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Abstract

Researchers are interested in the outcomes of interventions, specifically, measuring historical trauma (HT) among American Indian/Alaska Native communities and the long-term distress and substance abuse as a result of historical trauma response (HTR). Previous literature has implicated limitations in the clinical conceptualization of the relationship between intergenerational transfer of HTR and substance abuse. The aim of the current study is to examine treatment efficacy of 50 homosexual, American Indian males randomized to a culturally-adapted juxtaposition of (1) Group Interpersonal Psychotherapy (IPT), (2) Cognitive Processing Therapy (CPT), and (3) Historical Trauma and Unresolved Grief Intervention (HTUG), or (4) waitlisted on American Indian populations, with and without comorbid Substance Use Disorder (SUD). In a multiple-arm randomized controlled trial Fifty homosexual, male AI participants will be recruited from a Midwestern, American Indian reservation and compensated a small monetary reward. A multitude of surveys and scales will be administered to participants for assessment including, *The Historical Loss Scale* (HLS) and its counterpart *Historical Loss Associated Symptoms Scale* (HLASS), which qualitatively measure historical trauma. Results are expected to reveal a reduction in mean HT scores from the group receiving a conjunction of a 2-arm culturally-congruent intervention which will be statistically significantly more efficacious for Substance Use Disorder (SUD), compared to the group in the waitlisted condition; such that, the expected findings suggest the treatment arm group are more likely to experience large reductions in incidence of substance abuse, in contrast to the group in the waitlist control.

Keywords: American Indian, Alaska Native, historical trauma, historical trauma response, unresolved grief, substance use disorder, risky sexual behaviors, mental health

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Collective intergenerational massive group trauma and losses, are pervasive states of oppression experienced by Indigenous Peoples of the Americas, and there is insufficient data in regards to preeminent methods to intervene to reduce resulting psychosomatic anguish and unresolved grief (Brave Heart et al., 2011). In AI-specific literature, lack of sufficient data which has furthermore created a gap in the clinical understanding of how elevated trauma and losses, emotional responses, and intergenerational transfer of HTR can provoke psychiatric manifestations; such that, it is the transference component implicated which compounds the transfer of comorbid substance abuse across generations in AI populations (Brave Heart 2003). Substance Use Disorder (SUD) has caused significant problems, physical and mental health disparities, and has been implicated as a result of the elevated trauma that has enveloped these tribal communities. In recent years, researchers have investigated the conceptual framework of *historical trauma* (HT) and *historical trauma response* (HTR) (Brave Heart 2003) and efforts have been made to measure the impact and assess HTR and its relationship with substance abuse, investigate the method of its transfer to descendants, develop clinical interventions, and implement preventative strategies to mitigate substance abuse. As a ramification of elevated trauma, alcohol still remains as the highest prevalent substance abused by AI/AN populations (Brave Heart et al., 2011), although recently there has been a substantial increase in the abuse of other substances such as methamphetamines, the misuse of IV drugs, and a greater propensity of needle sharing, precipitating in pernicious illnesses such as HIV/AIDS and hepatitis C. Thus, there is an immense need to target all substance abuse prevention and early intervention efforts for this population (Brave Heart et al., 2011). Furthermore, a constellation of features associated

with a reaction to massive group trauma have demonstrated various indications that directly impacted measured levels of *historical trauma* (Brave Heart 2003). Generally, all of these features have been implicated as variables and as a result, have one measurable behavioral health disparity in common; such that, it has been found that *historical trauma response* has a close relationship with substance abuse (Ehlers, Gizer, Gilder, Ellingson, &Yehuda, 2013; Brave Heart, Chase, Elkins, & Altschul, 2011; Brave Heart, 2011; Whitbeck, Adams, Hoyt, & Chen, 2004) and risky sexual behavior is associated with psychiatric and substance use disorders (SUD) as symptoms of *Historical Loss* (Anastario, FourStar, & Rink, 2013; Dickerson & Johnson, 2010; Brave Heart, Lewis-Fernandez, Beals, Hasin, Sugaya, Wang, Grant, & Blanco, 2016). Furthermore, as previous research has investigated, the complexity of substance abuse is a direct and mediated effect of *unresolved* grief and *Historical trauma* thus, the need to implement more treatment and intervention for Indigenous Peoples has recently garnered widespread attention in an attempt to permeate a conceptualization for HT-related constructs. (Walls & Whitbeck, 2012; Gone, 2009; Goodkind, Lanoue, & Milford, 2010). The importance of clinically understanding this type of elevated trauma exposure among AI/AN populations cannot be stressed enough; such that, it is crucial and equally salient to fundamentally understand the HT framework in its entirety.

