

The Impact of Historical Trauma on Health Outcomes for Indigenous Populations in the USA and Canada: A Systematic Review

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Beginning in the mid-1990s, the construct of historical trauma was introduced into the clinical and health science literatures to contextualize, describe, and explain disproportionately high rates of psychological distress and health disparities among Indigenous populations. As a conceptual precursor to racial trauma, Indigenous historical trauma (IHT) is distinguished by its emphasis on ancestral adversity that is intergenerationally transmitted in ways that compromise descendent well-being. In this systematic review of the health impacts of IHT, 32 empirical articles were identified that statistically analyzed the relationship between a measure of IHT and a health outcome for Indigenous samples from the United States and Canada. These articles were categorized based on their specific method for operationalizing IHT, yielding 19 articles that were grouped as historical loss studies, 11 articles that were grouped as residential school ancestry studies, and three articles that were grouped as “other” studies. Articles in all three categories included diverse respondents, disparate designs, varied statistical techniques, and a range of health outcomes. Most reported statistically significant associations between higher indicators of IHT and adverse health outcomes. Analyses were so complex, and findings were so specific, that this groundbreaking literature has yet to cohere into a body of knowledge with clear implications for health policy or professional practice. At the conceptual level, it remains unclear whether IHT is best appreciated for its metaphorical or literal functions. Nevertheless, the enthusiasm surrounding IHT as an explanation for contemporary Indigenous health problems renders it imperative to refine the construct to enable more valid research.

Keywords: Indigenous populations, historical trauma, systematic review, health outcomes, intergenerational risk

Recent improvements in epidemiological assessment of mental disorders demonstrate that inequities in specific mental health conditions (e.g., alcohol dependence, post-

traumatic stress disorder [PTSD], suicide) persist for Indigenous populations compared with the national population (Gone & Trimble, 2012; Nelson & Wilson, 2017). Such

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inequities have routinely been attributed to the colonization of the Americas by European settlers. Beginning in the mid-1990s, the construct of *historical trauma* was introduced into the mental health literature to contextualize, describe, and explain health disparities in Indigenous settings (Brave Heart, 1998, 1999). Indigenous historical trauma (IHT) is universally characterized as originating in the brutal processes of colonization (e.g., conquest, plunder, impoverishment), which resulted in population decline and subsequent subjugation of Indigenous peoples. Advocates of IHT assert that this legacy of colonization accrues across generations of Indigenous people, leading to shared vulnerabilities that undermine contemporary health status (Evans-Campbell, 2008; Sotero, 2006).

A precursor to racial trauma (Hartmann, Wendt, Burrage, Pomerville, & Gone, 2019), IHT differs from ordinary lifetime psychological trauma in key ways: it is *colonial* in origin, *collective* in impact, *cumulative* across adverse events, and (especially) *cross-generational* in transmission of risk and vulnerability (Hartmann & Gone, 2014). During the past two decades, hundreds of publications have appeared in the psychology and health literatures that refer to IHT. And yet, to our knowledge, no research team has published a comprehensive review of empirical findings pertaining to IHT. For this article, a systematic review (SR) of empirical research was undertaken to explore associations between IHT and adverse health outcomes for Indigenous peoples in the United States and Canada. This review illuminates key impacts of colonization history on Indigenous health status and reveals opportunities for further refinement and improved measurement of the IHT construct.

Why Focus on Indigenous Populations in the United States and Canada?

The Indigenous peoples of North America lived and interacted throughout the continent irrespective of current national boundaries. Such boundaries came into existence through processes of European colonization and settlement, often arbitrarily dividing self-designated communities and mutually recognized kin. The policies of these nation-states subsequently shaped Indigenous lives and experiences in profound ways. Moreover, a dominant British and French influence in the origins of the United States and Canada led to overt similarities between these nation-states in ways that distinguish them from peoples south of the Rio Grande (e.g., signing treaties with Indigenous peoples, promoting settler language use, maintaining a system of reserved lands, establishing a network of assimilative industrial schools). Because of this shared legacy, this SR focuses on Indigenous peoples in the United States and Canada only.

Why Focus on Historical Trauma Rather Than on Racial Trauma?

This article focuses on historical trauma (rather than racial trauma per se), which can be understood as a synthesis of two older concepts: *historical oppression* and *psychological trauma* (Hartmann & Gone, 2014). The justification for this focus is that the harmful impacts of racial oppression on the health and well-being of Indigenous people is rarely characterized as *racial trauma* but readily characterized as *historical trauma*. This follows from the fact that race, racial identity, and racial discrimination affect Indigenous community members differently than for other contemporary ethnoracial minority groups (see Gone & Trimble, 2012, for more detail). One difference is that *tribe*—which is an ethnic descriptor rather than a racial descriptor—features more centrally than race for many Indigenous peoples, even though these groups have long been racialized as part of the European colonial project. Instead, Indigenous identity depends on the distinctive political status of *tribal nations* that were signatories to international treaties with the United States and Canada. This status often renders the historical legacy of colonization, conquest, and subjugation more salient than racial discrimination for these communities.

Why Conduct a Systematic Review?

A SR is a method of knowledge synthesis developed in the pursuit of evidence-based practice in the health professions. SRs are undertaken to be comprehensive, transparent, and replicable. A recent, influential guide for conducting SRs was published by the Institute of Medicine (2011; IoM). Beyond the original concern for assessing intervention outcomes, the rigor of an IoM-style SR approach can be easily adapted to a broad array of research reviews. Adop-



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tion of this method of knowledge synthesis here will help ensure inclusion of the full range of studies on the topic at hand, and will improve the prospects for contributing original, rigorous, and transparent knowledge to the psychology literature.

Method

The research question that guides this SR is, *What do we know empirically about the health impacts of IHT among Indigenous populations in the United States and Canada?* Because this is the first SR to address this question, IHT was very broadly construed so as not to omit potentially relevant research. Given an interest in identifying specific links between IHT and adverse health outcomes, only variable-analytic studies (employing statistical analysis) were of interest. The three most important features of a SR retained for this analysis were a bibliographic search strategy to comprehensively identify all relevant studies, screening of all returned citations on the basis of explicit inclusion criteria, and standardized extraction of study data.

