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An Analysis on the Perceptions of Youth Suicide and Risk Assessment Tools in Sacramento's Native American Community

by

Valentin Sierra

A dissertation submission in partial satisfaction of the

requirements for the degree of

Doctor of Philosophy

in

Social Welfare

in the

Graduate Division

of the

University of California, Berkeley

Committee in Charge:

Professor Adrian Aguilera, Chair
Professor Paul R. Sterzing
Professor David J. Harding

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2024

Abstract

An Analysis on the Perceptions of Youth Suicide and Risk Assessment Tools in Sacramento's Native American Community

by

Valentín Quiroz Sierra

Doctor of Philosophy in Social Welfare

University of California, Berkeley

Professor Adrian Aguilera, Chair

Suicide is the leading cause of non-accidental death for Native American youth between the ages of 10 and 24. Clinical suicide risk assessment tools aim to prevent suicide by identifying high risk individuals and connecting them to mental healthcare services. However, certain limitations do arise when these tools are implemented in Native American contexts. This study, conducted in collaboration with the Sacramento Native American Health Center (SNSHC), seeks to understand how to prevent suicide by analyzing the perceptions surrounding Native American youth suicide and its prevention to provide insight that can guide the development of a culture-based suicide risk assessment tool. Utilizing natural language processing, this study analyzed transcribed semi-structed interviews from 27 participants (n = 27) divided into three strata: youth, community members, and SNAHC staff. The study employed exploratory data analysis, including n-gram analysis and ScatterText visualizations, to identify linguistic patterns and emergent themes related to perceptions of suicide and its prevention. Additionally, sentiment analysis and Latent Dirichlet Allocation topic modeling were employed to further analyze the text data and uncover underlying sentiments and thematic structures. The findings underscore the cultural value of social and emotional relationships while also revealing distinct generational perspectives on mental health. Youth discussions frequently centered on themes of prevention, connection, and positive community engagement, whereas adult conversations often addressed systemic challenges and the consequences of mental health interventions. Reflecting the cultural value of cultural self-determination, the community additionally expressed a strong desire for autonomy in designing suicide prevention efforts. Regarding implementation, findings identified the potential of digital platforms as a tool for culturally relevant engagement. This study highlights the unique perceptions held by the member of the Sacramento Native American community regarding the cultural constructions of mental health, suicide, and related risk assessment tools.

Dedication

For Casey Hoke

Rest in Peace
1997 – 2018

****

If you or a loved one are thinking about suicide, help is available.

Call the Trevor Project at 1-866-488-7386
or
Text the Trevor Project by sending "Start" to 678-678

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Preface

Re-politicizing the Lives of Native American Youth

> The Americans, my people, are our enemies and you must understand that. They are our enemies. They took our land, they imprisoned our queen, they banned our language, they forcibly made us a colony of the United States. America always says they are Democratic. Lies! That is a lie! They have never been democratic with Native people; they have never been democratic with Indians; they have never been democratic with Hawaiians. The United States of America is the most powerful imperialist country in the world, in the world! (Trask & Trask, 2014, p. 100)

On January 17th, 1992, the Onipaʻa Peace March was held in front of the ʻIolani Palace denouncing the 100-year anniversary of the "illegal overthrow of the Kingdom of Hawaii" (Joint Resolution to Acknowledge the 100th Anniversary of the January 17, 1893 Overthrow of the Kingdom of Hawaii, 1993, p. 4). This powerful demonstration was organized by the Ka Lāhui Hawaiʻi, a Hawaiian sovereignty movement organization demanding the reinstitution of the Kingdom of Hawaii's independence from the US (Wright et al., 2014). Haunani-Kay Trask, a Kanaka Maoli scholar-activist and organizer of the event, delivered a critical speech that brought attention to the oppressive nature of the imperialism facilitated by the US and its impact on Indigenous communities. Continuing from the remarks above, Trask emphatically explains: "The United States of American is a death country. It gives death to Native people and the only way to fight the United States of American is to be political. Hawaiians must learn to be political. They must learn to *analyze* [emphasis added]" (Trask & Trask, 2014, p. 101). Trask's call to arms commands that transformative change for Hawaiians— as well as Indigenous peoples— requires a political intervention contingent on the ability to *analyze* the social, cultural, political, historical, and economic realities of the colonial subjugation sponsored by the US.

To understand why Native American youth die by suicide— and better yet, how we can prevent these deaths— the lives of Native American youth require a re-politicization to confront the imperialist condition responsible for the loss of life, land, language, and sovereignty. From Trask, the ability to *analyze* can re-politicize the lives of Native American youth by fostering a critical awareness of these conditions fostered by colonial subjugation. The ability to *analyze* can then also empower a confrontation of colonialism to promote cultural heritage, holistic wellbeing, and self-determination in the lives of Native American young people. Analysis, in the context of suicide prevention work, involves intentionally questioning the norms and assumptions that undergird clinical suicide prevention efforts. This includes questioning the role clinical suicide prevention efforts play in actively (or apathetically) upholding the forces fostering the persisting systems of colonial oppression and violence that continue to marginalize Native American communities. These assumptions include the beliefs that: 1) suicide indicates underlying psychological issues; 2) intervention is best achieved through mental health treatment; and 3) suicide intervention needs to involve rapid crisis response from mental health professional (Gone & Wexler, 2016).

The critical examination of suicide prevention efforts provides a pathway to re-politicize the lives of Native American young people by positioning analysis as a decolonizing project of healing (Smith, 2022). In other words, the action, to *analyze*, transforms thinking beyond how one applies a bandage to a wound, but to rather question why these wounds are so deep (Smith, 2022, p. 190). As such, suicide preventive interventions must be questioned for their limitations in conceptualizing suicide in ways not reflective of the cultural constructions of Native American

health and wellness. This transformation shifts the site of inquiry away from asking what's wrong with Native American youth, towards asking Native American youth what's wrong in the world around them.

This project strives to re-politicize the lives of Native American youth by engaging in an analysis of the perceptions surrounding Native American youth suicide and its prevention within the Sacramento Native American community. This includes examining why clinical suicide risk assessment tools may fail to capture the nuanced and culturally specific factors that contribute to suicide risk within Native American communities, in addition to inquiring how a more culturally relevant and community-based approach can be developed to better address these unique needs and challenges. Analysis will entail questioning clinical suicide prevention efforts for their psycho-centric conceptualization of suicide (Ansloos, 2018; White, 2017) and their complacency within systems of oppression and the legacy of colonialism. By engaging in the action, to *analyze*, this project is intentioned to provide insight into how to develop more culturally aligned suicide prevention efforts as a means to ensure Native American young people can live long, healthy lives.

