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The Intergenerational Effects of Relocation Policies on Indigenous Families*

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Abstract

This research utilizes life-course perspective concepts of linked lives and historical time and place to examine the multigenerational effects of relocation experiences on Indigenous families. Data were collected from a longitudinal study currently underway on four American Indian reservations in the Northern Midwest and four Canadian First Nation reserves where residents share a common Indigenous cultural heritage. This paper includes information from 507 10 – 12 year old Indigenous youth and their biological mothers who participated in the study. Results of path analysis revealed significant direct and indirect effects whereby grandparent-generation (G1) participation in government relocation programs negatively impacts not only G1 well being, but also ripples out to affect subsequent generations.

Keywords

American Indians; Native Americans; Intergenerational Transmission; First Nations; Historical Trauma

Indigenous¹ people throughout the United States and Canada have been subjected to a series of ill-advised government policies aimed at their assimilation into the majority culture. Although many of these policies professed altruistic motives, they had in common the eradication of Native cultures and their replacement with the economy, religion, and values of the North American settlers. Educational policies aimed to “Kill the Indian, save the man” by removing children and educating them away from parents and home, teaching them English and forbidding their use of their traditional language (Adams, 1995). Traditional spiritual teachings and ceremonies were declared illegal and forced underground (Duran & Duran, 1995). Policies of forced acculturation continued under varying pretexts and rationalizations through the 1950s with the U.S. Bureau of Indian Affairs sponsored relocation legislation meant to move Indigenous people from their reservations into large urban centers for vocational training and job placement in the mainstream economy (Cobb

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¹We use the term “Indigenous” throughout this paper to describe those people Native to the United States and Canada (e.g., American Indians, Aboriginals, First Nations members).

& Fowler, 2007). The policy goal was to reduce U.S. government economic support to reservations by assimilating Indigenous people into the workforce (Wilkinson, 2005).

Evidence for the deleterious effects of historical traumas for Indigenous people incurred by genocide (see United Nations definition, 1948) and the subsequent forced acculturation policies has been accumulating over the past decade to include affective states like anger, depression, guilt, and anxiety, internalized oppression, and feelings of inadequacy in parenting roles (Brave Heart, 1998; Brave Heart, 1999a, Brave Heart, 1999b; Brave Heart & DeBruyn, 1998, Duran & Duran, 1995; Evans-Campbell, 2008 (review)). Disentangling what may be the effects of historical traumas, events, and losses and more proximal stressors of economic disadvantage, health disparities, and discrimination has been a major challenge. The government relocation policy of the 1950s provides a somewhat recent example of an acculturation policy. It affected a cohort of whom many still survive and affords the opportunity to measure the psychosocial impact of moving individuals from reservations to urban employment settings. This paper is an investigation of the intergenerational consequences of relocation on three generations of Indigenous family members.

Theoretical Model

The life course perspective offers a way to view individual biographies over time through a series of life transitions and trajectories that are situated and influenced by historical forces, timing of events, and human agency. The perspective emphasizes shared networks, interdependent relationships and “linked lives,” elucidating the ways that historical events shape lives across generations (Elder, 1998; George, 1999). Two major life course themes, lives in historical times and intergenerational transmission of behaviors (Elder, 1974), together provide a way to conceptualize the etiology of problem behaviors and negative affective states among Indigenous peoples that begin with historical traumas and continue across generations within kinship groups.

Lives and Historical Times

In his classic study *Children of the Great Depression*, Elder (1974) illustrated the enduring effects of macro-level economic changes on individual lives. Growing up in Depression-era America exposed a generation to a set of unique historical circumstances that had long-term consequences for adult work patterns, values, and health. If development during conditions of a sudden economic deprivation will affect life trajectories across generations, experiencing ethnic cleansing and the erosion of cultural ways through years of government policies would be expected to have had grave consequences for generations of Indigenous people. The enduring effects of these historical events continue to impinge on individual, family, and community well-being (Evans-Campbell, 2008), and remain a root cause for the current structural contexts of extreme poverty and isolation that characterizes many reservation and reserve lands (see Duran & Duran, 1995).

Indigenous communities and scholars alike have long posited a link between historical cultural losses and contemporary accounts of disruptive behaviors and mental health problems among Indigenous people (Brave Heart, 1998; Brave Heart & DeBruyn, 1998; Whitbeck, Adams, Hoyt & Chen, 2004). Recent empirical evidence indicates associations between intrusive thoughts of historical losses (e.g., loss of land, loss of language) and affective outcomes including guilt, hopelessness, despair, anger, substance abuse, and depressive symptoms (Whitbeck, et al., 2004; Whitbeck, Walls, Johnson, Morrisseau, & McDougal, 2009). However, the research and theory on historical cultural losses must make a leap across time to link events sometimes dating over 100 years ago to contemporary affect and behaviors of Indigenous people.