Search Strategy

First, two reference librarians were consulted to design strings of search terms that were broadly relevant to the topic of racial and historical trauma for Indigenous populations in the United States and Canada. Then, two authors subsequently collaborated with these librarians to identify relevant bibliographic databases and to design search terminologies specific to each database. The search terminologies were crafted to capture the intersection of three domains: (a) Indigenous populations in the United States or Canada; (b) psychological

trauma and/or related concepts such as violence, stress, discrimination, loss, or grief; and (c) historical, multi/intergenerational, colonial, genocidal, ethnoracial, or other group-based experiences of psychological injury (final search strings for all databases are available on request). Once equivalent search strings were finalized, the search was conducted on May 15, 2017, across the following bibliographic indexes: AnthropologyPlus, Bibliography of Native North Americans, Embase, OvidMedline, PsycINFO and PsycARTICLES, Scopus, Social Sciences Abstracts, Social Services Abstracts, and the Web of Science. This search returned 3,268 bibliographic citations.

Citation Screening

Inclusion criteria. There were three major criteria for including returned citations in the SR. First, articles were required to have some form of empirical data for inclusion in the SR corpus, whether analyzed quantitatively or qualitatively. Theoretical and review articles were excluded, as were meta-analyses. Second, articles were required to feature the populations under consideration for this SR. These populations were defined as *Indigenous peoples of the United States and Canada*. As a result, American Indian, Alaska Native, First Nation, Metis, Inuit, and Hawaiian Native peoples were included. Other Pacific Islander groups were excluded, along with Indigenous groups from other parts of the world. Any study that considered multiple ethnoracial subgroups in its sample must have reported specific effects on the population of interest separate from other ethnoracial subgroups. Finally, articles were required to include data reflective of group-based and/or intergenerational stress and/or trauma. Articles concerning contemporary PTSD or other traumatic reactions in the target population that did not also address some form of group-based (e.g., ethnoracially based) discrimination, stress, trauma, or loss were excluded. Articles were not required to have been published.

Screening process. Two authors independently screened the title and abstract of all search results to determine which could be obviously omitted for failing to meet inclusion criteria (e.g., if the abstract explicitly stated that an article was entirely theoretical, or that the sample was drawn from an aboriginal population in Taiwan). After this initial review of returned titles and abstracts, the screeners identified 278 articles and 268 articles, respectively, that they believed might still qualify for inclusion based on the screening criteria. Next, the two screeners independently reviewed the full text of these remaining articles. Following this extensive review, the screeners came to a consensus judgment that 91 articles ultimately met the inclusion criteria. A flow diagram



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summarizing this process (with additional details) is available on request.

Data Extraction

Once this corpus was finalized, the 91 empirical articles were transferred to a separate three-person extraction team for systematic recording of summary data from each study. The extraction team applied additional selection criteria to designate a subset of articles addressed to the specific impacts of IHT on health outcomes for Indigenous samples in the United States or Canada. Thus, every article was evaluated in response to the following question: “Does this study overtly adopt a measure or variable that captures *historical* or *intergenerational* effects of shared colonial adversity that is *statistically analyzed* in direct association with (or as a) health outcome (very broadly construed)?” Common reasons for excluding articles included the following: no health outcomes were assessed in the study, no adverse events were assessed beyond the personal experience and life span of respondents (i.e., they did not reflect historical or intergenerational impacts), and no measures or variables representing IHT appeared in the study (i.e., IHT was only invoked in framing or interpreting findings). In the end, information was systematically extracted from 32 articles. These reports (including one unpublished article) all qualified as variable analytic studies that directly explored statistical relationships between (a) a measure or variable reflecting an adverse event associated with IHT, and (b) a measure or variable reflecting a health outcome for Indigenous respondents. Extraction documents are available on request. (As a

final aside, it should be noted that the term *racial trauma*, or its variants, appeared in just three articles across this entire variable-analytic corpus, attesting to a strong preference for exploring IHT.)

Results

The search, screening, and extraction process yielded 32 relevant empirical reports that were classified into three kinds of studies. The largest category, historical loss studies, was comprised of articles ($n = 19$) that adopted some variation of the IHT measures described by Whitbeck, Adams, Hoyt, and Chen (2004) or Whitbeck, Walls, Johnson, Morrisseau, and McDougall (2009). A second category, residential school ancestry (RSA) studies, was comprised of articles ($n = 11$) that included residential school attendance by a respondent’s ancestors as a proxy variable for experiences of IHT. The final category, “other” studies, was comprised of articles ($n = 3$) that measured IHT in some other fashion. Note that articles across the three categories sum to 33 because one dissertation (Brockie, 2012) reported findings based on both the Whitbeck measure and RSA. Findings for each category are discussed in turn.

Historical Loss Studies

Measures. The historical loss articles draw on the Historical Losses Scale (HLS) and/or the Historical Losses Associated Symptoms Scale (HLASS). Originating from focus groups with Indigenous elders, these scales were developed by Whitbeck, Adams, et al. (2004) as a measure of IHT. The HLS includes 12 kinds of historical losses (e.g., “loss of our land,” “loss of our language,” “loss of our traditional spiritual ways,” “loss of our people through early death”) and asks respondents to indicate “how frequently these losses come to mind” (p. 123). Six response options (scored 1–6) are associated with the following frequencies: several times a day, daily, weekly, monthly, yearly or only at special times, and never. In all articles discussed in this SR, these items were reverse scored such that higher numbers corresponded to greater frequency of thoughts. The HLASS includes 12 reactions (e.g., “sadness or depression,” “anger,” “anxiety or nervousness,” “shame,” “a loss of sleep,” “rage”) and asks respondents to indicate “how you feel when you think about these losses.” Five response options (scored 1–5) include *never*, *seldom*, *sometimes*, *often*, or *always*. To encourage researcher tailoring, Whitbeck, Adams, et al. (2004) did not propose conventions for interpreting total scores or cross-item means for these scales; rather, they presented percentages of endorsement for each item across all response options in each scale for their original sample. Whitbeck et al. (2009) subsequently reported on the simultaneously developed Adolescent Historical Loss Scale that included 10 items (rather than 12),



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with higher item scores indicating greater frequency of thoughts about losses.