In the following chapters, literature on suicide risk assessment tools will be reviewed noting their limitations of efficacy and effectiveness when implemented in Native American communities. Next, the present study will be defined by outlining the research methods employed including computational text analysis, more specifically the use of natural language processing, to *analyze* interviews conducted with members of the Sacramento Native American community. Subsequently, the results from the empirical inquiry will be examined to reveal the community held understandings of the cultural nuances that influence perceptions of suicide, mental health, and the barriers to seeking care. Lastly, a discussion on these findings will identify implications for the development of more effective and culturally sensitive suicide risk assessment tools in the Sacramento Native American community, and beyond.

Chapter 1: Introduction

Preventing Suicide Among Native American Youth

Every day, approximately two Native American people die by suicide (Drapeau & McIntosh, 2020). For Native American youth between the ages of 10 and 24, suicide emerges as the leading cause of non-accidental death highlighting a grave public health crisis (CDC, 2021). This demographic of Native American youth experience suicide rates at over one and a half times higher than the general US population (20.4 vs. 12.1 per 100,000 deaths; Indian Health Service, 2019; Olson & Wahab, 2006). The past two decades have seen this suicide rate climb by nearly 35%, marking a significant and distressing increase in what is a pronounced, racialized health disparity affecting Native American youth (Curtin & Hedegaard, 2017; Warne & Lajimodiere, 2015; Sarche & Spicer, 2008). This trend not only reflects the urgent need for targeted suicide prevention efforts but also calls for a deeper understanding of how culture-based and community-informed approaches can address this crisis effectively.

As a selective preventive intervention, suicide risk assessments arise as an early intervention along the prevention spectrum as defined by the public health model of suicide prevention (Moutier et al., 2021). Suicide risk assessments aim to prevent suicide by identifying high risk individuals and connecting them to the appropriate mental health services before a fatal behavioral outcome can be actualized. Suicide risk assessments involve the processes where a mental health professional "examines individual (unique), clinical, interpersonal, situational, and demographic factors that increase or decrease suicide risk" (Simon, 2002, p. 342). This assessment may involve a licensed clinical social worker conducting a psychiatric interview by asking a client a series of questions about their prior suicide attempts, personal substance (mis)use, or family history of mental health diagnoses. The assessment process may also involve the administration of a psychometric tool by asking a person to numerically rate their mood or binarily classify the presence of active suicidal ideation.

Research indicates that suicide risk assessment tools, when used alongside standard clinical practices, play a significant role in successful suicide prevention efforts (Lotito & Cook, 2015; Runeson et al., 2017). Tools such as the Columbia Suicide Severity Rating Scale have been psychometrically tested to affirm their reliability and validity in identifying at-risk individuals (Posner et al., 2007, 2011). This validation facilitates the deployment of appropriate interventions and supports tailored to the identified risk level of the individuals. However, a deeper scrutiny into the application of these tools reveals a notable gap— comprehensive literature reviews underscore an evident scarcity in the validation of these tools within Native American communities, thus raising questions on their efficacy in these settings (Clifford et al., 2013; Middlebrook et al., 2001; Pham et al., 2021). While certain tools, including the Patient Health Questionnaire-9 (PHQ-9) and the Suicide Inventory Questionnaire-Jr. (SIQ-JR), have received validation among Native American populations, their effectiveness and implementation is often compromised. The primary concern lies in their external design and development, which has led to resistance within some Native American communities due to perceived paternalistic and colonial undertones in their implementation.

More notably, in recent years a significant shift has occurred with the emergence of culture-based suicide risk assessment tools that have created by, with, and for Native American communities. One example of this includes the People Awakening Yup'ik Protective Factors Scale, which research supports its efficacy in preventing suicide for Yupik communities (Allen et al., 2006, 2009, 2021). Culture-based suicide risk assessment tools, rooted in the cultural

contexts from which they emerge, effectively circumvent the challenges of effectiveness that often limit clinical risk assessment tools. Moreover, culture-based tools are distinguished by their transparent documentation of development and adaptation processes. This not only validates their utility but also serves as a blueprint for other Native American communities interested in designing tailored risk assessment tools. Consequently, culture-based suicide risk assessment tools represent a promising avenue for enhancing suicide prevention strategies within Native American communities by offering replicable models and processes that are both culturally congruent and empirically supported.

Empirical Objective and Research Questions

The motivation of the current study is to better understand how to prevent suicide by analyzing the perceptions surrounding Native American youth suicide and its prevention within the Sacramento Native American community to provide insight that can guide the development of a culture-based suicide risk assessment tool. Through a series of semi-structured interviews, this study will examine the prevailing sentiments regarding suicide within the community to understand the cultural nuances that influence perceptions of mental health and suicide prevention. This includes engaging in a process to *analyze* the primary obstacles hindering effective community level suicide prevention efforts as a means to bridge the gap between clinical suicide risk assessment tools and the cultural context of the Sacramento Native American community. Moreover, the study investigates the potential utilization of a culture-based suicide risk assessment tool by envisioning the most fitting settings and methods for its implementation across clinical, peer, and community-facing settings.

Working in collaboration with the Sacramento Native American Health Center (SNAHC)— an urban Native American health center in Sacramento, California, this study focuses on the empirical (re)centering of Native American voices. More specifically, this study utilizes natural language processing to analyze patterns and themes in the language used by participants from transcribed interviews to provide insights into their perceptions regarding suicide and its prevention. As such, the study is guided by the following empirical objective and associated research questions:

A) Explicate conceptions regarding suicide including how to best implement prevention efforts
    1) What are the differences between how suicide is conceptualized by youth and adult community members?
    2) What are the differences between the most important strategies for preventing suicide as described by youth and adult community members when compared to SNAHC Staff?