Conceptualizing the Framework of Historical Trauma Theory

Historical trauma (HT) has been operationally defined as cumulative emotional and psychological wounding across generations, including the lifespan, which emanates from massive group trauma (Brave Heart 2011). The previous researchers revealed more pointedly, evidence of historical trauma theory: substantiated and supported from over twenty years of qualitative and quantitative research that explains a cumulatively massive recount of trauma

across generations. The study claimed that, although post-traumatic stress disorder (PTSD) is a general variable, it is diagnostically insufficient in its ability to capture the essence of brutality attributable of AI/AN trauma. Intergenerational trauma, a theory of historical traumatization transferred from survivors of trauma from one generation to the second via mechanistic post-traumatic stress complexities supports past research and also compounds the relationship between the transfer of substance abuse and mental health disparities across generations.

Historical Trauma Response and Unresolved Grief

Historical Trauma Response (HTR), a mechanism elicited via elevated trauma exposure, can be identified as manifestation of substance abuse and other psychiatric conditions, in an attempt to subdue or numb the pain associated with this type of trauma (Brave Heart 2003). However, other risky behaviors are implicated and can include self-destructive or self-deprecating behavior, suicidality or ruminations of death, depression, anxiety, anger, and difficulty recognizing and regulating emotions (Ehlers et al., 2013). As a result, these individuals experience grief that is observed as impaired, delayed, fixated, and disenfranchised (Brave Heart, 2011).

The construct of historical trauma theory has been conceptualized in past literature as both a source of intergenerational trauma responses as well as a potential causative factors for long-term distress and substance abuse among communities (Ehlers et al., 2013). The framework of this theory has led to the development of two measures relating to historical trauma among American Indian people; such that, intervention programs can now clinically understand the psychological consequences of genocide via scales of associated symptomology and historical loss measuring the experienced outcomes of historical unresolved grief (Whitbeck et al., 2004).

Measuring Historical Trauma and Advantages of Stress Process Approaches

The Historical Loss Scale (HLS) and *The Historical Loss Associated Symptoms Scale* (HLASS) measure historical trauma among AI populations, these scales produce measurement characteristics including frequencies, internal reliability, and confirmatory factor analyses (Whitbeck et al., 2004). These scales measure 12 types of losses that American Indian tribes might have experienced historically (e.g., loss of land and language, broken treaties) and assess the persistence of thought in present time; additionally, it measures 12 different symptoms of emotional responses an individual may have endorsed as a result of being cognizant of those losses (e.g., anger, depression, anxiety) and are then quantified (Ehlers et al., 2013).There is a significant advantage utilizing these scales and stress process approaches for further study, currently these measures have only been used in a few publications; such that, it is imperative to research the recorded responses and its relationship between current trauma, substance abuse, and other psychiatric disorders (Ehlers et al., 2013).

Relationship Between Historical Trauma Response, Substance Abuse, and Psychopathology

A biological predisposition to substance abuse is highly prevalent among Indigenous Peoples and delineate the heaviest use of binge drinking than any other racial group; such that, it can provoke a manifestation of comorbid psychiatric symptoms, including co-occurring disorders, and substance use disorder, as a result of trauma exposure (Brave Heart, 2011). Furthermore, past research has investigated and found higher rates of mental health disparities, more indicatively mimicking psychopathology affiliated with affective disorder and conduct disorder, and post-traumatic stress disorder (Ehlers et al., 2013). Past research has identified a connection to functional outcomes implicated in the endorsement of perpetual thoughts regarding historical losses and their associated symptomology (Whitbeck et al., 2004); such that, a distinction in the relationship between HT (lifetime or current) and HTR may contribute to the

high prevalence of substance use disorder plaguing tribal communities (Ehlers et al., 2013). These modern psychosocial problems are a result of the impact of the historically traumatic losses across generations in AI peoples; such that, the ongoing intergenerational trauma has prevailed due to the contribution of the current psychosocial conditions and the historical legacy that has led to a breakdown of family kinship networks and social structures (Brave Heart, 2011).