Studies. Nineteen articles adopted the Whitbeck measures to explore statistical relationships between IHT and health outcomes for Indigenous samples (see Table 1). These articles vary in the kind of Indigenous respondents they sampled, the health outcomes that were assessed, and the statistical methods they employed to explore relationships between IHT and health outcomes. Thirteen of the articles sampled Indigenous respondents residing on or near reserved lands, three sampled Indigenous college students (Pokhrel & Herzog, 2014; Tucker, Wingate, & O’Keefe, 2016; Tucker, Wingate, O’Keefe, Hollingsworth, & Cole, 2016), and only one sampled an exclusively urban Indigenous population (Wiechelt, Gryczynski, Johnson, & Caldwell, 2012). Nine articles reported findings exclusively for Indigenous adolescent or college-age respondents, and eight reported findings for Indigenous adults and two reported findings for both Indigenous adolescent and adult samples (Walls, Whitbeck, & Armenta, 2016; Whitbeck et al., 2009). Only one article (Spence, Wells, George, & Graham, 2014) sampled an exclusively Canadian First Nations population (but all six of the articles featuring Whitbeck as a coauthor included respondents from reserved lands in both the United States and Canada). Sample size in these studies ranged from 10 to 1,132 ($M = 363.8$, with one study surveying less than 100 respondents). Common health outcomes included substance use, depressive and/or anxiety symptoms, and suicidality.

Findings. The findings in these articles are difficult to synthesize. Nearly all of them identified statistically significant relationships between higher HLS or HLASS scores

and one or more adverse health outcomes. These relationships were direct in some studies, and indirect in others for which HLS scores functioned as mediators between additional variables of interest.

Such complexity is evident in the following six articles that explored the relationships between IHT and substance use. Ehlers, Gizer, Gilder, Ellingson, and Yehuda (2013) found that Indigenous Californians ($N = 306$) with a lifetime history of substance dependence (characterizing 66% of the sample) endorsed higher total scores on the HLS and HLASS. In contrast, those with a lifetime history of any anxiety or mood disorder did not score higher on the HLS but did score higher on the HLASS. Pokhrel and Herzog (2014) adapted the HLS (but not the HLASS) for use with 128 Native Hawaiian college students as one of two measures of IHT. Using structural equation modeling, they found that IHT had “two paths to substance use: an indirect path to higher substance use through higher perceived discrimination and a direct path to lower substance use” (p. 420), with the latter result implying that IHT *protected* these respondents against substance use. Soto, Baezconde-Garbanati, Schwartz, and Unger (2015) employed the adult version of the HLS with 969 adolescent Indigenous Californians. Using structural equation modeling, they found that IHT was “a risk factor for cigarette smoking both directly and in mediating the links of ethnic identity, cultural activities, and stressful life events” (p. 64). Of note, these associations were complex, such that ethnic identity protected against smoking, but stronger ethnic identity led to higher IHT, which, in turn, led to greater risk for smoking.

Spence et al. (2014) investigated whether modified HLS scores predicted marijuana use for a representative sample of 340 First Nations adults living near their reserves in Ontario. Based on logistic regression, they found that neither IHT nor any other “Aboriginal-specific issue” was associated with marijuana use. Whitbeck, Chen, Hoyt, and Adams (2004) employed the HLS and HLASS with 452 Indigenous parents or caretakers to determine IHT’s relationship to past-year alcohol abuse (a formal diagnosis for which 15% of the sample qualified). Findings revealed that the HLASS (but not the HLS) was correlated with past-year alcohol abuse ($r = .18$), and the HLS mediated the relationship between perceived discrimination and past-month alcohol abuse for Indigenous women (but not men) in structural equation models. Finally, Wiechelt et al. (2012) adopted the HLS and HLASS for use with 120 Indigenous adults in Baltimore to explore the relationship through logistic regression between IHT and past-30-day alcohol and illicit drug use. They found that IHT was not associated with illicit drug use, but when they controlled for HLS scores (and other covariates), the HLASS did predict past-30-day alcohol use and lifetime illicit drug use, respectively (but the attending odds ratios were both just 1.06). Interestingly,



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these urban Indigenous respondents recorded higher HLS and HLASS scores than the original reservation-based samples reported by Whitbeck, Adams, et al. (2004).

Summary. Development of the HLS and HLASS has facilitated important inquiry into the impact of IHT on health outcomes for Indigenous populations. Nevertheless, inconsistent adoption, adaptation, scoring, and interpretation of these scales, combined with complex (and even contradictory) patterns of association, have yielded a bewildering array of findings across diverse studies. Conclusive inferences about these relationships are not currently possible.

Residential School Ancestry Studies

Measures. The RSA studies incorporated a measure of whether a respondent's ancestor attended government-supported Indigenous "industrial schools" (more commonly known as Indian boarding or residential schools) during childhood. These institutions were designed to assimilate Indigenous children into their respective national societies based on the mandate to "kill the Indian in him, and save the man" (Pratt, 1892/1973, p. 261). Indigenous parents, and sometimes their children, were coerced or pressured to consent to school attendance, in which the Indigenous cultural practices of students (e.g., hairstyles, clothing, language, spirituality) were typically forbidden on penalty of corporal punishment. For too many Indigenous students, these forbidding, remote, and resource-strapped institutions were frightening, loveless, lonely, abusive, and sometimes fatal places. One key difference between the school systems in the United States and Canada, however, is that American

Indian boarding schools in the United States were substantially reformed during the 1930s, whereas the Indigenous residential schools in Canada continued in their unreformed state into the 1970s. Thus (especially in Canada), the establishment of these schools is construed as one of the primary expressions of colonization (Truth and Reconciliation Commission of Canada, 2015).

A majority of the RSA studies ($n = 6$) assessed IHT by simply asking respondents whether either of their parents had attended residential schools, yielding a simple yes–no categorical variable. Three studies inquired whether respondents' parents and grandparents had attended residential school. Hackett, Feeny, and Tompa (2016) recorded whether respondents had at least one family member of an older generation who attended residential school (including aunts and uncles). Finally, Brockie (2012) asked whether a respondent's grandparents, great-grandparents, or "elders from their community" attended boarding school. This emphasis on older generations and (potentially nonfamily) elders reflects Brockie's interest in measuring IHT stemming from attendance at the early, unreformed boarding schools in the United States prior to the 1930s.

