' activities, having been yelled at with racial slurs or racial insults, having been physically threatened, having been treated differently by teachers. Response categories ranged from 0 = *never* to 2 = *many times*, with higher scores indicative of higher perceived discrimination. Cronbach's alpha for this scale was .80.

Adolescent *depressive symptoms* were measured using the CESD (Radloff, 1977). The CESD is a self-reported depression scale that asks respondents to indicate the number of days during the past week that they had experienced a range of emotions or feelings. Response categories range from 0 = *1 day* to 4 = *5-7 days*, with positive emotion items reverse coded so that higher scores indicate higher levels of depressive symptoms. As noted earlier, the CESD has been validated for and often is used with Indigenous adolescents (Beals et al., 1991; Manson et al., 1990; Thrane et al., 2004). Cronbach's alpha for the CESD in this sample = .86.

Family and child *stressful life events* were measured by a checklist of life events experienced and reported by the adolescents, as well as a checklist of life events reported by the caretaker adults pertaining to events experienced within the adolescents' families. Caretaker and adolescent reports of stressful life events were combined to provide an exhaustive list of negative life events experienced in the family that could affect adolescent depressive symptoms. Our assumption was that negative events affecting the caretaker would also have an effect on the child. Items included such things as: "Did anyone in your home have a serious drinking problem?" "Was anyone in your family violent toward another family member?" "Did a close relative commit suicide?" "Did your (caretaker) get engaged or married?" and so on. Examples of adolescent statements of events include: "Did you move to a different house?" "Did a pet die?" "Did you fail a class at school?" "Did you begin using drugs?" and so on. The sum of 'yes' responses to a total of 29 adolescent events and 32 adult-reported events were combined for the final life events scale.

### **Adult Female Caretaker Measures**

*Single mother* households also were indicated by a dummy variable where households headed by single mother were coded 1 and all other household arrangements (i.e. live-in partners, grandparents, extended family members, etc) were coded 0.

The *adult historical loss scale* was made up of 12 items, each of which lists a type of loss identified by focus group participants and advisory board members on three reservations/reserves (Whitbeck, Adams et al., 2004). The questions asked how often the respondent thought about a particular type of loss. Response categories were 1 = *several times a day*, 2 = *daily*, 3 = *weekly*, 4 = *monthly*, 5 = *yearly or at special times*, and 6 = *never*. This scale had high internal reliability, with a Cronbach’s alpha coefficient of .93.

*Family financial strain* was measured by adult responses to questions regarding their family’s financial situation (Conger et al., 1992). Respondents stated whether they strongly agreed, agreed, disagreed, or strongly disagreed with the following statements: “My family has enough money to” (1) “afford the kind of home we need”; (2) “afford the kind of clothing we need”; (3) “afford the kind of food we need”; and (4) “afford the kind of medical care we need.” Two additional questions assessed financial strain during the past twelve months: (1) “How much difficulty have you had paying your bills?” and (2) “Generally, at the end of each month [how much money] did you end up with?” Response categories were 0-3, with a higher score indicating higher financial strain. Cronbach’s alpha for this measure was .84.

## RESULTS

### Prevalence of Perceived Historical Loss among Adolescents and Adult Female Caretakers

We were surprised to find that, in some instances, the adolescents were more likely than the adults to report thinking of historical loss daily or several times per day (Table 1).

**Table 1**  
**Frequency of Adolescent and Adult Female Caretaker**  
**Self-Reported Thoughts of Historical Loss**

	Several Times a Day		Daily		Weekly		Monthly		Yearly or Only at Special Times		Never	
	Youth	Adults	Youth	Adults	Youth	Adults	Youth	Adults	Youth	Adults	Youth	Adults
The loss of our land	6.4%	2.2%	14.1%	10.2%	13.0%	13.2%	13.4%	19.0%	18.5%	38.9%	34.6%	16.5%
The loss of our language*	7.2%	4.7%	15.8%	19.7%	15.4%	16.4%	16.3%	23.4%	13.8%	26.6%	31.4%	9.2%
Losing our traditional spiritual ways*	4.5%	3.7%	14.5%	20.0%	12.5%	16.5%	21.6%	24.7%	14.8%	25.7%	32.0%	9.5%

continued on next page

**Table 1, Continued**  
**Frequency of Adolescent and Adult Female Caretaker**  
**Self-Reported Thoughts of Historical Loss**