Risky Sexual Behavior and Substance Abuse as Symptoms of Historical Loss

American Indian communities lack access to exceptional healthcare (significant limitations in acceptance tribal insurance), mental and behavioral health care, and treatment facilities that provide key prevention services (Anastario et al., 2013). *Historical Loss* has been defined by scholars in the literature as a direct result of exposure from historically-rooted trauma and is symptomatically related to at-risk health behaviors experienced by the AI population.

HT Treatment: Historical Trauma and Unresolved Grief Intervention (HTUG)

In recent years, The Takini Network has made progress in the development and implementation of the Historical Trauma and Unresolved Grief Intervention (HTUG), a model that has demonstrated to be useful in both prevention and intervention programs. This model has received attention for its aim to seek restoration in attachment of traditional values and mitigate the transfer of trauma across generations; such that, there is merit in its ability to manifest favorable outcomes, efficacy in addressing risk and protective factors for substance abuse, and has been recognized as a “Tribal Best Practice” (Brave Heart 2003). This psychoeducational intervention for group trauma, has been documented by numerous peer review journals and other publications for its effectiveness in validity of both prodromal quantitative and qualitative research and evaluations.

The above literature indicates the significance of historical trauma and prevelence of psychiatric conditions and comorbidities that undermine substance abuse, these components all serve a critical role as a suggested result of the repsonse of this subtype of elevated trauma exposure in AI/AN populations; furthermore, these effects have only been studied enough to brush over the surface. Unfortunately, due to unsufficient data not available in the literature, more research needs to be conducted to fill those gaps as to obtain a clear clinical understanding of the caveats that afflict these Indigenous communities, and its especilly critical for this population. This also indicates that there are methods that need to considered as to better serve in studying this culture and the trauma they experienced collectively.. The proposed study aims to examine the outcome of historical trauma scores with or with out comorbid substance use disorder and compare interventions to the scores across two groups. As past literature indacates, further research is needed to study the effectiveness of HTR interventions, as well as a more in depth analysis of the HTR and its association with both subtance abuse and modus operandi of its transfer to decending offspring among Indigenous tribal communities. It is hypothesized that participants with substance use disorder who are exposed to audiovisual content that stimulate historically traumatic memories will report statistically significantly lower HT scores that those waitlisted. It is hypothesized that participants without substance use disorder who are exposed to audiovisual content that stimulate historically traumatic memories and waitlisted, will report statistically significantly lower HT scores, consistent with their immediate intervention counterparts. It is hypothesized that waitlist control participants with substance use disorder who are exposed to audiovisual content that stimulate historically traumatic memories, will report lower HT scores upon receiving intervention.

Method

Participants

50 homosexual, male American Indians will be recruited from rural AI reservations, Midwestern, urban universities in the metropolitan area, and other privately-operated or tribally-operated behavioral heath clinics in urban settings. Recruitment will be completed at a Midwestern, urban university in conjunction with university-affiliated behavioral health institute; such that, will include the use of social media advertisement (i.e., facebook, instagram platforms), paper advertisements, such as flyers, tribal service centers, local colleges and churches. Participants will be compensated for each interview: baseline ($40), waitlist ($45, 8-week post baseline), post-intervention ($50 approximately 12 weeks after first session), and three-month post-intervention ($60). Any travel will be reimbused due to lack of access to AI reservations and both private and tribal behavioral health centers in Saint Louis metropolitan area, up to $40 for each interview session (up to maximum $300 total).

Materials

Historical Loss Scale and The Historical Loss Associated Symptom Scale. The Historical Loss Scale and The Historical Loss Associated Symptom Scale (HLS & HLASS; Whitbeck et al., 2004a,b, 2009) will be used to assess and measure historical trauma and administered to each participant. These measures quantify 12 types of cultural losses experienced in the past by American Idian tribes (e.g., land, language, spirituality practices, familial ties, boarding school-associated abuse, relocation/assimilation from reservation, self-respect and respect for elders, mistrust in whites, tribal culture, effects of alcohol and substance abuse, early death, and respect by children by means of tradition). The second scale, used in conjunction with the first, measures categorical responses which correspond and assess frequency of perpetuating thoughts of each loss ranging from “never” to “several times a day”.