Studies. Eleven articles adopted a measure of RSA to explore statistical relationships between IHT and health outcomes for Indigenous samples (see Table 2). Once again, these articles vary in the kind of Indigenous respondents they sampled, the health outcomes that were assessed, and the statistical methods employed to explore relationships between IHT and health outcomes. Three articles sampled Indigenous respondents residing on or near reserved lands (Brockie, 2012; Elias et al., 2012; McQuaid et al., 2017), four articles sampled exclusively urban Indigenous populations (Mehrabadi et al., 2008; Pearce et al., 2008, 2015; Roos et al., 2014), three articles sampled Indigenous respondents irrespective of residential locale (Bombay, Matheson, & Anisman, 2011, 2014; Matheson, Bombay, Dixon, & Anisman, 2017), and one article (Hackett et al., 2016) sampled an off-reserve Indigenous population. Seven articles reported findings exclusively for Indigenous adults, and four articles (Brockie, 2012; Mehrabadi et al., 2008; Pearce et al., 2008, 2015) reported findings for adolescent and young adult Indigenous samples (i.e., through age 30). Two articles (Mehrabadi et al., 2008; Pearce et al., 2015) sampled Indigenous women exclusively. Only one article (Brockie, 2012) sampled an American Indian population from the United States. One article (Roos et al., 2014) included both Indigenous and non-Indigenous respondents for comparison purposes. Sample sizes in these studies ranged from 134 to 14,280 ($M = 2,321.8$, with only two studies surveying less than 260 respondents). Common health outcomes included suicidality, depressive symptoms, and sexual abuse (with many studies analyzing multiple health outcomes).



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Findings. Similar to the historical loss studies, findings in these articles are a challenge to synthesize. A common finding is that Indigenous respondents who reported RSA fare worse than Indigenous respondents who did not report this history relative to measured health outcomes, but there were some inconsistencies in these associations across articles.

Four studies explored the association between RSA and suicidal behaviors. For suicidal ideation, RSA was found in logistic regression to be a significant predictor in two articles, with odds ratios of 2.02 (Elias et al., 2012) and 1.46 (McQuaid et al., 2017). For suicide attempts, RSA was found in logistic regression to be a significant predictor in three articles, with odds ratios of 2.00 (Hackett et al., 2016), 1.68 (Elias et al., 2012), and 1.44 (McQuaid et al., 2017).

One research team contributed three articles that explored RSA associations with depressive symptoms for Indigenous respondents in programmatic fashion. Bombay et al. (2011) investigated the relationship between parental residential school status on depressive symptoms in a convenience sample of 143 self-selected Indigenous adult respondents using hierarchical regression and ANCOVA. Seven separate analyses were reported in this article, but respondents with at least one parent who attended residential school scored higher (controlling for income and age) on the Beck Depression Inventory-Short Form than respondents with no RSA. Moreover, three “stressor” variables were demonstrated to collectively mediate the relationship between RSA and depressive symptoms, but the authors noted that “alternative models assessing depressive symptoms as a mediator between

parental [residential school] attendance and each stressor . . . were, at least statistically, as viable as those hypothesized” (p. 378). Thus, it remains unclear from this study whether depression is best understood as an outcome or a mechanism.

In a subsequent study, Bombay et al. (2014) engaged 399 adult Indigenous respondents with or without RSA in an appraisal task consisting of reactions to narrative vignettes featuring negative intergroup exchanges (judged on whether these were appraised as discriminatory and threatening). The researchers hypothesized independent pathways leading from RSA to identity centrality and past discrimination, which were then expected to mediate, first, discrimination appraisals, and then, threat appraisals, to ultimately predict depressive symptoms. Using multiple-group path analysis, they demonstrated this model’s “excellent fit to the data” (p. 80), suggesting that greater risk for depressive symptoms among RSA respondents depended on higher levels of perceived discrimination, which itself resulted from greater sensitivity to discriminatory cues for this group. Once again, however, alternative directional models fit these data, with depressive symptoms instead mediating this relationship (as a mechanism rather than an outcome).

Finally, Matheson et al. (2017) extended this line of inquiry. In their first study of 498 Indigenous respondents, the research team found through regression analysis a quadratic relationship between parental talk of negative residential school experiences and respondent depressive symptoms, as mediated by perceived discrimination. The authors concluded that “parent-child discussions about their [residential school] experiences appear to provide a lens through which offspring perceive their own experiences as discriminatory, which in turn undermines well-being” (p. 14–15). In their second study of 134 Indigenous respondents, the researchers found through regression analysis that learning of parental residential school experiences from someone besides one’s parent was unrelated to depressive experiences for offspring. They concluded that “when parents communicated directly with their offspring regarding their trauma experiences in [residential school], over-disclosure appeared to be most detrimental to offspring well-being . . . as was, to a lesser degree, silence” (p. 25).

Summary. The operationalization of IHT as RSA has generated a small corpus of studies that explore associations between ancestral colonial adversity and health outcomes. Nevertheless, RSA remains a questionable proxy for IHT, as only a minority of Indigenous people ever attended residential schools and not every former student experienced abuse in these institutions. Moreover, demonstrated associations are open to alternative interpretations about the direction of effects. Once again, conclusive inferences about these relationships are not currently possible.

Table 1
 Summary Information for Historical Loss Studies ($n = 19$)

Study	<i>N</i>	Age	Sex	Adverse event measure	Health outcome measure	Finding
Anastario, Fourstar, & Rink (2013)	120	18–24	100% Male	HLS, HLIASS	Sex w/ multiple partners; inconsistent condom use	Greater HLIASS subscale scores were associated with higher scores on outcome variables
Armenta, Whitbeck, & Habecker (2016)	660	10–12 at start	51% Female	AHLS	Anxiety	Greater AHLS scores were associated with higher anxiety in adolescents
Brockie (2012)	288	15–24	51% Female	Modified HLS, HLIASS	Columbia Suicide History Form; Suicide Intent Scale; 4 additional questions	Greater HLS & HLIASS scores were associated with more suicidal thoughts, suicide attempts, polysubstance use, & PTSD
Brockie, Dana-Sacco, Wallen, Wilcox, & Campbell (2015)	288	15–24	51% Female	HLIASS	Columbia Suicide History Form; Suicide Intent Scale; depressive symptoms; 4 additional questions	Greater HLIASS scores were associated with more suicidal thoughts, polysubstance use, PTSD, & depressive symptoms, but not suicide attempts
Clark & Winterowd (2012)	269	$M = 43.03$	75.5% Female	HLS, HLIASS	DASS-21; Binge Eating Scale; Eating Disorder Diagnostic Scale	Greater HLS & HLIASS scores were associated with more binge-eating behaviors
Ehlers, Gizer, Gilder, Ellingson, & Yehuda (2013)	306	18–70	56% Female	HLS, HLIASS	Alcohol dependence; past psychiatric diagnoses	Associations existed between HLS & HLIASS scores and numerous disorders (authors note they did not correct for multiple comparisons)
Goodkind, LaNoue, Lee, Freeland, & Freund (2012)	10	29–51, $M = 41.4$	100% Female	HLS, HLIASS (preintervention)	HLS & HLIASS (during & after intervention)	Participants who completed the invention had decreased scores on HLS & HLIASS
Pokhrel & Herzog (2014)	128	$M = 27.5$	65.4% Male	Modified HLS, Perceived Discrimination, Historical Traumatic Events Measure	Frequency of alcohol, cigarette, & marijuana use	Greater IHT was associated with less substance use
Rink et al. (2012)	112	18–24	100% Male	HLS, HLIASS	Emotional response to loss; intent to use birth control; influence of IHT on sex decisions	Greater HLIASS scores were associated with greater intent to use birth control.
Soto, Baezconde-Garbanati, Schwartz, & Unger (2015)	969	13–19, $M = 15.5$	59.5% Female	HLS, Multicultural Events Schedule for Adolescents	Experimental smoking; past-month smoking	Ethnic identity was associated with reduced youth smoking, but IHT negated this effect and was associated with increased youth smoking
Spence, Wells, George, & Graham (2014)	340	$M = 41.2$	54.9% Female	HLS, Childhood Trauma Scale, Interpersonal Racism Scale	Depression and/or generalized anxiety disorder; marijuana, cigarette, & alcohol use	No associations were found between HLS scores and substance use
Tucker, Wingate, & O'Keefe (2016)	123	18–25, $M = 19.56$	67% Female	AHLS, Perceived Discrimination	Depressive symptoms	Greater HLS scores were associated with more depressive symptoms
Tucker, Wingate, O'Keefe, Hollingsworth, & Cole (2016)	140	18–62, $M = 21.09$	69% Female	AHLS	Rumination; suicidal ideation	Greater AHLS scores were associated with more rumination but not directly related to suicidal ideation