One of the latest large government acculturation initiatives is proximate enough in time to link an historical event to contemporary adult lived experiences. Initiated by the Bureau of Indian Affairs in the United States in the 1950's, relocation legislation was intended to entice reservation-dwelling "Indians" to move to large urban areas for vocational training and job opportunities (Fixico, 2006). Though publicly advertised as a voluntary program, there was pressure to participate (Wilkinson, 2005). Relocation is seen by many Indigenous people who lived through that time as a forceful movement consistent with federal policies meant to terminate government supervision of American Indians (see French, 1997, for a brief review of U.S./Indigenous policy). Nichols (1998) points out that many of the relocation program jobs consisted of seasonal, low-paying work and minimal job placement and training. Relocated Tribal people experienced a variety of cultural tensions in their new urban environments:

"For those who had never been a part of city life or the American economy, the need to pay rent on time, to keep regular hours at work, and to survive in a largely impersonal situation with few friends or relatives proved difficult. Many quit the cities and fled back to reservations permanently. Others used holidays and tribal ceremonial times as excuses to leave for home, often neglecting to explain clearly to their employers and then losing their jobs" (p. 293).

Comparable challenges were felt among First Nations people in Canada although federal policy there differed from the United States in several ways. For some Aboriginal Canadians, relocation began as an organic movement and did not develop into a government program until significant numbers of Indigenous peoples had already begun moving to urban areas (Peters, 2002). As in the United States, relocation was touted as a response to significant unemployment and economic hardship on reserves; however, government relocation in Canada grew in many ways out of majority/non-Aboriginal group responses to First Nations peoples already living in urban areas (Peters, 2002). Additionally, relocation of First Nations in Canada often focused simply on moving them out of the way of land development or to centralize and therefore convenience government administration of resources (Report of the Royal Commission on Aboriginal People, 1996).

Despite cross-national differences, and whether forced or voluntary, individual/community relocation acts as a highly disruptive stressful event (Bodley, 1982; Colson, 2003)—indeed, a significant turning point in the life course. Even the *threat* of relocation has been shown to impact well-being. O'Sullivan and Handal (1988) found that compared to a non-threatened comparison reservation, members of a Southwestern U.S. tribal community facing possible relocation perceived the threat as similarly distressing as the death of a loved one and as a root cause of tribal and cultural death. Structural displacement has been shown to be especially problematic for community-oriented cultural groups (see O'Sullivan & Handal, 1988; Scudder, 1973) and much of Indigenous cultural identity is tied to "place," including land and community (Walters, et al., 2011; Trudelle-Schwarz, 1997; see also Fixico, 1986, pp. 134–157 for examples of the struggles endured by many relocatees).

We believe that the relocation experiences of Indigenous North Americans represent a life course turning point of considerable consequence for individual mental health, identity, and social and family networks. Relocation occurred in a social historical context filled with contemporary reminders, reflections, and the internalization of past cultural losses the Indigenous communities have endured (Wilkinson, 2005). These links to past losses may have amplified the sense of dislocation from reservation to urban life, the loss of connection to land, community, and extended family systems (Fixico, 2006; Walters, et al., 2011). This move from tight-knit, small, intergenerational communities to the anonymity of urban life was one of the latest large-scale government assault on cultural values of sharing and strong intergenerational family obligations.

Linked Lives: Influence across Generations

A central concept of the life course perspective is the interdependence of human lives across the life span (Elder, 1974). The notion of linked lives explains the ways that experiences and events affecting one generation influence subsequent generations' development. Thornberry and colleagues (2003) provide the following illustration: "Events like catastrophic illness, drug addiction, and divorce not only affect the individual and his or her spouse, but ripple out to affect both younger and older generations" (p. 172). In the context of Indigenous history, the negative effects of relocation on past generations' individual development and well-being (denoted here as G1, generation 1) serve as a turning point in the life course, the effects of which "ripple out" to future generations (i.e., G2, G3).

A critical and widely documented aspect of intergenerational continuity concerns the mediating effects of parenting processes on parent-to-child transmissions of behavior and emotional well-being (Caspi & Elder, 1988; Whitbeck et al., 1992). For example, parents with affective disorders tend to be less warm and affectionate and more disengaged and inconsistent in their parenting compared to non-disordered parents (Goodman & Gotlib, 1999; Lovejoy, Graczyk, O'Hare, & Neuman, 2000, reviews). Similarly, caretaker substance use has been empirically linked to decreases in parental monitoring and inconsistent parenting (DiClemente et al., 2001). Coming full-circle, researchers have shown how parental deviance is linked to maladaptive parenting, in turn increasing the risk for problematic child outcomes (i.e., Capaldi, DeGarmo, Patterson & Forgatch, 2002; Caspi & Elder, 1988; Hammen, Shih, & Brennan, 2004). Correspondingly, we have found direct and mediating (via lowered monitoring and more coercive parenting) effects of caretaker substance use on adolescent early onset alcohol use across two generations within Indigenous families (Walls, Whitbeck, Johnson & Hoyt, 2006).