The Mini International Neuropsychiatric Interview for DSM-V. The Mini International Neuropsychiatic Interview for DSM-V and SCID-V (MINI; Sheehan et al., 1997) will be used to assess diagnostic information for participants that meet criteria for substance use disorder and other psychiatric conditions. This measure is a brief, structured diagnostic interview administered by psychiatrist or clinician in approximately 15 minutes and assesses the the 17 most common psychiatric disorders in the DSM-V. As per DSM-V, any participant that endorses and meets at least one criterion for substance abuse or dependence or meets criteria in one or more substance categories, will be coded as having substance use disorder. This short but accruate interview will be modified and pretested for cultural appropriateness and to ensure cultural congruency for this specific population.

Lakota Grief Experience Questionnaire. The Lakota Grief Experience Questionnaire (LGEQ; Brave Heart, 1998) is an instrument recording participants' traumatic experiences (i.e., boarding school attendance, self-report assessment of experience, projective measures) and was also recognized by First Nations Behavioral Health Association and the Substance Abuse amd Mental Health Services Administration (SAMHSA) in 2009 (Brave Heart 2011). The proposed study will utilize this questionnaire as a component to bridge the connection between measure and intervention (HTUG).

Indigenous Peoples of the Americas Survey. The Indigenous Peoples of the Americas Survey (IPS; Brave Heart, 2000) is an instrument developed as an inventory of complicated grief and is effective in filling in the gaps to assess and answer the questions the other measures will fail to provide. This survey will provide preliminary data on psycometric properties regarding the nature and prevalence of emotional challenges (i.e., trauma exposure, interpersonal losses, and unresolved grief). It will also has the intention to explore tribal diversity (Brave Heart, 2011) in

the experiences of HT and HTR and can be specifically tailored, in an effort for a variety of tribal communities to benefit from healing in conjunction with intervention (HTUG). The proposed study will utilize this measure to complete the blocks of clinical interviews.

Manipulation audiovisual content. All participants will be exposed to and complete audiovisual-computer administered assessments to stimulate historically traumatic memories. The audiovisual computer task will be administered in 3 intervals and the content will consist of traumatically-rooted events experienced particularly by American Indian, homosexual men only. Thus, the participants will be gender-matched to the males being portrayed to reduce or eliminate any sexual orientation or gender confounds. Simulated content and topics discussed in audiovisual tasks will relate to historically traumatic events, current and lifetime trauma.

Procedure

As per APA guidelines, the proposed study will follow a between-groups design, in which participants will be randomly assigned to culturally-tailored interviews and audiovisual materials, measures, and interventions. These relevant, culturally-sensitive adaptations will act as a follow up of previous study designs, procedures, and interventions from past AI literature; such that, the combination of methodology implemented in the proposed study created in part from other studies, will promise to fill in the gaps of insufficient data in this particular scope and population. Participants will complete interviews and be screened for HT, substance abuse and psychiatric measures will be distributed, and 45-minute audiovisual assessments administered at baseline, immediate post-intervention, and 3-month post intervention. The audiovisual simulated asessessments will be as follows: (1) historically traumatic events (i.e., genocide, impaired parent-child relationships, boarding school trauma, and transference of HTR across generations), (2) current and lifetime trauma (i.e., violent physical, emotional, child sexual abuse among

boarding school survivors), (3) alcohol and substance use and misuse (i.e., acute or chronic, lifetime or current), (4) psychiatric and behavioral health conditions including risky sexual behaviors (i.e., multiple partners and at-risk sex and sexual activity induced by acute or chronic substance abuse, impaired sexual intimacy and bonding, HIV/AIDS, and other sexually transmitted infections). These variables all contribute as mediating factors instigated as a result of elevated trauma experiences that specifically affect homosexual, male AI populations. All participants will use self-report measures post-assessment, then researchers will evaluate the data accordingly. Following baseline assessment, participants will be randomly assigned to either receive an immediate lump combination (a cultural modification to be used in conjunction together as one method of treatment) of (1) Group Interpersonal Psychotherapy (IPT), (2) Cognitive Processing Therapy (CPT) and (3) Historical Trauma and Unresolved Grief Intervention (HTUG) or to an 8-week waitlist. When the waitlist period concludes, participants will complete a post-waitlist assessment. As per effective procedures conducted in previous studies, the proposed study will use random assignment to condition and will be computer-generated with block sizes to mitigate or reduce pattern detection and will be administered by external clinical personnel. The study will be conducted in a computer lab at the University of Missouri – Saint Louis. Upon arrival, participants will be asked to give consent for their participation in the study and be informed that they can withdraw their consent at any time. Participants will then be asked to fill out a brief demographics form, which will consist of basic questions about age and race (ethnicity will already be listed in demographics as it only pertains to AI population). Before the study begins, the research assistant will remind participants that if they decide to withdraw from the study, then they will receive partial compensation and their relationship to the study will not be affected.