(table continues)

Table 1 (continued)

Study	N	Age	Sex	Adverse event measure	Health outcome measure	Finding
Walls & Whitbeck (2011)	853	<i>M</i> = 39.3	72% Female	HLS, Boarding School Attendance, Childhood Adversity, Stressful Life Events	Depressive symptoms	Greater HLS scores were associated with more depressive symptoms, as were greater childhood adversity and negative life events
Walls, Whitbeck, & Armenta (2016)	569 adolescents; 563 adults	Adolescents: <i>M</i> = 17.23; Adults: <i>M</i> = 44.66	Adolescents: 51% Female; Adults: 77.4% Female	Adolescents: AHLS, Perceived Discrimination; Adults: HLS, Perceived Discrimination	Adolescents: Self-esteem, depressive symptoms, anxiety, and anger measure; Adults: CES-D	Indigenous spirituality was associated with greater depression, anxiety, and anger but the effects were attenuated by perceived discrimination and historical loss
Whitbeck, Adams, Hoyt, & Chen (2004)	143	28–59	78% Female	HLS	HLASS	Greater HLS scores were associated with greater HLASS scores
Whitbeck, Chen, Hoyt, & Adams (2004)	452	Males: <i>M</i> = 42; Females: <i>M</i> = 39	78% Female	HLS; Perceived Discrimination	HLASS; alcohol abuse	Greater HLS scores were associated with greater alcohol abuse among women
Whitbeck, Walls, Johnson, Morrisseau, & McDougall (2009)	459	Adolescents: 11–13	Adolescents: 51% Female; Adults: 100% Female	Adolescents: AHLS, Perceived Discrimination, Stressful Life Events; Adults: HLS	Adolescents: CES-D	Greater AHLS scores were associated with depressive symptoms
Wiechelt, Gryczynski, Johnson, & Caldwell (2012)	120	18–81 (<i>M</i> = 42.2)	50% Female	HLS	Substance use; HLASS	Greater HLS scores were associated with more alcohol use and use of illicit drugs other than marijuana

Note. AHLS = Adolescent Historical Loss Scale; HLS = Historical Loss Scale; HLASS = Historical Loss Associated Symptoms Scale; PTSD = posttraumatic stress disorder; DASS = Depression Anxiety Stress Scale; IHT = Indigenous Historical Trauma; CES-D = Centers for Epidemiological Studies Depression Scale.

Other Studies

Three additional articles could not be classified as either HLS or RSA studies. Two of these were early articles by Brave Heart (1998, 1999) that assessed an intervention designed to address IHT for 45 primarily Lakota service providers and community leaders. The intervention was described as a “four-day psychoeducational group experience” (Brave Heart, 1998, p. 293). The study adopted a pre-/postintervention design with a 6-month follow-up assessment. No comparison group was included in the study, and no direct measure of IHT was adopted, but instead, positive changes from baseline results were assessed for various outcomes. Brave Heart (1999) separately reported gender differences in intervention outcomes for this sample, with Lakota men generally faring less well than women in terms of indicators of grief resolution.

Walls and Whitbeck (2012) operationalized IHT as participation in government-sponsored relocation away from reserved lands. In a longitudinal study of Indigenous adolescents residing on or near reserved lands in both the United States and Canada, Walls and Whitbeck surveyed 507 Indigenous youth (aged 10–12) and their biological mothers. With respect to grandparent relocation history, they asked mothers “if a grand-

parent or any other family member participated in a relocation program” (p. 1281; coded as yes–no). In testing seven interrelated hypotheses using path analysis, Walls and Whitbeck found support for a conceptual model positing that grandparent relocation history was associated with grandparent alcohol problems, the effects of which were transmitted through mothers to predict depressive symptoms and delinquency in their offspring.

Discussion

The broad corpus of empirical reports that met inclusion criteria for this SR is testament to the enthusiasm that has greeted IHT as a construct within the behavioral and health sciences. The original research question that motivated this SR is, *What do we know empirically about the health impacts of IHT among Indigenous populations in the United States and Canada?* Despite these impressive fledgling efforts, researchers at this time have not yet produced findings that accrue into a coherent body of knowledge that can answer this question. Future research can remedy this situation, however, by refining measures of IHT and, indeed, clarifying the IHT construct itself. Such refinement seems a pressing priority, insofar as

Table 2
 Summary Information for Residential School Ancestry Studies ($n = 11$)