	Several Times a Day		Daily		Weekly		Monthly		Yearly or Only at Special Times		Never	
	Youth	Adults	Youth	Adults	Youth	Adults	Youth	Adults	Youth	Adults	Youth	Adults
The loss of our family ties because of boarding/residential schools	4.2%	1.8%	8.2%	7.6%	8.4%	6.8%	14.0%	10.6%	11.7%	29.3%	53.6%	43.9%
The loss of families from the reservation/reserve to government relocation*	2.3%	1.3%	9.5%	5.8%	10.4%	6.0%	13.2%	13.6%	14.8%	28.7%	49.7%	44.6%
The loss of self-respect from poor treatment by government officials*	3.3%	3.0%	8.4%	11.8%	9.6%	9.5%	15.9%	17.6%	11.9%	29.1%	50.9%	28.9%
The loss of trust in Whites from broken treaties	3.9%	3.0%	10.9%	11.8%	9.3%	9.8%	14.8%	15.6%	15.0%	34.7%	46.1%	25.1%
Losing our culture*	6.2%	5.7%	14.4%	20.1%	14.6%	16.6%	19.5%	26.3%	14.9%	23.3%	30.4%	7.9%
The losses from the effects of alcoholism on our people*	7.8%	9.7%	16.3%	26.6%	17.9%	25.6%	17.7%	18.6%	12.6%	14.9%	27.6%	4.7%
Loss of our people through early death*	7.2%	4.0%	16.2%	19.9%	16.6%	20.6%	18.2%	26.6%	15.9%	21.4%	25.9%	7.5%
Loss of respect by our children and grandchildren for elders	-	5.7%	-	26.9%	-	26.9%	-	19.5%	-	11.7%	-	9.2%
Loss of respect by our children for traditional ways	-	3.5%	-	21.9%	-	22.6%	-	23.4%	-	18.4%	-	10.2%

\* Loss item is significantly different between youth and adult reporters ( $p < .05$ ).

For example, 20.5% of the adolescents reported daily or more thoughts about loss of land compared to 12.4% of their adult female caretakers. In most cases, the adolescent and caretaker reports of daily or more thoughts were quite similar, ranging from approximately 10% to 25% among the adolescents and from approximately 7% to 36% among the adults. The adolescents were

most likely (20% or more) to have daily or more thoughts about loss of land, loss of language, loss of traditional spiritual ways, loss of culture, losses due to alcoholism, losses from early death, and loss of respect for elders. The adult caretakers were most likely to have persistent thoughts (20% or more) about loss of language, loss of traditional spiritual ways, loss of culture, losses due to alcoholism, losses due to early death, and loss of respect for elders. It is noteworthy that, although adolescents were about as likely as adults to have daily or more thoughts about historical loss, they also were much more likely than adults to report “never” thinking about them.

### **Confirmatory Factor Analyses**

To test the structure of the CESD, adolescent historical loss, and their potential overlap, we ran a series of confirmatory factor analyses (CFAs) in Mplus version 3.11 (Muthén & Muthén, 2004). The fit of each of model was evaluated by several goodness-of-fit indices. Because  $\chi^2$  statistic is greatly influenced by sample size and can lead to inappropriate model rejection (Kline, 2005), we also provide CFI and RMSEA estimates for each model. RMSEA estimates less than or equal to .08 (Browne & Cudeck, 1993) and CFI values of .95 or higher (Hu & Bentler, 1999) provide general cutoffs for our assessments of model fit.

Instead of excluding the limited number of cases with missing information (i.e., listwise deletion), modern data estimation techniques allow the use of complete data and provide more precise parameter estimates with less strict assumptions concerning causes of missing data (Enders & Bandalos, 2001). Those cases or variables missing any data were imputed within these analyses using maximum likelihood (ML).

ML estimation attempts to select those values that maximize the likelihood that a particular parameter estimate would occur in a given population (Allison, 2002; Enders, 2005). ML parameter estimates are valuable in that they are considered both consistent and efficient when applied to larger sample sizes (Enders).