Verbal instructions will be given to participants throughout the study. First, the licensed clinician will prompt each participant to watch the audiovisual content on their assigned computer and imagine as if they were the individual depicted in the scenario (this will take place on an individual basis by appointment) Once the audiovisual content is complete, the HLS, HLASS, and MINI will be administered by the clinical assessor and participants will complete individually. The participants will be asked again, individually, to complete the surveys as if they were the individual simulated in the audiovisual material.

Prior to departure, each individual participant will be debriefed and will be entitled to delegation of the agreed compensation. Lastly, to ensure scoring accuracy the clinical assessor will complete and total all responses for each individual survey administration and will code accordingly to generate a mean HT score for each condition.

Intervention

Group Interpersonal Psychotherapy. Group Interpersonal Psychotherapy (IPT; Weissman et al., 2000) is on the best-researched of the evidence based psychotherapies and is a time-limited, empirically validated treatment for impairments in mood and functioning. IPT makes a practical connection between an individuals' mood and disturbing life events or trauma that trigger or follow from the onset of conditions that are that affect mood. This intervention will be used for the proposed study to treat psychiatric diagnoses including substance use disorder and any other co-occurring or dual-diagnoses among participants in the trial.

Cognitive Processing Therapy. Cognitive Processing Therapy (CPT; Resick, Monson, and Chard, 2018) is type of cognitive behavioral therapy effective in the treatment in reducing symptoms of post-traumatic stress disorder (PTSD) post exposure to a variety of traumatic events: child physical, emotional, and sexual abuse, historically-rooted traumas, combat, rape,

and natural disasters. As per previous trials in the literature, adaptations have been created with tribal advisory boards to integrate culturally adaptable concepts for use within AI/AN populations; such that, replacing clinical examples and skill building exercises with methods relevant to AI/AN communities. Incorporating Indigenous beliefs reflective of community values (Pearson et al., 2019) and an intervention with a trauma-narrative, is important for addressing the major behavioral health disparities and offers a new way to improve retention and engagement with implementation of cultural adaptation.

Historical Trauma and Unresolved Grief Intervention. The Historical Trauma and Unresolved Grief Intervention (HTUG; Brave Heart, 1998) is a short-term, culturally congruent prevention and intervention for resolution of grief and trauma mastery. Its successful outcome efficacy has been demonstrated among smaller AI populations with heightened psychosocial issues and elevated, historically-rooted trauma exposure. As discussed above, participants will be exposed to audiovisual content to reduce cumulative trauma response via intensive psychoeducational group experiences. The simulation of historically traumatic memories, provide a more specific scope for cognitive integration of trauma by enforcing the affective cathartic working-through that is imperative for healing (Brave Heart, 2003). As per previous studies indicated in the literature, this HT intervention design has incorporated with other forms of treatment to meet the needs of marginalized minority populations that could benefit from it most. The proposed study will implement a two-arm, randomized control trial combining the interventions aforementioned as one to assess HT, unresolved grief, and most importantly, the constellation of features experience from HTR, in an effort gain a clinical understanding of its relationship to the comorbid substance abuse afflicting AI/AN populations today.

Planned Analysis

SPSS-24.0 will be used to analyze the data that is collected, and a 2 x 2 (IPT-CPT-HTUG Intervention [with substance use disorder, without substance use disorder] x Waitlisted [with substance use disorder, without substance use disorder]) analysis of variance (ANOVA) will be performed to determine any statistically significant differences in mean HT scores. Statistical significance will be defined as $p < .05$. It is hypothesized that participants with substance use disorder who are exposed to audiovisual content that stimulate historically traumatic memories will report statistically significantly lower HT scores that those waitlisted. It is hypothesized that participants without substance use disorder who are exposed to audiovisual content that stimulate historically traumatic memories and waitlisted, will report statistically significantly lower HT scores, consistent with their immediate intervention counterparts. It is hypothesized that waitlist control paticipants with substance use disorder who are exposed to auiovisual content that stimulate historically traumatic memories, will report lower HT scores than participants in any other condition.