Study	<i>N</i>	Age	Sex	Adverse event measure	Health outcome measure	Result
Bombay, Matheson, & Anisman (2011)	143	18+	75% Female	Parental RSA	Depressive symptoms	Parental RSA was associated with more depressive symptoms in the presence of stressors
Bombay, Matheson, & Anisman (2014)	399	18–69 ($M = 36.52$)	78% Female	Parental RSA	Depressive symptoms; discrimination & threat appraisal	Parental RSA was associated with more depressive symptoms and increased appraisals of discrimination and threat
Brockie (2012)	288	15–24	51% Female	Family RSA, Community elder RSA	Suicidal ideation; suicide attempts	Family RSA was not associated with increased suicidal ideation or attempts
Elias et al. (2012)	2953	18–54	55% Male	Family RSA	Lifetime abuse history; suicidal ideation; suicide attempts	Family RSA was associated with lifetime abuse, suicidal ideation, and suicide attempts in participants who viewed RSA negatively
Hackett, Feeny, & Tompa (2016)	14280	18+	NR	Family RSA	Self-perceived health; KPDS; suicidal ideation; suicide attempt	Family RSA was associated with worse perceived health and mental health and more suicidal ideation and attempts
Matheson, Bombay, Dixon, & Anisman (2017)	498	$M = 32.8$	NR	Parental RSA	Depressive symptoms; discrimination appraisal; threat appraisal	Parental RSA was associated with more depressive symptoms but parent communication about RSA decreased these effects
McQuaid et al. (2017)	5277	$M = 37.7$	52.5% Female	Family RSA	Suicidal ideation; suicide attempts	Family RSA was associated with more suicidal ideation and attempts
Mehrabadi et al. (2008)	262	14–30	100% Female	Parental RSA, Forced separation from parents	Sex work involvement; drug use	Parental RSA and forced separation were not associated with sex work or drug use
Pearce et al. (2008)	543	14–30, $M = 23$	52% Male	Parental RSA, Forced separation from parents	Smoking and drug use; sexual abuse; sexual vulnerability; social & mental health vulnerability	Parental RSA and forced separation were associated with more sexual abuse, which was associated with negative health outcomes on all other health measures
Pearce et al. (2015)	259	16–30, $M = 23$	100% Female	Parental RSA	Sexual assault	Parental RSA was associated with greater rates of sexual assault
Roos et al. (2014)	504	$M = 39$	74% Male	Parental RSA, Self RSA	Physical & mental health; trauma history	Parental RSA was associated with greater rates of Self RSA, which was associated with some mental health diagnoses and more traumatic life events

Note. RSA = residential school attendance; NR = not reported; KPDS = Kessler Psychological Distress Scale.

Indigenous communities have embraced and promoted IHT as a compelling explanation for psychological distress and health disparities around the globe. As a result, the behavioral and health science literatures addressed to Indigenous populations is now replete with references to IHT (Hartmann et al., 2019). In an effort to guide future research, a critical appraisal will now be offered, addressed first to the historical loss studies, then to the RSA studies, and, finally, to the IHT construct more generally.

Critical Appraisal of Historical Loss Studies

The historical loss articles attest to the value and benefit accompanying the development of formal measures of IHT. Whitbeck and his team have contributed significantly to the field by formulating, evaluating, and publishing the HLS and HLASS (Whitbeck, Adams, et al., 2004). Developed for epidemiological purposes, these scales lend themselves to ready inclusion in large, multimeasure surveys. Importantly,

these scales not only assess frequency of thoughts about prominent historical losses but also attempt to capture the frequency of negative or troubling psychological responses associated with such thoughts. Additionally, Whitbeck and his colleagues have refined these scales based on analysis of their measurement properties. At the same time, at least two issues may be impairing accumulation of knowledge in this domain.

First, in the absence of standardized cross-item scoring conventions for these scales, researchers have adopted or created their own conventions in ways that prevent the ability to summarize conclusions across studies. In Table 3,

the variety of scoring conventions across articles is apparent. For example, seven articles reported mean total HLS scores, whereas eight articles reported mean item scores. Only one article (Wiechelt et al., 2012) reported both scores, and five articles analyzed these variables without reporting any scores for either scale. Moreover, it was not uncommon for research teams to alter the number of items or meanings of response options in other idiosyncratic ways. Thus, although researchers are indeed tailoring these measures for their own studies, the absence of standard scoring conventions and consistent reporting ensures that findings cannot accumulate into more general knowledge.

Table 3
Scores on Historical Loss Measures From Historical Loss Studies ($n = 19$)

Article	Measures	M (SD): Sum	M (SD): Item avg.	Scale (range)	Notes
Anastario, Fourstar, & Rink (2013)	HLS	NR	3.4 (1.11)	1–6 (12–72) ^a	Means reported within each of two factors: Anger/Avoidance and Anxiety/Depression, respectively Range of means and standard deviations for four longitudinal waves 11-item adaptation 8-item adaptation for Native Hawaiians (4 items dropped) 0 = never; 1 = yearly; 2 = monthly; 3 = weekly; 4 = daily 0 = never; 1 = yearly or at special times; 2 = monthly; 3 = weekly; 4 = daily; 5 = several times a day Scored such that lower numbers corresponded to more frequent thoughts
	HLASS	NR	2.2 (.84); 2.1 (.71)	1–5 (12–50) ^b	
Armenta et al. (2016)	AHLS	NR	1.11–1.26 (1.16–1.31)	1–6 (10–60) ^a	
Brockie (2012)	HLS (adapted)	NR	NR	NR	
	HLASS	NR	NR	NR	
Brockie et al. (2015)	HLASS	NR	NR	NR	
	HLS	NR	NR	NR	
Clark & Winterowd (2012)	HLASS	NR	NR	1–6 (12–72) ^a	
	HLS	NR	NR	NR	
Ehlers et al. (2013)	HLASS	NR	NR	NR	
	HLS	NR	NR	NR	
Goodkind, LaNoue, Lee, Freeland, & Freund (2012)	HLASS	NR	NR	NR	
	HLS	32.5 (9.6)	2.71*	1–6 (12–72) ^a	
Pokhrel & Herzog (2014)	HLASS	NR	NR	1–5 (12–50) ^b	
	HLS (adapted)	21.4 (9.9)	2.68*	NR	
Rink et al. (2012)	HLASS	NR	NR	NR	
	HLS	40.0 (14.0)	3.33*	1–6 (12–72) ^a	
Soto et al. (2015)	HLASS	25.0 (9.0)	2.78*	1–5 (12–50) ^b	
	HLS	NR	2.77 (1.35)	1–6 (12–72) ^a	
Spence et al. (2014)	HLASS	NR	NR	NR	
	HLS	22.4 (13.5)	1.87*	0–4 (0–48)	
Tucker, Wingate, & O’Keefe (2016)	HLASS	NR	NR	NR	
	AHLS	19.85 (9.28)	1.99*	1–6 (10–60) ^a	
Tucker, Wingate, Hollingsworth, & Cole (2016)	HLASS	NR	NR	NR	
	AHLS	19.81 (9.15)	1.98	1–6 (10–60) ^a	
Walls & Whitbeck (2011)	HLASS	NR	2.09 (1.09)	0–5 (0–60)	
	HLS	NR	NR	NR	
Walls et al. (2016)	HLASS	NR	NR	NR	
	AHLS	NR	2.47 (1.16)	1–6 (10–60) ^a	
Whitbeck, Adams, et al. (2004)	HLASS	NR	NR	NR	
	HLS	NR	2.81 (1.09)	1–6 (12–72) ^a	
Whitbeck, Chen, Hoyt, & Adams (2004)	HLASS	NR	NR	NR	
	HLS	NR	NR	1–6 (12–72) ^b	
Whitbeck et al. (2009)	HLASS	NR	NR	1–5 (12–50) ^c	
	HLS	NR	NR	NR	
Whitbeck et al. (2009)	HLASS	NR	NR	NR	
	AHLS	NR	1.63 (NR)	1–6 (10–60) ^a	
Wiechelt et al. (2012)	HLASS	NR	NR	NR	
	HLS	35.8 (17.6)	1.98 (NR)	1–6 (12–72) ^a	
Wiechelt et al. (2012)	HLASS	NR	NR	NR	
	HLS	28.9 (13.2)	2.98 (1.46)	1–6 (12–72) ^a	
Wiechelt et al. (2012)	HLASS	NR	NR	NR	
	HLS	NR	2.41 (1.10)	1–5 (12–50) ^c	