Conceptual Model & Hypotheses

This research utilizes life-course concepts of linked lives and historical time and place to examine the multi-generational effects of relocation experiences on Indigenous families. We hypothesize direct and indirect intergenerational transmission of problematic outcomes found among a contemporary generation of Indigenous adolescents linked to one major historical era experienced by their grandparent/great grandparent (see measurement) generation. Figure 1 illustrates the conceptual model and hypotheses guiding our analyses. Beginning on the left-hand side of the model, we first hypothesize that familial relocation experiences will directly impact the grandparent generation (G1) behaviors in terms of increased substance use (**Hypothesis 1 [H1]**). In turn, G1 substance use is expected to be positively associated with G2 (current female caretakers of adolescents) substance use problems and depressive symptoms (**H2**). G2's substance use and depressive symptoms will be negatively associated with warm and supportive parenting practices (**H3**). Given evidence that parents who manifest antisocial behaviors and/or depressive symptoms have increased likelihood of having children who exhibit problem behaviors and/or depressive symptoms (i.e., Whitbeck et al., 1992; Farrington, Barnes, Lambert, & Sandra, 1996), a direct, positive association is hypothesized between G2's substance use/depressive symptoms and their G3 children's depressive symptoms and delinquency (**H4**). In addition, warm and supportive G2 parenting will be negatively related to G3 depressive symptoms and delinquency (**H5**). Combining H3 and H5, hypothesis 6 (**H6**) predicts the deleterious indirect effects of G2 problem behaviors on G3 outcomes by way of decreased warm and supportive parenting. We also hypothesize positive associations between G1 relocation and all subsequent G2 and G3 *problem* outcomes (e.g., substance abuse, depressive symptoms) (**H7**).

Method

These data were collected as part of a longitudinal lagged sequential study currently underway on four American Indian reservations in the Northern Midwest and four Canadian First Nation reserves. The reserves and reservations included in this sample share a single 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 given in support of the project. As part of our agreement to work together, the researchers promised that names of participating reservations/reserves would be kept confidential in published reports. On each reservation/reserve, the tribal council appointed an advisory board. The advisory boards are responsible for advising the research team when handling difficult personnel problems, advising on questionnaire development, helping to develop culturally specific measures, reviewing reports and manuscripts prior to submission for potential publication, and assuring that published reports protected the identity of the respondents and the culture. Upon advisory board approval of 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 are spouses of tribal members. To ensure quality of data collection, all the interviewers underwent special training for conducting paper-and-pencil and computer-assisted personal interviewing (the latter was used for diagnostic interviewing). The training included practice interviews and feedback sessions focusing on interview quality. In addition, all of the interviewers completed a required human subject's protection training that emphasized the importance of confidentiality and taught procedures to maintain the confidentiality of data.

Prior to this project, each community provided us with a list of families of enrolled children aged 10–12 years who lived on or proximate to (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. (Two non-Indian spouses of enrolled tribal members were employed among more than 30 Indigenous interviewers). The parents were then presented with a traditional cultural gift and invited to participate. If they agreed to and completed interviews, each family member received \$40 for their time and participation. This recruitment and interviewing procedure resulted in an overall baseline response rate of 79%.

The data included in this study are from Wave 1 of data collection, the only assessment period in which the adult caretakers were asked about familial experiences surrounding Indigenous relocation. Because our recruitment procedure focuses on target adolescents who are enrolled tribal members, in some cases the adult caretakers in our sample were not of North American Indigenous descent. Due to our focus on the unique historical experiences of Indigenous families, we have restricted our sample to exclude those adult caretakers who self-reported non-Indigenous racial/ethnic statuses and include only biological mothers in these analyses. The decision to solely include female caretakers is based on more extreme heterogeneity in male caretaker relationships to the target adolescent (i.e., mother's boyfriend, uncle, grandfather, father), as well as the relatively few male adult respondents

compared to females in the full sample (227 males; 686 females). As a result of these exclusion criteria, this paper includes information from 507 10 – 12 year old Indigenous youth and their biological mothers.

Measures

Location

In order to control for differences in international policies or political contexts that may influence the outcomes of our analysis, we created a dummy variable in which those living in Canada = 1 and those residing in the United States = 0.

Adolescent (G3) Reported Measures

Youth *delinquency* was measured by adolescent responses to 28 items regarding delinquent behavior. The items were drawn from and adaptations of the conduct disorder module of the diagnostic interview schedule for children-revised (DISC-R). They include behaviors such as stealing money from home, shoplifting, threatening others, breaking curfew, running away, lying to get money, property damage, starting fires, etc. The measure was scored by a sum of dichotomous responses (0 = no; 1 = yes).