### **CESD Confirmatory Factor Analysis**

The factor structure of the CESD has been shown to vary depending upon demographic information (i.e., age, racial or ethnic group) related to the sample under study (Somervell, Beals, Kinzie, Broehnlein, & Manson, 1993). Among AIs, the CESD has been shown to have good internal consistency (Thrane et al., 2004), and has been presented in terms of two-, three-, and four-factor models within CFAs (see Somervell et al.). One widely documented structure of the CESD includes four separate factors: interpersonal items (i.e., people unfriendly), somatic items (i.e., poor appetite, restless sleep), negative affect items (i.e., depressed, bothered), and reverse-coded positive affect

items (i.e., happy, enjoyed life; Perreira, Deeb-Sossa, Harris, & Bollen, 2005; Somervell et al.). Based on this previous literature, we tested a CFA in which each of these four factors was allowed to load on a single depressive symptoms latent construct. Results of this analysis produced adequate model fit ( $\chi^2 = 7.28$ ;  $p = .03$ ; CFI = .99; RMSEA = .077). Despite this, the factor loading for the positive affect items was only .38, whereas the remaining factor loadings ranged from .54 to .94. Thus, we chose to conduct a CFA excluding the positive affect measures, resulting in a three-factor just identified (CFI = 1; RMSEA = .00) CESD latent construct utilized in all subsequent CFAs.

### **Historical Loss Confirmatory Factor Analysis**

Our next goal was to investigate a confirmatory factor model based on the adolescent historical loss items. We know of no previously published literature that explores the empirical structure of historical loss among adolescents; thus, we followed advice provided to us by an anonymous reviewer and utilized a split-sample method of factor analysis to aid us in our search for an acceptable CFA for this novel measure.

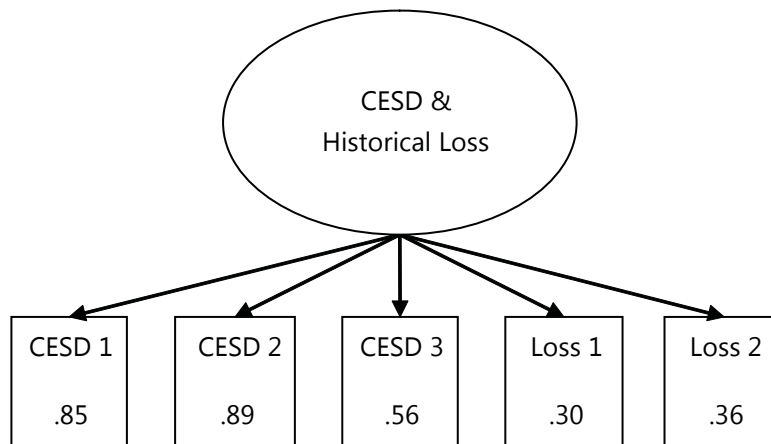
To begin, we randomly divided our sample in half. The first random half of cases was used to conduct an exploratory factor analysis that yielded two distinct factors. The first factor (Factor 1) relates to governmental and institutional policies and practices including loss of land, loss of family ties because of boarding schools, loss due to government relocation, broken treaties, and poor treatment by government officials. The second factor (Factor 2) highlights items in the measure capturing more personal and cultural losses, including loss of language and spiritual ways, and loss of people to early death and via the effects of alcoholism. These two distinct factors thus seemed to cluster items together in meaningful ways, illustrating good face validity. Because a subsequent two-factor CFA is under-identified, we fixed the metric of both loadings to one to permit estimation of the CFA model using the second random half of the sample. We then replicated the two factor model using our full sample. Standardized factor loadings were acceptable (Factor 1  $\beta = .94$ ; Factor 2  $\beta = .87$ ), and this final 2-factor CFA of the adolescent historical loss measure was used in the following CFAs.

### **The Structure(s) of the CESD and Historical Loss**

To examine the potential for CESD and historical loss as indicators of a shared construct (i.e., depressive symptoms), we tested a CFA in which all 3 CESD factors and both historical loss factors were allowed to load together on a single latent construct. Results of this single construct

model are illustrated in Figure 1 and reveal that the model did not fit the data well (CFI = .58; RMSEA = .43). In addition, the two historical loss factors produced weak standardized loadings, especially relative to those illustrated for CESD-specific indicators.