Note. AHLS = Adolescent Historical Loss Scale; HLS = Historical Loss Scale; HLASS = Historical Loss Associated Symptoms Scale; NR = not reported.

^a 1 = never, 2 = yearly or at special times, 3 = monthly, 4 = weekly, 5 = daily, 6 = several times a day. ^b 1 = several times a day, 2 = daily, 3 = weekly, 4 = monthly, 5 = yearly or at special times, 6 = never. ^c 1 = never, 2 = seldom, 3 = sometimes, 4 = often, and 5 = always.

The second issue is that the HLS and HLASS have primarily been administered by researchers in cross-sectional studies that depend on retrospective self-report by respondents about how frequently they have thought about historical losses and how frequently they experienced specific feelings and reactions while doing so (but for an important exception, see Armenta, Whitbeck, and Habecker, 2016). For such a demanding cognitive task, the validity of such reports is vulnerable to dispute. Researchers employing these scales could solicit responses from participants at random times via beeper technology to more accurately determine frequency of thoughts and reactions associated with IHT. This approach or other creative research designs would help to ensure the validity of HLS and HLASS responses in future research on IHT.

Critical Appraisal of Residential School Ancestry Studies

The RSA articles attest to the interest in exploring ancestral attendance at Indigenous residential schools as an indicator of IHT. A key advantage of this approach is the convenience of including a straightforward question about RSA that can allow classification of subgroups for analysis. The vulnerability to bias of retrospective recollection of this factual information is less concerning. Additionally, because it indexes specific ancestral experiences, RSA status is a strong contender for capturing the intergenerational impacts of colonial adversity for contemporary descendants.

Nevertheless, there are clear limitations to operationalizing IHT as RSA. Different research teams have adopted different conventions for measuring RSA. These include assessing the residential school status of parents, grandparents, older family members, or even nonfamily elders from one's community. These diverse approaches complicate the findings from these articles. More significantly, RSA remains a very blunt proxy for IHT owing, first, to the diversity of childhood experiences among the subset of respondent ancestors who attended residential school and, second, to the degree of awareness about these experiences that may or may not have been passed along to their descendants.

For example, Brockie (2012) found that 44.8% of her adolescent sample endorsed ancestral attendance in boarding schools, whereas 15.3% denied ancestral attendance. Interestingly, 38.9% of Brockie's sample *did not know* if their family histories included RSA. Brockie also inquired whether RSA experiences were talked about in respondent households and, if so, whether respondents perceived such attendance to be negative, positive, or neutral. Among the subset of her sample who had heard such household talk, 9.7% perceived attendance to be negative, 12.5% perceived attendance to be neutral, and 13.5% perceived attendance to

be positive. Obviously, such results complicate the assumptions that Indigenous respondents know their RSA status or that RSA is necessarily indicative of IHT.

Perhaps such results were anomalous, given that Brockie (2012) was the only researcher to conduct her study in the United States. But Elias et al. (2012), who conducted their study in Canada, also obtained data about the adverse consequences of residential school attendance. Specifically, among respondents with abuse histories who had themselves attended residential schools, only one third reported that such attendance had negatively affected them. This striking finding is challenging to interpret, given the assimilative mandate and oppressive character of these schools. Thus, researchers should take care to rigorously assess whether (and to what degree) ancestral attendance at such schools was experienced as traumatic or harmful in enduring ways.

Critical Appraisal of the IHT Construct

Beyond these methodological suggestions for improving the measurement of IHT, a final set of critical observations centers on resolving ambiguities in the IHT construct itself. As this SR has revealed, ancestral attendance at Indigenous boarding or residential schools has served as one influential measure of IHT. The American Indian historian Brenda Child (2014)—one of the foremost experts on these institutions—has observed that Indigenous ideas about such schools provide “a uniquely Native usable past that links tribal people of diverse backgrounds today to a devastating common history” (p. 268). Nevertheless, the historical record attesting to student life in these schools is complex, according to Child, given that “Indian people offered no single prevailing opinion, nor did they share a universal experience. At times, the views and actions they express in historical documents or recollections contradict our deepest assumptions” (p. 268). Child concluded that, rather than affirming a monolithic ancestral experience of these institutions, the prevailing Indigenous representation of residential schools serves instead as an “extraordinarily powerful metaphor for colonialism” (p. 268).

In parallel fashion, IHT appears to have become the dominant idiom for tracing the impacts of the colonial legacy on contemporary Indigenous community well-being. The issue that arises is whether IHT is most appropriately conceptualized in *metaphorical* terms (i.e., as a figurative stand-in for colonization) or in *literal* terms (i.e., as a scientific construct). In engaging this issue, it must be asserted at the outset that such metaphorical usage serves an important and justifiable function in present-day Indigenous meaning making. With respect to residential schools specifically, Child (2014) noted, “To recap and remember all the negative experiences is simply unfeasible in day to day life, and boarding school . . . is easier to name than the

dupliciously layered assimilation campaign that unfolded in the late nineteenth and early twentieth century” (p. 279). By extension, IHT may function in more general terms as “the best metaphor for the vast chain reaction of events that worked against [Indigenous] well-being” (p. 279).