Definition of Terms

To orient the present study, the following sections will provide a discussion on key terms to provide a standard lexicon applicable for examining the perceptions surrounding Native American youth suicide and its prevention within the Sacramento Native American community. First, the utilization of the term Native American will be examined and defined for its broadly applicable denotation framed within the historical and social context of colonialism. Second, the definitions of suicide and related behavior will be discussed within the Revised Nomenclature for Self-Injurious Thoughts and Behavior (Silverman et al., 2007a, 2007b) to illuminate the

nuanced components that construct this social problem. Together, these sections will guide the discussion of suicide within Native American communities.

Language on Native American Identity

For the purposes of this study, Native American is used as a generalizable term, in tandem with the term Indigenous. These terms share the definition of "a person [living in the US] having origins in any of the original peoples of North and South America (including Central America) and who maintains tribal affiliation or community attachment" (US Census Bureau, 2020). This definition is derived from the US government and its census taking process. As a paternalistic, settler colonial institution, the US government has been the primary agent deciding who is Native American throughout history in the lands sustained under its colonial control— the location this paper is written. The definition shaping Native American and Indigenous as terms for this paper is utilized for its preferable alignment with the density of Native American identity (Andersen, 2009). The incorporation of this definition can be further explained by the following: 1) it includes recognizing tribal peoples Indigenous to outside the US who have migrated here due to various colonial, political, economic, and social factors; 2) it includes the collective component of Native American identity sustained through the actions of maintaining a community connection; and 3) it honors the social, cultural, political, and historical contexts of writing an academic paper at xučyun (Huichin), the ancestral and unceded land of the Chochenyo speaking Ohlone people from the place more commonly referred to as Berkeley, California.

The use of the terms Native American and Indigenous in this paper are limited by their interchangeable nature, nontransferable application, and narrow capacity. The designations for Native Americans prove to be resistive to a precise and singular nomenclature. People from Indigenous communities in the Americas have been called and labeled many different terms over history by various governments, colonial powers, and other globalizing forces (Younging, 2018). Some of these terms include: Indian; Native American; American Indian; Alaska Native; First Nations; Native; Indigenous; and the particular names of Indigenous Peoples. This brief list is not exhaustive and intentionally omits the various racial slurs that have also been used to describe Native American peoples. Many of these terms have changed in definition and in their application depending on the purview of varying political agendas put forth by different governments and colonial powers. Many of these terms hold specific definitions for use in specific settings. However, these terms are often used interchangeable noting the complexities of Indigeneity and the historical precedent for the uneven application of these terms and their definitions. This paper's utilization of Native American and Indigenous as terms echoes many of these challenges and nuances.

Throughout this paper, the many referenced scholars may use the different terms interchangeably. Sometimes, these references are intentional signifying a specific definition for use in a specific setting. All quotes and references will retain the original wording from their source material. A table has been provided to further elaborate on the specific contexts certain terms may designate (Table 1). Whenever possible, Native American authors will be distinguished by the inclusion of their tribal affiliation. A more detailed analysis regarding the historical development of Native American identity is beyond the scope of this paper.

Term	Definition
Indigenous	Indigenous populations are communities that live within, or are attached to, geographically distinct traditional habitats or ancestral territories, and who identify themselves as being part of a distinct cultural group, descended from groups present in the area before modern states were created and current borders defined. They generally maintain cultural and social identities, and social, economic, cultural and political institutions, separate from the mainstream or dominant society or culture. (World Health Organization, n.d.)
Indian	A misnomer coined by Christopher Columbus used to describe the Indigenous Peoples throughout the Caribbean and North, Central, and South America. The term is used in the U.S. up to the present day as a generalizable name, but can also be viewed as inappropriate (Younging, 2018).
Native American	"A person [living in the U.S.] having origins in any of the original peoples of North and South America (including Central America) and who maintains tribal affiliation or community attachment" (U.S. Census Bureau, 2020).
American Indian/Alaska Native	A person "who has blood degree from and is recognized as such by a federally recognized tribe or village (as an enrolled tribal member) and/or the United States" and subsequently "has a government-to-government relationship and a special trust relationship with the United States" (U.S. Department of the Interior Bureau of Indian Affairs, n.d.)
First Nations, Inuit and Métis	People from the distinct Indigenous communities located outside the U.S. in Canada (Younging, 2018).
Native	A commonly used term to describe Indigenous peoples around the world. Its usage can, however, cause confusion due to its broader definition (Younging, 2018).
Particular names of Indigenous Peoples	The terms and names Indigenous Peoples referred to themselves as, often a variation of the worlds for "the people*"* in their respective tribal language. (Younging, 2018).

Table 1 – Definitions of Common Terms for Indigenous Communities

Suicide-Related Terms

In this paper, the Revised Nomenclature for Self-Injurious Thoughts and Behavior proposed by Silverman and colleagues (2007a, 2007b) is adopted. This nomenclature offers a standardized framework for the consistent use of key terminology essential for comprehending and analyzing suicide, as well as other forms of self-injurious behavior. The use of this revised nomenclature aims to establish a common and precise language for discussing suicide, ensuring that the analyses conducted are concise, accurate, and uniform throughout the study. The revised nomenclature comprises a comprehensive set of definitions and applications that provide clarity and coherence when exploring the intricate nuances of suicide. The following section will delve into the various components of the nomenclature.

The Revised Nomenclature for Self-Injurious Thoughts and Behavior defines suicide in conjunction with the Center for Disease Control's Operational Criteria for the Determination of Suicide which designates suicide by three components "(1) *death* as the result of injury of some sort which is both (2) *self-inflicted,* and (3) *intentionally* inflected" (O'Carrol et al., 1996, p. 244). Subsequently, the revised nomenclature organizes distills suicide-related thoughts and behaviors into three main categories including: 1) suicide-related ideations; 2) suicide-related communications; and 3) suicide-related behaviors. Silverman et al. (2007a) specify suicidal

intent as an "integral component" of their nomenclature (p. 254). They take the position that suicidal intent "refers to the aim, purpose or goal of the behavior" and subsequently "connotes a conscious desire or wish to leave (or escape from life) as we know it… [and] also connotes a resolve to act" (p. 254). The degree of suicidal intention is incorporated into all three of these main categories on a scale of no suicidal intent, undetermined suicidal intent, or with some degree of suicidal intent.