**Figure 1**  
**Standardized Maximum Likelihood Estimates of CFA with CESD and Historical Loss**  
**as a Single Construct**



$\chi^2 = 430.675; df = 5; p > .05$

CFI = .58

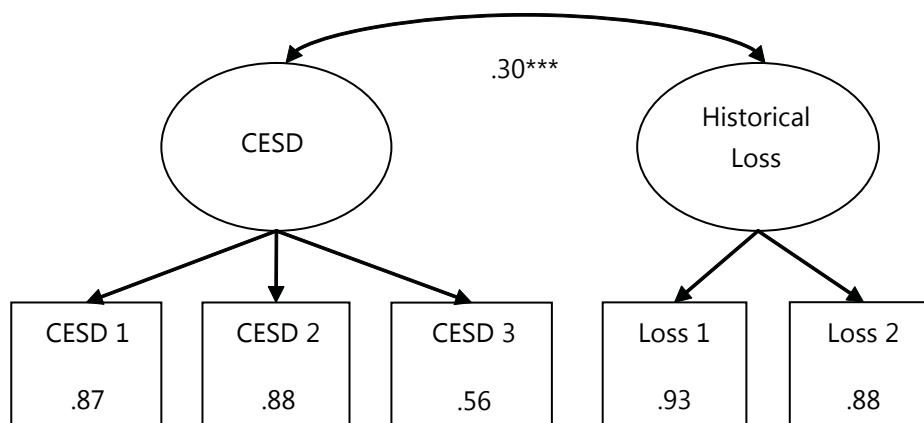
RMSEA = .43

Next, we ran a CFA in which CESD and historical loss are presented as two separated but correlated latent constructs. Results in Figure 2 illustrate that this model was a noticeably better fit to the data compared to the previous single construct model (CFI = .98; RMSEA = .099 with a CI of .06 - .14). In addition, the correlation between historical loss and CESD was moderate (.30,  $p < .001$ ), suggesting that the two latent factors were similar, but not duplicate measures of a single underlying construct.

**Examining the Relative Effects of Historical Loss on CESD**

Having determined that CESD and historical loss were related but separate constructs, our next goal was to examine the relative influence of historical loss on adolescent depressive symptoms when a number of factors known to relate to depressive symptoms were also included in single ordinary least squares regression model.

**Figure 2**  
**Standardized Maximum Likelihood Estimates of CFA with CESD and Historical Loss**  
**as Separate Correlated Constructs**



$$\chi^2 = 27.164; df = 5; p > .05$$

$$CFI = .98$$

$$RMSEA = .099$$

### Bivariate correlations

Among the control variables, adolescents in remote locations reported lower levels of historical loss, depressive symptoms, and negative life events, and had adult female caretakers who were also less likely than caretakers in non-remote sites to report historical loss (Table 2). Being older was positively associated with perceived discrimination. Being female was associated with having an adult female caretaker who reported lower levels of historical loss, as well greater levels of adolescent depressive symptoms and adult warmth and support. Homes with greater adult-reported financial strain were associated with greater reports of adult female historical loss and adolescent depressive symptoms and negatively associated with adult warmth and support.

Adolescent reports of adult warmth and supportiveness were negatively associated with adolescent depressive symptoms. Adult female historical loss was moderately and positively related to adolescent losses and was also positively associated with negative family events. The remaining constructs—adolescent historical loss, perceived discrimination, depressive symptoms, and family life events—were all positively and significantly correlated with one another.

**Table 2**  
**Bivariate Correlations and Descriptive Statistics**

	1	2	3	4	5	6	7	8	9	10	11
1. Youth Age	1										
2. Gender (Female = 1)	-.08	1									
3. Single Mom	.03	.03	1								
4. Financial Strain	-.03	.02	.11*	1							
5. Remote Location	-.02	.04	.06	.06	1						
6. Youth Report: Adult Warmth and Support	-.02	.11*	-.02	-.10*	-.07	1					
7. Female Adult Historical Loss	-.01	-.11*	.01	.13*	-.10*	-.04	1				
8. Adolescent Historical Loss	-.02	-.02	.06	.06	-.22***	.02	.18***	1			
9. Youth Discrimination	.14**	-.004	-.01	.10*	-.01	.03	.00	.29***	1		
10. Youth CESD	.03	.14**	.03	.14**	-.14**	-.29***	.07	.26***	.29***	1	
11. Youth and Family Stressful Life Events	.07	.03	.08	.13**	-.24**	-.02	.24***	.33***	.31***	.30***	1
Mean/%	13.03	51.0%	22.7%	1.30	13.0%	1.33	1.98	1.63	.17	12.73	15.82