Youth *depressive symptoms* were measured using the Center for Epidemiological Studies Depression Scale (CESD; Radloff, 1997; 1991). 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 ranged 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. A continuous, summed measure of responses to the CESD questionnaire was used in these analyses.

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. The following items were included in this measure: (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 know 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 indicated higher levels of perceived warmth and support (0 = never; 1 = sometimes; 2 = always).

Last of the adolescent-reported variables, *youth gender* is a dummy variable coded so that 0 = male and 1 = female.

Biological Mother (G2) Reported Measures

Biological mother’s *depressive symptoms* were assessed by a summed index of self-reported responses to the CESD (Radloff, 1977; 1991, see G3 reports for more information on the CESD).

Mother’s *alcohol and drug related problems* were measured by an additive scale that combines responses to six questions regarding lifetime drug and/or alcohol associated problems. The mothers were asked if drinking or drug use interfered with work, home, or school, caused trouble with family and friends, resulted in arrest, required treatment, led to frequent physical fights, and whether or not the adult continued to use despite awareness of

the problems it caused. Responses (1 = *yes*, 0 = *no*) to each of these measures were summed resulting in a variable range of 0 – 6 where higher values indicated more problems.

In addition to these two self-reported measures of G2 behaviors, the mothers in our sample were asked to provide information regarding their own upbringing and family experiences (i.e., G1 characteristics). As a measure of *G1 alcohol/drinking problems*, G2 mothers were asked, “While you were growing up, did anyone in your home have a serious drinking problem?” Responses to this question were coded such that 0 = no and 1 = yes.

Mothers also were asked to tell us about family of origin’s relocation experiences. Specifically, we asked mothers if a grandparent or any other family member participated in a relocation program. Responses to this question were coded so that 0 = no and 1 = yes.

Analytic Procedure

In addition to our examination of descriptive statistics and bivariate associations among variables, a fully recursive path model was estimated using Mplus version 3.11 (Muthen & Muthen, 2004). Because our model includes categorical endogenous variables (relocation experiences, G1 drinking problems), a weighted least squares estimator (WLSMV) was utilized for model estimation, including the estimation of item-level missing data. Regression coefficients related to categorical endogenous variables are interpreted as probit estimates, while the remaining coefficients are linear regression estimates.

Results

Table 1 displays descriptive information and bivariate correlations for all study variables. Our restricted (see methods, above) sample is comprised of slightly more female adolescents (54.8%) than males, and 13.4% ($n = 68$) of the participants were living on a Canadian reserve. About one-fifth (20.7%) of the mothers in our sample indicated that the G1 ancestor(s) had participated in a relocation program. Overall, the mothers (G2) and adolescents (G3) in our sample had similar average CESD scores, with slightly more variation found across adult CESD responses (mean and standard deviations = 13.05 (9.7) and 13.02 (8.5), respectively).

Both bivariate associations (Table 1) and results of our path analysis are discussed in relation to the study hypotheses. The significant path model coefficients are shown in Figure 2 (see Table 2 for coefficients for the full model). In both the bivariate and multivariate models, participants residing on the participating Canadian reserves tended to report higher levels of G1 drinking problems, lower levels of G2 warmth and supportiveness, and fewer G3 depressive symptoms. In the multivariate analysis only, living on a Canadian reserve was significantly associated with lower reports of G2 substance use problems. G1 (grandparent generation) relocation experiences were positively and significantly associated with G2 reports of G1 drinking problems in both the bivariate and multivariate analyses, thus supporting our first hypothesis (H1).

We found support for H2 that predicted positive associations between G1 and G2 problem outcomes. In our bivariate analyses, G1 drinking problems were significantly associated with both G2 substance use problems ($r = .30$; $p < .001$) and G2 depressive symptoms ($r = .15$; $p < .01$). Positive, direct effects were statistically significant in the path model as well (note also the significant covariance between G2 substance use and depressive symptoms, $\beta = .24$; $p < .001$).

Consistent with H3, G2’s substance use problems were negatively related to warm and supportive parenting in both our bivariate ($r = -.13$; $p < .01$) and path analysis ($\beta = -.16$; p

< .01). G2's depressive symptoms were unrelated to youth reports of parental warmth and supportiveness.

Bivariate relationships between the G2 biological mothers and their G3 adolescent children's problem outcomes were positive and statistically significant, lending support to H4. Likewise, G2's substance use and depressive symptoms were positively related to G3 delinquency ($\beta = .10; p < .05$; $\beta = .10; p < .05$, respectively) in the path analysis. Similar multivariate support for H4 was found in terms of a positive, significant association between G2 and G3 depressive symptoms ($\beta = .12; p < .01$). Counter to our H4 predictions, G2 substance use problems were not associated with G3 depressive symptoms in the path model.

Consistent with H5 predictions, our analyses revealed significant negative bivariate and multivariate associations between warm and supportive parenting and G3 depressive symptoms ($r = -.24; p < .001$; $\beta = -.24; p < .001$) and delinquency ($r = -.21; p < .001$; $\beta = -.19; p < .001$).