First, suicide-related ideations are "any self-reported thoughts of engaging in suicide-related behavior" (O'Carroll et al., 1996, p. 247). In the revised nomenclature, suicide-related ideations are further categorized by the frequency of ideation ranging from casual, transient, passive, active, and persistent. Second, suicide-related communications are "any interpersonal acts of imparting, conveying, or transmitting thoughts, wishes, or desires, or intent for which there is evidence (either explicit or implicit) that the act of communication is not itself a self-inflicted behavior or self-injurious" (Silverman et al., 2007b, p. 268). Suicide-related communications are also further categorized by how the communications are expressed whether verbally or nonverbally; and passively or covertly; and by the presence of a proposed method for actualizing self-injury. Lastly, suicide-related behavior refers to any self-inflicted act where there's evidence that a person either aimed to appear as if intending to commit suicide for other purposes or had some level of intention to end their own life (Silverman et al., 2007b, p. 272). Suicide-related behavior is further categorized by the degree of injury ranging from no injury, non-fatal injury, to fatal injury.

The Revised Nomenclature for Self-Injurious Thoughts and Behavior provides a standardized language for talking about suicide and other self-injurious acts. This language is essential for understanding the dimensionalities of the social problem, noting the variabilities of suicide-related behavior across the degree of intent, degree of injury, and frequency of behavior. The nomenclature aids in operationalizing the robust conversations necessary for understanding culture-based suicide risk assessment tools within the context of Native American communities.

Guiding Theories

The present study draws upon Indigenous Wholistic Theory (Absolon, 2006) and the transactional-ecological framework for understanding suicide (Alcántara & Gone, 2007, 2008) to guide an analysis on the perceptions surrounding Native American youth suicide and its prevention within the Sacramento Native American community. Additionally, the theoretical constructions of community-based participatory research (CBPR) guide the study's approach emphasizing a collaborative, community-driven approach to uncover the cultural dynamics affecting mental health perceptions and the obstacles to accessing support. These theoretical frameworks are instrumental in positioning the research within the broader discourse on suicide risk assessment, bridging the gap between clinical approaches and those that are culture-based. By integrating these theories, the study aims to critically review and engage with existing literature, thereby elucidating the rationale behind the investigation and the imperative for developing culture-based suicide risk assessment tools.

Indigenous Wholistic Theory

Indigenous Wholistic Theory (re)centers Indigenous ways of knowing to transform social work practice and research by constructing (w)holistic health to include spiritual, emotional, mental, and physical domains. Subsequently, (w)holistic healing occurs when these domains align with responsive historical, social, political, and economic contexts. This alignment is not

merely individualistic but extends to situate oneself within the large interconnectedness of "self, individual, family, community, nation, society and creation" (Absolon, 2006, p. 74). This transformation diverges from western approaches of social work practice and mental health care, which primarily focus on emotional or mental domains when designing suicide prevention efforts. In contrast, Indigenous Wholistic Theory synchronizes its constituent domains and contexts with associated Indigenous values and cultural understanding (See Figure 1) to illuminate a gap left unaccounted for by clinical suicide risk assessment tools concerning the cultural constructions of health and wellness.

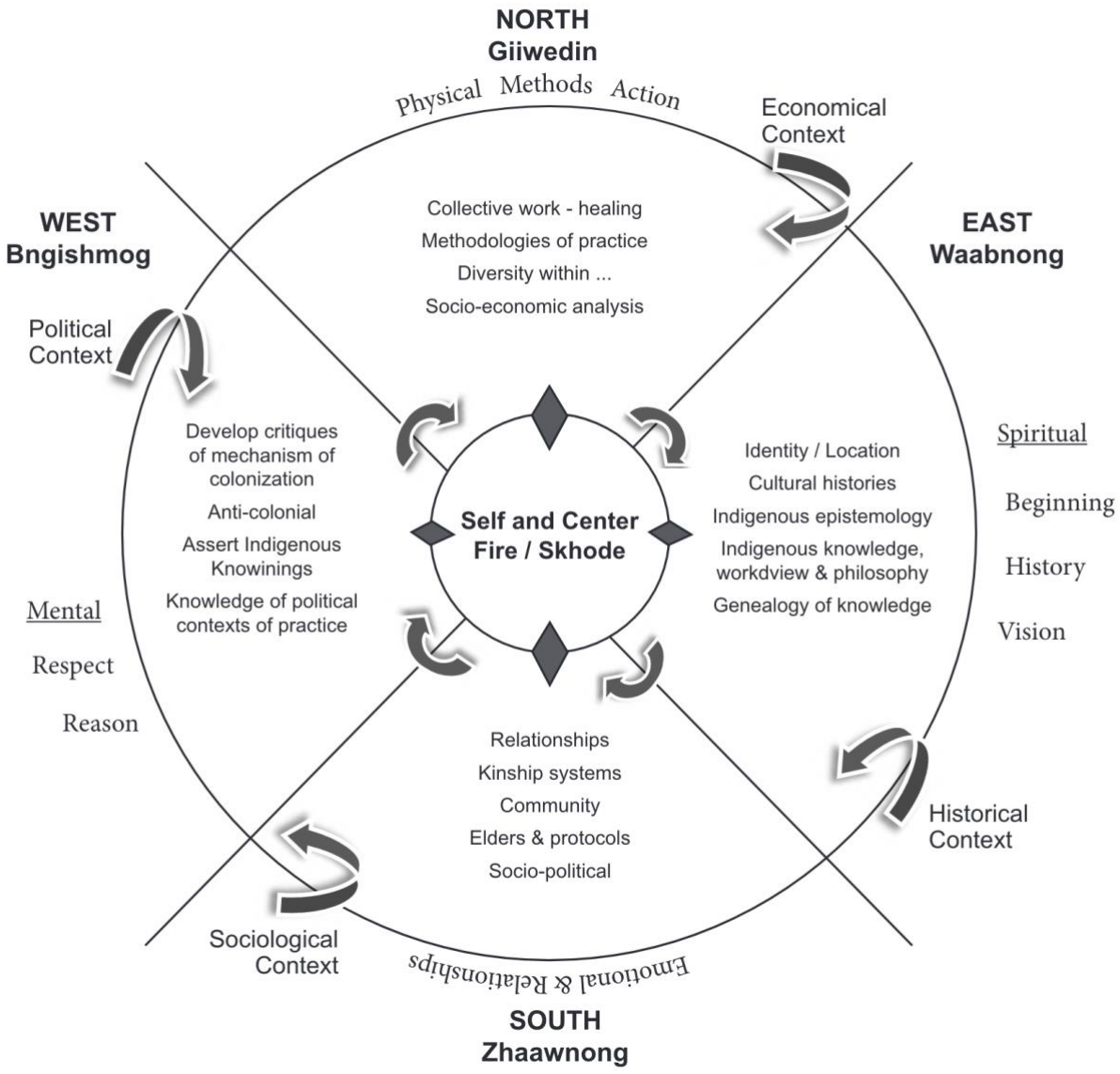


Figure 1 – Indigenous Wholistic Theory Model as in (Absolon, 2006)