If $p < .05$ for all analyses, then all three hypotheses will be supported. Thus, results will reveal three significant effects. The first being a significant main effect of the combination of intervention; such that, participants with substance use disorder who are exposed to audiovisual content that stimulate historically traumatic memories will report statistically significantly lower HT scores that those waitlisted. The second being a significant main effect of substance use disorder, such that, participants who are exposed to audiovisual content that stimulate historically traumatic memories and waitlisted, will report statistically significantly lower HT scores, consistent with their immediate intervention counterparts Finally, the third being a significant interaction effect, such that waitlist control participants with substance use disorder who are

exposed to auiovisual content that stimulate historically traumatic memories, will report lower HT scores than participants in any other condition.

Discussion

An implication is been observed that the *Historical Trauma Response* and substance abuse have a closely knitted relationship among AI/AN populations and, it has been identified these mediating factors share that behavioral health disparity in common. Previous studies are largely similar to what is expected in the proposed study (Ehlers et al., 2013; Brave Heart et al., 2011; Brave Heart, 2011; Whitbeck et al., 2004). For example, it has also been shown that risky sexual behavior is associated with psychiatric and substance use disorder (SUD) as symptoms of *Historical Loss* (Anastario et al., 2013; Dickerson & Johnson, 2010; Brave Heart et al., 2016). Furthermore, the comorbidities of substance abuse are a directly mediated result of *Unresolved Grief* and *Historical Trauma* and as per previous studies is generally consistently; such that, these concepts aren't dissimilar to what is expected for the proposed study. For example, the need for further investigation that can infinitely capture the essence of the needs of Indigenous Peoples; however, in hopes for researchers to conceptually and clinically understand the HT-construct, more work is needed to develop and implement structurally-sound intervention practices that extrapolate the intricacies of the HTR/substance abuse association in Native American populations (Walls & Whitbeck, 2012; Gone, 2009; Goodkind et al., 2010).

Research observed the conceptual framework of the Historical Trauma Theory, linking it to post-traumatic stress disorder (PTSD), citing that the general variable is unable to capture the elevated mass trauma American Indians are exposed to; such that, a scale to assess Historical Trauma is needed to quantify the level of traumatic magnitude (Brave Heart, 2011). This study is similar to the current study in regards that both research questions took into consideration the

compounding the relationship of HTR and the transfer of substance abuse and disparities in intergenerational behavioral health (Brave Heart, 2003; Ehlers et al., 2013). The expected results of the current study support this research as well, with both previous studies that found the association between HTR and substance abuse to be statistically significant.

The proposed study serves to have practical applications. First, the study will mitigate or eliminate any confounds to the lack of racial differences which in this case, is in the best interest of the traumatized participants. It is also suggested that participants can lower their HT scores by intervention of culturally-relevant psychoeducational therapies. Furthermore, it is suggested that participants and can have an additive effect on low HT scores by an adapted cultural approach through intervention of psychoeducational therapies in conjunction with HTUG. Thus, the proposed research will help better enhance modalities in terms of successful, more effective arms of treatment for marginalized minority groups suffering from significant elevated levels of trauma and comorbid substance use disorder (SUD).

It is important to note the limitations of the proposed study. First, the intended sample will not represent the general AI/AN population due to the implementation of gender-matching of participants. Therefore, the study may lack some generalizability. Second, the participants will not only be gender-matched, they will also be race-matched. Furthermore, another limitation indicated in the proposed study is the scope of focus, particularly homosexual males, another marginalized demographic, but this leaves a gap in data regarding not only the heterosexual AI/AN population, but females included in that community as well. Fourth, self-report measures which will be utilized in the proposed study and although they can be advantageous, they can have many disadvantages. For example, participants man not be entirely honest, whether it be intentional or nonintentional, with their answers.

Future research should aim to (1) include females, (2) integrate females and males instead of gender-matching, (3) assess both homosexual and heterosexual demographics of the same population, and (4) research the efficacy of HT interventions including the integrity and degree of HTR across tribes. It will also allow researchers to examine the gender differences in HT scores and the relationship between HTR and substance use disorder (SUD) in both male and female AI/AN populations. Also, the progression for future studies to continue to address elevated trauma with a culturally-sensitive narrative and tailored interventions, is a critical component in developing a clinical understanding of the overall psychosocial determinants of health and well-being in American Indian communities.

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