To examine the proposed (H6) indirect effect of G2 substance use and depressive affect on youth (G3) outcomes via non-optimal parenting, we present results of a decomposition of effects of our path analysis in Table 3. Consistent with H6 predictions, G2 substance use problems exerted a positive, significant indirect effect on youth delinquency ($\beta = .03; p < .01$) and depressive symptoms ($\beta = .04; p < .01$) by way of decreased G2 warmth and supportiveness. In other words, the deleterious effects of adult substance use problems on parenting were related to youth problem outcomes. Our analyses revealed no statistically significant indirect effects of G2 depressive symptoms on G3 outcomes.

Our final hypothesis (H7) examines the potential impact of G1 relocation directly on subsequent generations' problem behaviors and negative affect. Returning to Table 1, we find bivariate support for this hypothesis in terms of the positive, significant effects of G1 relocation program participation on G1 drinking problems and G2 substance use problems. Similar multivariate support for H7 (Table 2) was found with positive effects of relocation on G1 drinking problems ($\beta = .19; p < .05$) and G2 substance use problems ($\beta = .13; p < .10$).

Beyond those results discussed in relation to our hypotheses, several additional and noteworthy findings emerged from these analyses. Returning to the decomposition of effects analysis in Table 3, we found significant positive indirect effects of G1 relocation on G2 substance use problems through G1 drinking problems ($\beta = .05; p < .10$). Although results indicate a lack of a direct impact of G1 drinking on G2's parenting of G3, we did find a significant indirect effect whereby G1 drinking problems were associated with decreased G2 warmth and supportiveness via G2's own substance use problems and depressive symptoms ($\beta = -.04; p < .01$). Last, we find evidence of the transmission of problem behaviors across three generations in terms of the significant indirect effects of G1 drinking problems on G3 delinquency by way of G2 deviance and negative parenting behaviors ($\beta = .04, p < .05$).

Discussion

For many Indigenous cultures lives are highly inter-connected. Generational ties are particularly valued because elders are viewed as repositories of cultural knowledge, spirituality, and traditional language. Their life experience is enormously respected and they are turned to for direction and advice. When these linkages are disturbed the consequences ripple through subsequent generations.

Taken altogether, these results demonstrate the harmful impact of government relocation policies on Indigenous families, past and present, who currently reside on or near reservations/reserves in the upper Midwest United States and central Canada. Our analyses suggest that within this particular Indigenous cultural group, grandparent generation (G1) relocation experiences were *directly* related to G1 and G2 (adult caretakers of adolescents) substance use-related problems. This finding is not surprising given prior empirical evidence of the stress and psychological harm associated with structural displacement of collectivist cultural groups especially (O'Sullivan & Handal, 1988; Scudder, 1973). Colson (2003) discusses processes of labeling, identity formation/conflict, and distrust of government associated with displacement; similar distressing effects specific to Indigenous experiences with federal relocation programs have been espoused (Fixico, 1986). The negative impact of relocation then rippled across generations: G1's substance abuse in turn was associated with G2 female caretaker depressive symptoms and substance use. The G2 women as a consequence were less effective parents (i.e., substance use problems were negatively associated with warmth and supportiveness) to their G3 adolescent children. This placed the G3 generation (a sample of contemporary adolescents) at greater risk for depressive symptoms and delinquent behaviors. By serving as one possible risk factor for G1 substance use, relocation may be viewed as an important distal source for the perpetuation of problems across generations when framed within an intergenerational model of risk (e.g., Thornberry et al., 2003).

These findings also point to the complementary nature of the life course perspective and recent conceptualizations of historical trauma. This contemporary example of government acculturation policy illustrates the process through which historical traumatic events and processes affect subsequent generations across time. Across-generation continuity is so central to understanding the long-term effects of historical cultural losses that the effects have been referred to as "intergenerational posttraumatic stress disorder" (Duran & Duran, 1995). That is, ethnic cleansing and subsequent government policies of forced acculturation (e.g., boarding schools, relocation) broke apart protective intergenerational linkages that preserved and taught cultural ways. Grandparents were physically and emotionally separated from their children, who did not have the benefit of their guidance and role models when they became parents.

An extended consideration of life course perspectives might also inform conceptual models for future research. On a structural level, federal policies that established reservations and reserves across North America in areas often devoid of resources contribute to current hardships including towering unemployment rates, educational disparities, and underfunded, understaffed health care and resources (Roubideaux, 2005; Sandefur, Rindfus, & Cohen, 1996). The perspective highlights the salience of historical and structural contexts wherein youths growing up in oppressed communities are especially prone to cumulative disadvantage, a chain of adversity across the life course (Sampson & Laub, 2001) set in motion by historical events and traumas (see also Whitbeck, et al., 2009 for a discussion of cultural contexts of development)

Limitations

These findings should be interpreted with proper caution. First, this research focuses on a single cultural group located in the northern Midwest of the United States and Canada. The generalizability of these results to other Indigenous groups is clearly not possible within the contexts of a single study and given the cultural diversity of over 560 federally recognized tribal groups in the United States alone (U.S. Department of the Interior, 2007).