Within the framework of Indigenous Wholistic Theory, the first domain is located to the East, encompassing the domain of spiritual health and historical contexts. Elucidating this dimension, Absolon (2006) explains "spirituality must be considered within healing practices" as "each and every person is a spirit being and acknowledging one's spirit begins with

acknowledging oneself" (p. 78). This self-acknowledgment involves developing a knowledge set about the history colonization and its mechanisms of oppression. The process of (w)holistic healing includes understanding how spirituality is necessary for healing by recognizing how colonial power structures have suppressed culture-based healing practices throughout history.

The second domain is located to the South and includes the domain of emotional health and social contexts. At its core, this domain centers the Indigenous teachings of being in good relation with others. This understanding underlines the interconnected role social environments and interpersonal relationships play in constructing health and wellness. Here, social contexts involve the relationships framing a person's circle of kinship to "connect threads between individuals, families, and communities and extent beyond ecology" (Absolon, 2006, p. 80). The crux of Indigenous Wholistic Theory lies in its commitment to fostering emotional health through a (w)holistic approach to address social problems in relational and interconnected ways that extend far beyond the scope of individual experiences.

Defining the third domain, Absolon (2006) writes, "asserting Indigenous knowledge [is] a tool for recovery from colonial trauma and all its manifestations" (p. 81). This domain is located to the West and includes the domain of mental health and political contexts. For Absolon, this domain's main objective involves honoring Indigenous ways of knowing to guide a recognition of how colonial forces have impacted the mental health and political consciousness of Indigenous peoples. As such, Indigenous knowledge arrives as a source of healing embodying a path for colonization, with its impacts on Indigenous consciousness and cultural cognitive processes, to be redressed.

The fourth domain is located to the North and includes the domain of physical health and economic contexts. This domain is concerned with methods of action aimed at confronting colonial domination in the area of cultural and political autonomy, as well as economic and bodily autonomy. Under US federal policy, tribal nations are relegated to sub-standard economic standings under the fiduciary relationship maintained by their classification of domestic dependent nations. Against this backdrop, this domain situates the practice of generating a "call to action" as a means to restore autonomy in the ways meaningful to promote (w)holistic health.

Problems with efficacy arise with many clinical suicide risk assessment tools because these tools are often originally designed within a specific cultural context, often reflecting the perspectives of white, Anglo-European populations. As such, these tools may not adequately address the unique cultural constructions and worldviews of Native American communities leading to potential limitations in risk assessment. This aspect of efficacy problems involves examining the cross-cultural validity (Matsumoto, 2008) of clinical suicide risk assessment tools for their assumption that cultural constructions concerning suicide are universal across all racial-ethnic groups. Cross-cultural validity underscores the necessity of questioning the applicability of these tools beyond the white, Anglo-European populations they were originally designed for.

Indigenous Wholistic Theory offers a transformative framework that demonstrates how health and wellness are culturally constructed within Native American communities in distinct and expansive manners. Western approaches of social work practice and mental health care adopt a psycho-centric conceptualization of suicide when designing suicide prevention efforts which overemphasize the mental domain (Ansloos, 2018; White, 2017). Indigenous Wholistic Theory, however, motivates the embracing of a more comprehensive and (w)holistic conceptualization. This entails integrating spiritual, emotional, mental, and physical domains of health and wellness into the construction of preventive interventions.

A suicide risk assessment tool that fails to account for these cultural distinctions may inadvertently overlook critical factors contributing to suicide risk among Native American youth. The Gros Venture psychologist, Joseph Gone (2007, 2008) further describes this noting how Native American constructions of health and wellness possess distinct understandings that significantly impact the way suicide and related behavior is perceived and expressed. This point is further illustrated in a report investigating culturally sensitive suicide risk assessments conducted by the National Institute of Justice. Exploring the concept of cross-cultural validity among incarcerated Native Americans, the report explains: "If an American Indian detainee is asked about his or her mental health history, the individual may not interpret the question the same way the interviewer does" (2004, p. 30). This report further explains: "In some American Indian communities, the notion of mental health is not the same as in 'white' culture; mental illness is considered a white person's diseases" (p. 30). This insight underpins the notion that the validity of suicide risk assessment tools can be called into question given the diverse definitions of mental health and related constructs within Native American perspectives (Severson & Duclos, 2003).

Indigenous Wholistic Theory also underscores the necessity of culture-based approaches in assessing suicide risk. The theory draws attention to the inextricable connection between (w)holistic healing and the acknowledgment of how colonial power structures have systematically relegated culture-based healing practices. Indigenous Wholistic Theory thus champions a recalibration of suicide prevention efforts by advocating for a paradigm shift that acknowledges the profound influence cultural constructions have in promoting health and wellness within Native American communities.

Transactional-Ecological Framework

The transactional-ecological framework for understanding suicide (Alcántara & Gone, 2007, 2008) serves to account for the interactions between an individual and their environment. The framework situates risk and protective factors simultaneously across multiple social-ecological levels in its ambition to inform a more comprehensive understand of what suicide is and how to effectively prevent it. Adapted for the contexts of Indigenous wellbeing, the transactional-ecological framework is a continuation of the earlier model put forth by Felner and Felner (1989). Concerned with systemic analysis and integrative perspectives, the transactional-ecological framework for understanding suicide locates transactional points of intervention across multiple levels of risk and their contexts to circumvent individualizing blame while positioning impactful preventive interventions. The transactional-ecological framework for understanding suicide further explicates the need for including community-specific constructions of health and wellness to address the divergent understandings defining suicide as a social problem. This framework provides a theoretical blueprint to operationalize the cultural constructions defining suicide, along with the transactional points where interventions would be most effective as implemented in an applied setting.