\*  $p < .05$   
 \*\*  $p < .01$   
 \*\*\*  $p < .001$

**Multivariate analysis**

Ordinary least squares regression was used to investigate the relative strength of historical loss on adolescent depressive symptoms when controlling for other known correlates of adolescent depression (Table 3). After entering the control variables in Model 1, we entered family influence variables first (caretaker warmth and supportiveness and caretaker historical loss) to account for family influences. Next, we entered the three adolescent variables individually: first discrimination, which we have shown to be associated with depressive symptoms (Whitbeck et al., 2001); then historical loss, to see if historical loss had effects on depressive symptoms with discrimination in the model. We then added family negative life events in the final model to provide a very stringent test of our hypothesis. We expected that more proximal negative life events would reduce the effects of historical perceptions to nonsignificance.



**Table 3**  
**OLS Regression Coefficients for Youth CESD (N = 459)**

	Variables Regressed on Youth CESD Scores											
	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	B	$\beta$	B	$\beta$	B	$\beta$	B	$\beta$	B	$\beta$	B	$\beta$
Youth Age	.38	.04	.35	.04	-.06	-.01	.05	.01	-.01	-.001	.02	.002
Youth Gender (Female = 1)	2.19	.15**	3.12	.19***	3.12	.19***	3.12	.19***	2.93	.18***	2.89	.17***
Single Mom	.45	.02	.39	.02	.59	.03	.31	.02	.06	.003	.13	.01
Financial Strain	1.93	.14**	1.45	.11*	1.01	.07	.96	.07	.82	.06	.89	.07
Remote Location	-3.84	-.15**	-4.13	-.17***	-4.11	-.16***	-3.29	-.13***	-2.45	-.10*	-1.14	-.05
Youth Report: Adult Warmth and Support			-7.22	-.30***	-7.51	-.31***	-7.53	-.32***	-7.45	-.31***	-7.28	-.31***
Female Adult Historical Loss			.36	.04	.39	.05	.21	.03	-.04	-.004	-.06	-.01
Adolescent Historical Loss							1.02	.26***	.87	.14**	.68	.11*
Family and Child Stressful Life Events									.18	.15**	.18	.15**
Remote X Adolescent Historical Loss											2.12	.12*
Constant	4.40		13.91		18.58		16.14		15.08		14.94	
R <sup>2</sup>	.06		.15		.24		.26		.27		.28	

\*  $p < .05$   
 \*\*  $p < .01$   
 \*\*\*  $p < .001$

In Model 1 and throughout all subsequent regression equations, being female was associated with greater depressive symptoms ( $\beta = .15; p < .01$ ). Adult reports of financial strain were also positively associated with adolescent depressive symptoms, but dropped from statistical significance in Model 3 when parental warmth and supportiveness was included in the analysis. Across all models (except when living in a remote location was included as an interaction term in Model 6), living on a geographically remote Canadian reserve was significantly and negatively associated with adolescent depressive symptoms ( $\beta = -.15; p < .01$ , Model 1).

We added adult caretaker-related variables to the analysis in Model 2. Adolescent reports of adult warmth and supportiveness were negatively related to depressive symptoms ( $\beta = -.30; p < .001$ ), even after the inclusion of the remaining independent variables in subsequent models. Adult female caretaker reports of historical loss were not significantly related to adolescent depressive symptoms.

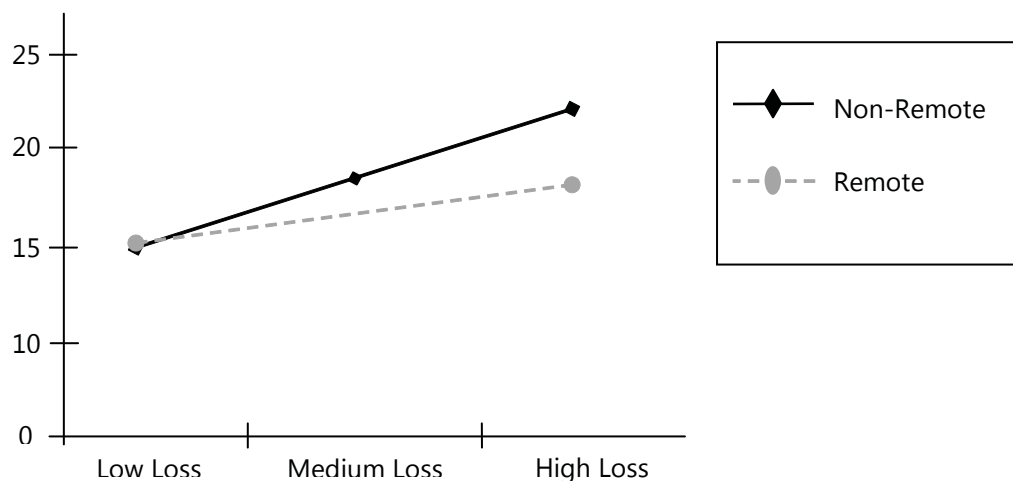
In Model 3, adolescent reports of perceived discrimination were positively and significantly related to depressive symptoms ( $\beta = .29; p < .001$ ). The significant positive effect persisted throughout the remaining models in the analysis.