Importantly, the participating families all resided either on or near rural or remote reservations and reserves. This should be taken into account when generalizing to urban

Indigenous people even from the same culture. Moreover, our sample does not allow for the investigation of relocation effects on those families who remained in urban areas (nor those who migrated back and forth), nor can we draw any conclusions or comparisons about relative outcomes between formerly relocated on and off-reserve families. Sorting out these complexities is a vital task for future research.

Our information regarding the G1 grandparent generation is limited to G2 biological mothers reports. Retrospective reports such as these are always a concern. However, the questions refer to specific behaviors and experiences that are likely to be accurately recalled (e.g., whether one's grandparents were part of the relocation program, and whether they abused substances). Finally, although time-order between relocation experiences and subsequent generation outcomes is evident, the cross-sectional nature of these data do not permit causal interpretation of the associations among key variables.

Conclusions

Although widely accepted among Indigenous communities and researchers, there is a need for empirical attention to the question of whether historical trauma can have effects generations after they occurred. By using this example of a more contemporary government policy of acculturation we were able to link the harmful effects of relocation across generations. Were data available we believe that an even stronger case could be made for more insidious acculturation policies such as boarding schools on intergenerational linkages and influence. The process is the erosion of intergenerational influences. Grandparents were separated from their sons and daughters and grandchildren. They could not teach the cultural ways of parenting by providing appropriate role models of strong parents and elders. Their children, in turn, were more at risk for demoralization (depressive symptoms) and substance abuse. This eroded their abilities as parents, so that the next generation was more susceptible to early substance use and delinquent behaviors. And so it goes until the cycle is broken.

With the current resurgence of cultural ways, active elders, spiritual leaders, tribal government leaders, and health providers are breaking the cyclical effects of historical cultural losses by educating parents and children about cultural values, spirituality, and practices, by encouraging cultural pride, and by working to protect future generations from substance abuse. Life course emphasis on linked-lives are similarly illustrated in efforts aimed at "healing" Indigenous family relationships as a way to disrupt the cycle of problems (with historical beginnings) across generations (Brave Heart, 1998; Strickland, Walsh, & Cooper, 2006). This research provides evidence that one of the keys to breaking the cycle set in motion by historical cultural losses is reconnecting generations, linking lives in a good way to support the healthy growth of the next generation.

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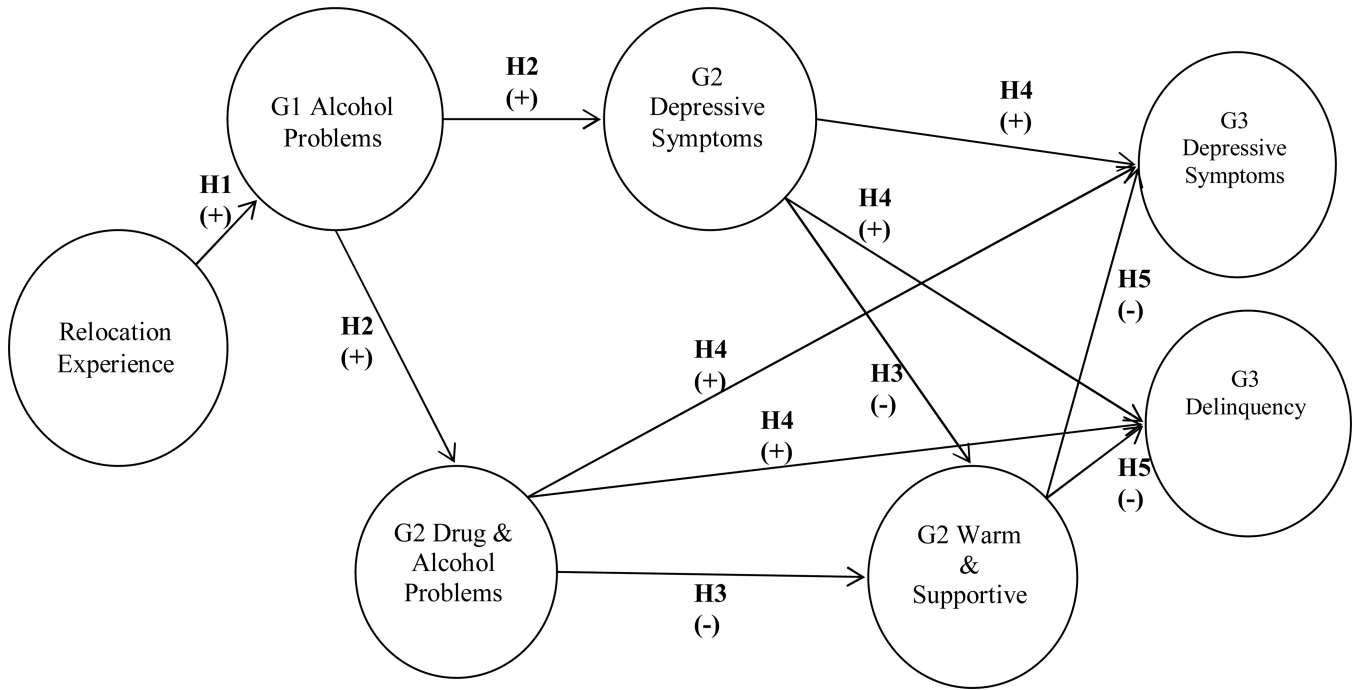