The transactional-ecological framework operates under five main postulates. Outlined below, the postulates synthesize the motivations, goals, and orientation of the approach:

1. Disorder results from deviations in normal developmental pathways and processes. The central objective of prevention programs is to hamper such deviations and reinstate more typical normative pathways.
2. Behavior of concern may be typical and adaptive responses to *disordered* circumstances. Important is the understanding of the contexts in which targeted

behavior arose and is maintained. In this way, the target population is not pathologist but understood within disordered contexts.

3. Contextual effects are important. Understanding the context in which behavior occurs is essential to effective prevention. Hence, the interaction between children and their environment as well as the effect of settings are the focus of prevention programs.
4. Pathology often originates in factors or conditions outside the person. Appropriate points of intervention are the processes and contexts rather than the person himself or herself.
5. Intervention from a transactional-ecological framework emphasizes prevention of broad-based antecedent factors and processes rather than targeted disorders. (Alcántara & Gone, 2008)

Within Native American contexts, the first postulate allows for the acknowledgement that outside forces have hindered or interrupted normal Indigenous lifeways. The second postulate provides a framework to avoid putting blame on the victim for disordered contexts or social environments. The third postulate emphasizes that effective preventive efforts must contextualize the interactions between people, their environment and setting. The fourth postulate builds upon this requiring that effective preventive interventions target the disordered contexts and the interactions they facilitate across various levels. The final postulate continues this thread naming that this approach necessitates a holistic solution that doesn't solely center individual-level psychiatric disorders.

The transactional-ecological framework for understanding suicide provides a theoretical framework for expanding the understanding of what suicide is and how to most effectively prevent it. This construction diverges from mainstream approaches' hyperfixation on psychiatric disorders and individual-level determinants by emphasizing multiple social-ecological levels and their interactions to better devise comprehensive prevention efforts. The transactional-ecological framework confronts the limitations of clinical suicide risk assessment tools by operationalizing the cultural constructions defining suicide to implement effective suicide preventive interventions relevant for Native American contexts. This contrasts with the clinical assumption that the constructions of suicide are universal across all racial-ethnic groups and the best way to prevent suicide involves implementing individual-level clinical interventions (Chrisjohn et al., 2017; Pumariega & Sharma, 2018; Wexler & Gone, 2016). This theoretical framework situates the subsequent review of literature on suicide risk assessment tools by further analyzing the underlying assumptions designing clinical assessment tools and the (w)holistic constructions defining Native American health and wellness. The transactional-ecological framework also justifies the necessity of culture-based approaches for assessing suicide risk noting how understanding suicide requires examining the social problem beyond individual-level clinical risk factors.

Community-Based Participatory Research

For the purposes of the present study, CBPR arrives as a theoretical construct guiding the decolonial research practices relating knowledge production between the researcher, community members, and partnering agency. CBPR's approach to conducting research "by, with, and for" is a shift from research conducted "on and about" Native Americans (Atalay, 2012, p. 63). Theoretically, this shift draws attention to discussions of self-reflexivity, multivocality, and the

role of subjectivity to further align with decolonizing research practices (Atalay, 2012; Smith, 2022). CBPR emphasizes the importance of collaborative and participatory processes to conduct empirical investigation where community members are viewed as necessary collaborators, rather than just research subjects. CBPR places community collaborative and participatory process as essential for designing culture-based suicide risk assessment tools by recognizing the significance of Indigenous knowledge in combating processes of colonial domination. CBPR further situates a pathway to address the limitations of effectiveness held by clinical suicide risk assessment tools, because participatory processes design assessment tools that dismantle colonial implications and generate motivations for application in real-world settings.

Describing the colonial research paradigm, the dialectical dichotomies shaping the researcher and the researched— but also, research "on and about" as compared to research "by, with, and for"— have insidious genealogies rooted in the imperial exploitation and subjugation of Indigenous peoples (Smith, 2022). Smith (2022) explains this by describing how under colonial or Western approaches "the objects of research do not have a voice and do not contribute to research or science" (p. 64). Formulating an antithesis, decolonizing research practices offer a pathway to resist this colonial subjection by challenging the positional superiority of Western knowledge. Strand et al. (2003) explain this process by writing:

> CBPR answers the question, 'Whose knowledge counts?' in distinctive ways. It places the less powerful members of society at the center of the knowledge creation process. This means that people's daily lives, achievements, and struggles are no longer at the margins of research but are placed firmly at the center. (p. 11)

The theoretical discussions defining CBPR embody this shift in the role of subjectivity by intentionally involving the participation of the community in the practices of research and knowledge production. These theoretical discussions open discursive pathways for multivocality where Indigenous ways of knowing are valued to the same degree as Western academic empiricism. Gaventa (1988) explains "participatory research attempts to break down the distinction between the researcher and the researched, the subjects and objects of knowledge production by the participation of the people-for-themselves in the process of gaining and creating knowledge" (p. 19).

Extending a discussion on self-reflexivity, I, myself, am positioned as a researcher, but also a member of the Sacramento Native American community. This self-reflexivity further defines the nature of the present study as a CBPR project developed by, with, and for the community. I offer the following introduction in my tribal language to further describe my positionalities:

> Lios em chaniavu. Aman ne'tevote em yevihnewi. Inepo Valentín Quiroz Sierra y inepo Yoeme. Inepo maaso bwikleo. Ketchum allea, Lios emchim aniavu.

My name is Valentín Quiroz Sierra. I am Yoeme and I belong to the Deer Singer Society. I extend my greetings and a traditional blessing. I am guest on the traditional homelands of the Miwok, Me-Wuk, Maidu, Wintu, and Nisenan peoples; the land now more commonly referred to as Sacramento. I approach this work with a good heart— tu'i hiapsi— as a Yoeme person from the Yaqui community in California. In Sacramento, I locate my relatives: my elders, aunties, uncles, nieces, nephews, and cousins. I locate those in my relation: my teachers, mentors,

maestros, compaim, friends, colleagues, collaborators, comrades, and coconspirators. In Sacramento, I find those who I am accountable to, and those who have granted me permission to do this work.