Indeed, *Hartmann and Gone (2016)* obtained evidence that Indigenous service providers on a northern Plains reservation did adopt IHT in less literal fashion. Nevertheless, as this SR makes apparent, many researchers are investigating IHT in literal terms as a scientific construct. It may be, however, that IHT requires further theoretical development to support scientific efforts toward construct validation. That is, as currently formulated, IHT may be “so clouded by overlapping categories of colonialism, hardship, trauma, and drastic change that it is unfeasible for Indian people to begin to sort it all out” (*Child, 2014*, p. 276). Inasmuch as conceptual “clouding” might be expected to yield uninterpretable scientific results, we invite further theoretical specification of two relevant domains. Attention to these domains seems necessary if IHT is to function not just in a metaphorical sense but rather in a literal sense as a scientific construct amenable to systematic empirical validation.

First, IHT is most frequently discussed in generic terms, as if all Indigenous people are heirs to its (usually undifferentiated) impacts. Such a sweeping attribution accords with metaphorical usage but compromises scientific inquiry. Specifically, such a generalized claim is in danger of slipping into an untenable ethnoracial essentialism—the belief that particular ethnoracial groups have distinctive, innate, unobservable, and stable attributes—to the detriment of nuanced understanding of distinctive and historicized Indigenous experiences. Thus, it is imperative that future research on IHT complicate these tendencies. For example, explorations of differential effects for samples from diverse tribal communities with contrasting colonization histories would be illuminating (e.g., for those who were subjugated to colonial rule in the 17th century vs. those who lived free of colonial rule until the late 19th century). Similarly, investigations of differential impacts on family lineages from the same tribal community would be enlightening in terms of ferreting out ancestral effects more directly (such as among respondents from families who survived massacres by the U.S. Army vs. those who avoided direct contact with American military forces).

Second, the construct of IHT is beset by the same interpretive dilemmas that have been observed for the diagnosis and treatment of PTSD (*Young, 1995*). Specifically, when troubled individuals come to professional attention reporting symptoms of distress, it is nearly impossible to definitively determine whether traumatic events in their past caused their current symptoms or whether instead their current symptoms led them to retrospectively attribute their distress to traumatic events of

the past. In corresponding fashion, IHT is similarly vexed by competing interpretations that either depend on causal accounts of ancestral agony (in which the intergenerational impacts of surviving a massacre would persist independent of a respondent’s awareness of such ancestral trauma) or, instead, on present-day meaning making (in which Indigenous identity centrality, depressive rumination, and priming of Indigenous identity might thereby be expected to increase endorsements of IHT). This distinction matters little for metaphorical usage of the concept but greatly for scientific usage (while allowing, of course, that even present-day meaning making could also lead to detrimental impacts on health status). Due to this interpretive ambiguity, the samples of greatest interest in future IHT research might be respondents who “don’t know” the (discoverable) facts about their ancestral suffering.

Final Reflections

As limitations of the fledgling research paradigms featured in this SR are addressed, it will become clear whether IHT is most helpfully conceived in metaphorical or literal terms. In the meantime, psychologists, mental health researchers, and health scientists who collaborate with Indigenous populations might do well to reflect on the past achievements and potential promise of IHT. In many ways, IHT has gained traction by bringing much needed attention to historical events and processes that have powerfully shaped the experiences of contemporary Indigenous peoples, which allows for more accurate renderings of those experiences for the benefit of both psychological science and Indigenous peoples. This historical contextualization is all the more remarkable given current reductive trends in psychology (e.g., privileging of biological, behavioral, and intrapsychic explanations) that work against contextualized inquiry (e.g., centering historical disadvantage, entrenched poverty, and oppressive systems). It is also clear, however, that the IHT literature would benefit from additional attention to historical nuance and human diversity to avoid simplistic accounts and essentialist traps.

Moreover, IHT—like racial trauma—grapples with contextual influences on psychosocial and health phenomena to better appreciate the experiences of historically oppressed and socially marginalized populations. As documented in this SR, there remain challenges to identifying consistently robust patterns of psychological injury or harm from ancestral experiences with colonial violence and oppression. And yet progress might require more balanced attention to national patterns (reflected in ethnoracial census categories) and localized experiences (of certain communities or family lineages), perhaps in concert with mixed-methods research designs that can

simultaneously capture parallel processes of individual and collective meaning making. Finally, whereas the literatures addressed to IHT and racial trauma appear to have rarely intersected for Indigenous populations, further research is required to better appreciate the demoralizing and disadvantaging effects of racism, which would appear to impact Indigenous peoples not just in the United States and Canada but, in fact, around the world.

In closing, one additional relevant concept has not been fully incorporated into either metaphorical or literal usage of IHT: resilience. Resilience is the ability to thrive despite experiences of adversity or trauma. With respect to IHT, resilience invites further consideration. First, exposure to traumatic events does not necessarily lead to negative psychological outcomes (Bonanno, 2004). Thus, when considering a literal construal of IHT, more research is needed on what factors may provide protection against the proposed causal relationship between IHT and current health disparities. Second, resilience can be conceptualized in collective as well as individual terms. Drawing on a concept originally introduced by Elsass (1992), Thomas, Mitchell, and Arseneau (2016) used the term *cultural resilience* to describe the ways that Indigenous communities have thrived despite adversity while also maintaining and promoting robust cultural identities. Thus, Indigenous resilience can be observed through community efforts to revitalize traditional languages and cultures, as these populations seek to regain control over their social, political, and economic ways of life. In sum, an exclusive research focus on IHT can only ever offer an incomplete scientific account of the improbable survival of Indigenous peoples into the current millennium.

Conclusion

In this SR, 32 empirical articles were identified that statistically analyzed the relationship between a measure of IHT and a health outcome for Indigenous samples from the United States and Canada. These articles were categorized based on their specific method for operationalizing IHT, yielding 19 articles that were grouped as historical loss studies, 11 articles that were grouped as RSA studies, and three articles that were grouped as “other” studies. Many studies reported statistically significant associations between higher indicators of IHT and adverse health outcomes. Analyses were so complex, and findings were so specific, that this literature has yet to cohere into a body of knowledge with clear implications for health policy or professional practice. At the conceptual level, it remains unclear whether IHT is best appreciated for its metaphorical or literal functions. Future researchers should clarify ambiguous aspects of the IHT construct, further standardize their operationalization of IHT measures, and report consistent information

across published reports. Such advances may also benefit closely related constructs, including racial trauma and cultural resilience.

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