Figure 1. Conceptual model

G1, G2, and G3 = first, second, and third generations, respectively. The potential indirect effects of G2 depressive symptoms and substance use on G1 outcomes via warm & supportive parenting (H6), and the direct effects of relocation experience on all G3, G2, and G1 variables are tested (H7) but not shown to ease presentation.

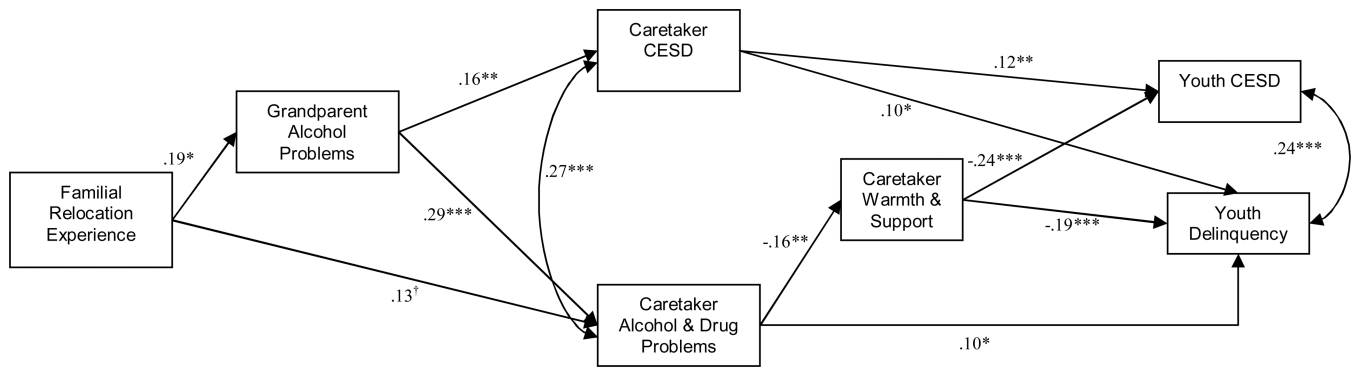


Figure 2. Path Analysis

Note: Only statistically significant paths shown. Youth gender and Canadian vs. United States residency included as exogenous control variable (not shown). † $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$

Table 1
Descriptive Statistics and Bivariate Correlations for All Study Variables (N = 507)

| | Reporter | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|--------------------------------------|----------|-------------------|-------------------|-------|--------|------------------|-------------|------------|------------|-------------|
| 1. Canada (In Canada=1) | - | 1 | | | | | | | | |
| 2. G3 Gender (Female = 1) | G3 | .09 | 1 | | | | | | | |
| 3. Relocation Program | G2 | -.03 | .01 | 1 | | | | | | |
| 4. G1 Drinking Problems | G2 | .22* | .07 | .19* | 1 | | | | | |
| 5. G2 Substance Use Problems | G2 | -.09 | .002 | .18** | .30*** | 1 | | | | |
| 6. G2 CESD | G2 | .11 [†] | -.09 [†] | -.05 | .15** | .28*** | 1 | | | |
| 7. G2 Warmth & Supportiveness | G3 | -.14* | .01 | -.02 | -.004 | -.13** | -.04 | 1 | | |
| 8. G3 Delinquency | G3 | -.04 | -.12* | .05 | -.02 | .14** | .12** | -.21*** | 1 | |
| 9. G3 CESD | G3 | -.15 [†] | .09 | -.02 | -.05 | .08 [†] | .11* | -.24*** | .29*** | 1 |
| Mean/% and Standard Deviation (s.d.) | | 13.4% | 54.8% | 20.7% | 68.3% | .42 (.33) | 13.05 (9.7) | 1.41 (.34) | 2.80 (3.6) | 13.02 (8.5) |

[†]p < .10;

* p < .05;