Adolescent historical loss was included in Model 4 and had a significant positive effect on depressive symptoms ( $\beta = .16; p < .001$ ). This effect was weakened slightly but remained significant ( $\beta = .14; p < .01$ ) after the inclusion of the family life events scale in Model 5 and an interaction term in Model 6.

We checked for potential multiplicative interactions in the regression equations. Importantly, experiencing contemporary negative life events did not moderate the effects of historical loss on depressive symptoms. The only significant multiplicative interaction term was that between adolescent historical loss and remote geographic location (included in Model 6). The interaction term was statistically significant ( $\beta = .14; p < .05$ ) and is illustrated in Figure 3. The interaction indicates that the effects of historical loss on adolescent depressive symptoms vary by geographic location. Although those living in all locations experienced an increase in depressive symptoms due to historical loss, the effect was much stronger for adolescents living in geographically isolated and remote Canadian First Nations reserves. Even though remote adolescents tended to report lower levels of depressive symptoms in Models 1-5 of the regression analyses, the experience of historical loss puts them at a greater risk for depressive symptoms compared to their less remote counterparts on U.S. reservations.

Figure 3

## Depressive Symptoms by Levels of Historical Loss and Geographic Location



## DISCUSSION

These results provide evidence that historical loss stemming from the ethnic cleansing of North American Indigenous people is already much on the minds of about one-fifth of adolescents aged 11-13 years. The rates of daily or more thoughts pertaining to historical loss were similar to and sometimes exceeded those of their female caretakers. Moreover, CFA indicated that our measure of perceived historical loss was a separate construct, moderately associated with depressive symptoms. In fact, the measure was quite robust. Even when controlling for more proximate stressful life experiences and other correlates of adolescent depressive symptoms, historical loss remained statistically significant.

Much has been written about the consequences of Indigenous ethnic cleansing. It has been characterized as a “soul wound” (Duran & Duran, 1995) and an “unspeakable sadness” (Wishart, 1994). Although reservation/reserve service providers, elders, and tribal leaders have understood these persisting demoralizing effects for decades, researchers are just now beginning to take seriously the lasting effects of cultural catastrophes as potential stressors. Indeed, only in the past decade has discrimination been recognized as an important source of stress that functions similarly to other psychological stressors (Dion, Dion, & Pak, 1992; Thompson, 1991; Williams, Spencer, & Jackson, 1999). Kessler and colleagues (1999) rank it with major negative life events such as the death of a loved one, divorce, and job loss (Kessler et al., p. 227). They suggest that “the conjunction of high prevalence and strong impact would mean that discrimination is among the most important of all the stressful experiences that have been implicated as causes of mental health problems” (Kessler et al., p. 224).

We believe that perceived historical loss creates stress in much the same ways as perceived discrimination. Indeed, in earlier studies, this measure of historical loss mediated the effects of perceived discrimination on adult alcohol abuse (Whitbeck, Chen, Hoyt, & Adams, 2004). Historical loss correlates with perceived discrimination for both adolescents ( $r = .27$ , see Table 1) and adults ( $r = .29$ ; Whitbeck, Chen et al., 2004, Table 1, p. 413). The association between perceived historical loss and depressive symptoms among Indigenous adolescents is congruent with those found for depressive symptoms among Indigenous adults (Whitbeck, Adams, et al., 2004).

These results indicate that historical loss is a separate construct from depressive symptoms and that it is embedded in the experiences of people who have experienced ethnic cleansing. Historical loss reflects a response to a profound denial of a culture's right to exist and the attempt to eradicate cultural identity. These findings also suggest that the effects of historical loss may have early demoralizing effects on the development of adolescents.