The theoretical motivations for engaging community participation involve dismantling the imperial subjugation of Indigenous peoples historical facilitated by Western research processes. Decolonizing research practices and the (re)centering of Native American voices, knowledge, and lifeways are intrinsically intertwined with the (w)holistic approaches of promoting health and wellness. Additionally, culture-based approaches for advancing (w)holistic health uptake these decolonial objectives in shifting the role of subjectivity towards a position of multivocality where solutions to racialized health disparities are generated by, with, and for the community.

CBPR can address problems of effectiveness by guiding culture-based adaptation processes with community collaboration to design assessment tools that dismantle colonial implications and generate motivations for application in real-world settings. The process of culturally adapting suicide risk assessment tools offers a promising solution to address efficacy and effectiveness issues, by collaboratively integrating tribal perspectives on suicide. Moreover, through a participatory process, assessment tools can be designed to dismantle colonial implications and, in turn, cultivate motivation for their real-world application. This collaborative and culturally integrative approach creates a pathway to operate more comprehensive and impactful suicide prevention efforts.

Problems with effectiveness arise with many clinical suicide risk assessment tools noting the complex dynamics arising from the perspectives and criticisms held by Native American communities which impact the real-world implementation of clinical suicide risk assessment tools. These critiques identify how clinical prevention efforts can potentially reinforce colonial domination, foster paternalistic relationships, and promote assimilative practices (Ansloos, 2017; Wexler & Gone, 2016; Chrisjohn et al., 2017). As such, effectiveness problems stem from the resistance to and rejection of clinical suicide prevention efforts by certain Native American communities noting the lasting legacy of colonialism and discordance with cultural constructions of health and wellness.

In their critique of involuntary psychiatric hospitalization, a prevalent suicide preventive intervention, Wexler and Gone (2016) offer insights from their work in suicide prevention within tribal communities. They write: “Indigenous people we have worked with in North America have expressed outrage at clinicians who intervene by removing children from the community against parents’ wishes” (p. 84). Wexler and Gone continue on to explain: “For many families, this experience echoes coercive removal of entire generations of Indigenous children, who were sent to assimilative, government-funded ‘industrial’ schools for preparation as menial laborers in adulthood” (p. 84). These sentiments reflect the opinions and critiques held by many Native American community members. Defining issues of effectiveness, similar concerns extend to various clinical suicide prevention efforts, including the implementation of clinical suicide risk assessment tools.

To confront the limitations concerning effectiveness, a growing community of Native American mental health scholars demand the integration of Indigenous culture-based approaches to prevention efforts (Gone, 2004; LaFromboise & Lewis, 2008). In order for suicide risk assessment tools to optimize their utility, they must account for the community-specific, cultural constructions of health and wellness— a crucial consideration required to prevent the perpetuation of harmful practices within healthcare provision.

Across these three guiding theories, culture-based approaches for assessing suicide risk are positioned as necessary to address the problems of efficacy and effectiveness associated with implementing clinical suicide risk assessment tools in Native American contexts. These theories provide theoretical frameworks for critically analyzing clinical suicide prevention efforts' universal assumptions constructing health and wellness, as well as the social problem of suicide. Furthermore, these theories motivate the importance of involving community collaboration in culture-based adaptation processes as a means to dismantle the imperial subjugation facilitated by Western research processes and generate real-world applicability. The subsequent reveal of literature concerning clinical suicide risk assessment tools embodies these critiques formulated by these guiding theories concerning problems of efficacy and effectiveness.

Chapter 2: A Review of Suicide Risk Assessment Tools

Clinical Suicide Risk Assessment Tools

Several literature reviews of prevention efforts point to a general lack of evidence documenting the efficacy and effectiveness of clinical suicide risk assessment tools when applied in Native American contexts broadly (Clifford et al., 2013; Middlebrook et al., 2001; Pham et al., 2021). More specifically, this section's review of literature serves to bear out this conclusion by demonstrating three findings: 1) a lack of research examining the utility of clinical risk assessment tools in Native American contexts; 2) a limited evaluation of clinical suicide risk assessment tools substantiating their efficacy by a test of cross-cultural validity; 3) a consistent call to incorporate culture, either through direct adaptation or contextual processes, to substantiate effectiveness ensuring successful implementation in real-world settings.

Examining three hallmark literature reviews, a limited and uncohesive body of empirical evidence emerges documenting the implementation of clinical suicide risk assessment tools among Native American youth (Clifford et al., 2013; Middlebrook et al., 2001; Pham et al., 2021). Across these three literature reviews, only one study (LaFromboise & Howard-Pitney, 1994; 1995) is uniformly identified. Middlebrook et al. (2001) identify nine different programs in their literature review of Native American suicide prevention efforts. Of these different programs, only one study (LaFromboise & Howard-Pitney, 1994; 1995) incorporates an unadapted, clinical suicide risk assessment tool. All other studies fail to identify the use of any suicide risk assessment tools in their prevention efforts demonstrating a general gap in research reviewing the utility of clinical risk assessment tools.

Clifford et al. (2013) conduct a literature review of suicide prevention efforts from an international perspective. Their review identifies nine suicide prevention programs; five of which involve Indigenous populations from the US. One study overlaps with the previous review (LaFromboise & Howard-Pitney, 1994; 1995), and the remaining four suicide prevention efforts do not integrate any clinical suicide risk assessment tools. The final literature review conducted by Pham et al. (2021) identifies ten suicide prevention programs; one study (LaFromboise & Howard-Pitney, 1994; 1995) is mentioned in the prior two reviews. From the remaining nine programs, two studies (Cwik et al., 2016; Kohrt et al., 2017) utilize a clinical suicide risk assessment tool. The remaining seven studies fail to identify the use of any suicide risk assessment tools in their prevention efforts further demonstrating the limited scope of research reviewing the utility of risk assessment tools as implemented in Native American contexts.

These literature reviews highlight a lack of research examining the utility of clinical risk assessment tools in Native American contexts. Across these three systemic literature reviews,

only three clinical suicide risk assessment tools were evaluated with Native American specific study samples. Compared to a non-Native American specific review of literature, Runeson et al. (2017) identified a total of 35 different clinical suicide risk assessment tools. This difference between the total number of clinical risk assessment tools and the body of evidence examining the application of assessment tools among Native Americans demonstrates a high degree of insufficient evidence related to this topic.