** p < .01;

*** p < .001

Table 2

Results of Path Analysis

| | Endogenous Variables | | | | | | | | | | | | | |
|----------------------------------|----------------------|--------|-------------------|------|------------------------|------------------|-------------|-------------------|----------------------------|----------|----------------|-------------------|--------------|------------------|
| | Relocation | | G1 Drinking Probs | | G2 Substance Use Probs | | G2 CESD | | G2 Warmth & Supportiveness | | G3 Delinquency | | G3 CESD | |
| | B (se) | β | B | β | B | β | B | β | B | β | B | β | B | β |
| Canada (In Canada = 1) | -.06 (.21) | -.02 | .43 (.19) | .14* | -.09 (.05) | -.10* | 1.64 (1.19) | .06 | -.11 (.05) | -.11* | -.32 (.46) | -.03 | -2.76 (1.23) | -.11* |
| Youth Gender (Female = 1) | .01 (.14) | .01 | .10 (.12) | .05 | -.01 (.03) | -.01 | -1.65 (.86) | -.09 [†] | .01 (.03) | .01 | -.57 (.31) | -.08 [†] | 1.48 (.77) | .09 [†] |
| Relocation Program | | | .20 (.10) | .19* | .04 (.02) | .13 [†] | -.78 (.73) | -.08 | -.001 (.02) | -.004 | .17 (.24) | .05 | -.12 (.60) | -.01 |
| G1 Drinking Problems | | | | | .09 (.02) | .29*** | 1.50 (.55) | .16*** | .02 (.02) | .06 | -.22 (.22) | -.06 | -.54 (.53) | -.07 |
| G2 Substance Use Problems | | | | | | | | | -1.16 (.05) | -1.16*** | 1.10 (.54) | .10* | .77 (1.35) | .03 |
| G2 CESD | | | | | | | | | .00 (.002) | .01 | .04 (.01) | .10* | .10 (.04) | .12** |
| G2 Warmth & Supportiveness | | | | | | | | | | | -2.04 (.48) | -.19*** | -6.06 (1.07) | -.24*** |
| Covariances | | | | | | | | | | | | | | |
| G3 Delinquency with CESD | 6.81 (1.2) | .24*** | | | | | | | | | | | | |
| G2 CESD with Substance Use Probs | .79 (.15) | .27*** | | | | | | | | | | | | |

[†] p < .10;
 * p < .05;
 ** p < .01;
 *** p < .001; 2-tailed tests

Table 3

Decomposition of Effects

| Exogenous Variables | Endogenous Variables | | | | | | | | | | | |
|---------------------------|---------------------------|-------------------|------------|--|--------------------|---------|----------------|-------------------|-------------|-------------------|--------|---------|
| | B (SE) | β | B (SE) | β | B (SE) | β | B (SE) | β | B (SE) | β | B (SE) | β |
| | G2 Substance Use Problems | | | G3 Reported Family Warmth & Supportiveness | | | G3 Delinquency | | | G3 CESD | | |
| Relocation Program | | | | | | | | | | | | |
| Direct Effect | .04 (.02) | .13 [†] | -.78 (.73) | -.08 | -.001 (.02) | -.004 | .17 (.24) | .04 | -.12 (.60) | -.01 | | |
| Indirect Effect | .02 (.01) | .05 [†] | .29 (.18) | .03 | -.01 (.01) | -.02 | .02 (.08) | .01 | -.06 (.19) | -.01 | | |
| Total Effect | .06 (.02) | .18 ^{**} | -.49 (.71) | -.05 | -.01 (.02) | -.02 | .19 (.23) | .05 | -.18 (.57) | -.02 | | |
| G1 Drinking Problems | | | | | | | | | | | | |
| Direct Effect | | | | .01 (.02) | .05 | | -.22 (.22) | -.06 | -.54 (.53) | -.07 | | |
| Indirect Effect | | | | -.01 (.01) | -.04 ^{**} | | .15 (.07) | .04 [*] | .20 (.19) | .03 | | |
| Total Effect | | | | .00 (.02) | .01 | | -.07 (.21) | -.02 | -.34 (.52) | -.04 | | |
| G2 Substance Use Problems | | | | | | | | | | | | |
| Direct Effect | | | | | | | 1.1 (.54) | .10 [*] | .77 (1.35) | .03 | | |
| Indirect Effect | | | | | | | .33 (.12) | .03 ^{**} | .97 (.31) | .04 ^{**} | | |
| Total Effect | | | | | | | 1.43 (.53) | .13 ^{**} | 1.74 (1.35) | .07 | | |
| G2 CESD | | | | | | | | | | | | |
| Direct Effect | | | | | | | -.03 (.01) | .09 [*] | .10 (.04) | .12 ^{**} | | |
| Indirect Effect | | | | | | | -.001 (.003) | -.002 | -.002 (.01) | -.002 | | |
| Total Effect | | | | | | | -.03 (.01) | .09 [*] | .10 (.04) | .12 ^{**} | | |

[†] p < .10;

* p < .05;

** p < .01;

*** p < .001; 2-tailed tests