### **Cultural contexts of development**

The life course development perspective can take into account historical and social contexts that are unique to the experiences of specific cultures. Regardless of what our history books tell us, the histories of Indigenous people are certainly not those of immigrant North Americans, nor are the resulting social milieus in which Indigenous children grow up. Indigenous people are embedded in a much different historical context than that of the dominant culture, one filled with defeat, relocation, isolation, removal of children, and broken promises that shape beliefs about opportunity and even perceived safety in the larger society. These culturally distinct historical and social contexts shape every aspect of development from gestational risk to family functioning. They are associated with adolescents' perceived life chances and aspirations, and pose culturally specific risk and protective factors.

However, if Indigenous historical contexts have unique risks within the framework of the dominant society, they also have special protective factors embedded within them. Just as perceptions of losses have persisted across time, traditional spirituality, traditional practices, and cultural identity have been shown to be protective factors for Indigenous children and adults. There is accumulating evidence that traditional spirituality and practices are associated with alcohol cessation (Torres-Stone et al., 2006) and are negatively related to depressive symptoms (Whitbeck, McMorris, Hoyt, Stubben, & LaFromboise, 2002) and suicidal behaviors (Garrouette et al., 2003) among adults, and that they are associated with academic success, self-esteem, and prosocial behaviors among adolescents (LaFromboise, Hoyt, Oliver, & Whitbeck, 2006; Whitbeck, Hoyt, Stubben, & LaFromboise, 2001).

### **Cautions and limitations**

These findings introduce novel concepts, specific cultural interpretations, and new measures into the discussion of potential stressors for Indigenous adolescents. Although they are intriguing, they should be regarded with appropriate caution. For example, our measure of historical loss is new. The findings and measurement characteristics (see Whitbeck, Adams, et al. 2004), particularly in regard to adolescents, should be replicated and examined with other Indigenous people with attention to validity and reliability. There is also the concern that all of the items in the historical loss measure are negatively worded, which may induce concurrent negative thinking in subsequent items. Also, these results are from a single culture and may not be generalizable across the diversity of North American Indigenous nations. Furthermore, even though our data are from several sites, they reflect the attitudes and behaviors of people who live on or near rural and remote reservations and reserves. They may not represent urban Indigenous people even from the same cultural background.

Time, subject burden, and tribal preferences limited the number of diagnoses and symptoms for which we were able to screen. For example, we could not screen for trauma or posttraumatic stress disorder because questions regarding possible child maltreatment would have to be included, and the reservations/reserves did not want to address this issue in the survey because of mandatory reporting requirements. Although we did screen for substance abuse and substance abuse disorders, they were not addressed in this analysis. This analysis has been done for AI adults (Whitbeck, Chen et al., 2004) but not yet completed for adolescents. Because our analyses are based on cross-sectional data, there is always the question of direction of effects. For example, from these results it is impossible to discern if depressed adolescents are more apt to view themselves as discriminated against and thinking about historical loss, or whether discrimination and historical loss result in depressive symptoms. Finally, we should note that a large number of the adolescents reported thinking about historical loss only on special occasions or never thinking about it. It is very likely that perceived historical loss affects only those adolescents who are deeply engaged in their culture. This likelihood may account for the increased effects of historical loss or adolescents who live on remote reserves.

### **CONCLUSION**

The experiences of Indigenous people in North America represent a living example of the long-term effects of government policies of ethnic cleansing. They were defeated militarily, isolated geographically from interaction with the mainstream culture, their religions made illegal, and their

children taken and re-socialized. We are just now beginning to investigate the potential long-term emotional and behavioral consequences of these policies. Certainly, Indigenous elders, service providers, and tribal leaders believe that the effects have been profound.

Our findings provide evidence that the losses are in the forefront of the perceptions for a significant portion of Indigenous adolescents and adults who think of them daily or more often. Moreover, the results provide evidence that these perceptions of historical loss, similar to perceived discrimination, are associated with internalizing symptoms. However, there is much to learn about the construct and the specific mechanisms through which it operates. We believe it is a unique stressor that operates both in conjunction with and independently of perceived discrimination. Experiences of discrimination are reminders of one's "place" in the dominant society. For Indigenous people, perceived historical loss is a reminder that they had no place in dominant society.

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### **AUTHORS' NOTE**

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