Suicide Probability Scale

Examining efficacy problems, the three previously mentioned risk assessment tools include the Suicide Probability Scale (SPS), SIQ-JR, and PHQ-9 tools. Examining each tool and their evidence individually, the SPS tool was developed by Cull and Gill (1982). The tool is comprised of 36-item self-report measures involving four clinical subscales: hopelessness; suicidal ideation; negative self-evaluation, and hostility. The SPS requires respondents to indicate the degree to which they agree to a given statement using a four-point Likert scale. The SPS takes approximately 5-10 minutes to complete and is comprised of questions like "When I get mad I throw things" (Cull & Gill, 1982). The SPS tool was originally standardized and validated on a sample of 562 adolescents geographically contained to the region of San Antonio, Texas (Range, 1989). At this baseline, the efficacy of the SPS tool in Native American contexts is unknown noting the predominantly non-Native American study sample.

The SPS tool finds some evidence for its utility among Native American youth from two empirical cases. More importantly, authors from both studies detail a need for culturally adapting suicide prevention efforts and risk assessment tools to meet the cultural needs of the communities these efforts are implemented in. Despite their emerging research verifying the tool's utility, these authors situate their call to incorporate culture-based processes noting how community held opinions and critiques can impact the implementation of clinical suicide risk assessment tools in real-world settings. This perspective structures the relevant literature on the SPS tool in motivating the development of a culture-based suicide risk assessment tool.

LaFromboise and Howard-Pitney (1994; 1995) integrate the SPS tool as an outcome measure for evaluating their Zuni Life Skills Development Program. Utilizing a quasi-experimental design, LaFromboise and Howard-Pitney (1994) implemented the SPS tool as a pre-/post-test measure using a time series collected mid-intervention and post-intervention. Their study included a sample of 62 Native American youth from the Zuni Pueblo Tribe; the intervention group was comprised of 36 participants, where the control group included 26 participants. A significant reduction in the total score for the SPS tool was reported ($p < 0.01$) when comparing the intervention and control groups using t-test analysis. These results substantiate the effectiveness the Zuni Life Skills Development Program and provide some evidence for the efficacy of the SPS tool in cross-cultural contexts. There is, however, an absence of formal examination evaluating the cross-cultural validity of the SPS tool utilizing standard methods like confirmatory factor analysis. The study conducted by LaFromboise and Howard-Pitney integrates the SPS tool exclusively for evaluative purposes which does not exhaustively confirm the cross-cultural validity of the SPS tool. As such, this study is limited in its ability to demonstrate the efficacy of the SPS tool in a comprehensive manner.

Reflecting on their work with the Zuni Life Skills Development Program, LaFromboise and Lewis (2008) situate their study within a field of research divided along the comparison of culturally adapted and generic interventions. For these authors, cultural adaptions provide an effective pathway to generate knowledge and preventive interventions through responsible,

ethical means noting reasons like: “The movement to put generic, tested interventions into practice, … is seen by many American Indians as yet another stringent imposition placed upon them by the federal government” (p. 350). This statement underlines the community held opinions and critiques of clinical suicide prevention efforts which can impact the effectiveness of these efforts when implemented in real-world settings. LaFromboise and Lewis (2008) continue on to conclude: “to support intervention effectiveness and validity, researchers must intervene in the most professionally and culturally competent manner possible. To do less on either part is a serious disservice to tribes and to the field of mental health” (p. 352).

This sentiment and related findings are also held by Kohrt et al. (2017) who utilize the SPS tool as an outcome measure to evaluate the effectiveness of their culturally adapted Dialectical Behavioral Therapy intervention. The researchers administered the SPS tool to “Nina” utilizing a pre-/post-test time series. Prior to the intervention, Nina’s overall SPS score was 103, and upon completing the seven-week program her overall score as a 53. Statistical significance for this reduction in total SPS score was not calculated given the study sample size of one. The study conducted by Kohrt et al. further documents the utilization of the SPS tool among the target population as an evaluative outcome measure for suicide prevention purposes which does not exhaustively confirm the cross-cultural validity of the SPS tool. Similar to the previous study, there is an absence of formal examination evaluating cross-cultural validity of utilizing standard methods like confirmatory factor analysis. This study is also limited in its ability to demonstrate the efficacy of the SPS tool in a comprehensive manner.

Kohrt et al. also detail a need for culturally adapting suicide prevention efforts and risk assessment tools to meet the cultural needs of the communities these efforts are implemented in. They recommend: “When working with individuals from different cultural groups, it is important to conduct an assessment in a way that reveals cultural risk and protective factors” (p. 90). Kohrt et al. further name the importance of designing culture-based approaches for assessing suicide risk as a means to more effectively identify relevant factors concerning the social problem. As such, statements made by the authors from both studies support the development of culture-based suicide risk assessment tools, despite their respective studies lending some support to the efficacy of a clinical assessment tool. This contextualizes the tensions within this field of research comparing culturally adapted and generic interventions. For these authors, cultural adaptions provide an effective pathway to generate knowledge and preventive interventions in Native American contexts.

Suicide Inventory Questionnaire-Jr.

Reviewing the second tool of focus, the SIQ-JR suicide risk assessment tool was designed by Reynolds (1988) and is comprised of 15 self-report questions. The SIQ-JR tool requires respondents to indicate the degree to which they agree to a given statement using a seven-point Likert scale assessing the frequency of suicide-related behavior. An example includes “I thought it would be better if I was not alive” (Reynolds, 1988). Total scores for the SIQ-JR tool are calculated and used for diagnostic purposes with a cut off value of 31 signifying potentially significant suicidal risk. The SIQ-JR tool was originally standardized and validated on a sample of 1,290 students in grades seven through ten. In a review of the SIQ-JR tool, Davis (1992) identifies insufficient data pertaining to minority students in the original sample used for standardization. At this baseline, the efficacy of the SIQ-JR tool in Native American contexts is unknown noting the predominantly non-Native American study sample.

The SIQ-JR tool is unique for its substantiating evidence across several studies. Notably, two studies formally test the cross-cultural validity of the tool among the target population. However, authors from these studies are unanimous in their prescription of cultural-based adaptation processes that account for the contextual constructions of health and wellness. This understanding builds upon the conclusions provided by the previous authors examining the SPS tool summarized as such: despite substantiating research verifying a tool's efficacy, community held opinions and critiques can impact the implementation of a clinical suicide risk assessment tool in a real-world setting. This problem of effectiveness can be mediated through collaborative processes centering cultural constructions of health and wellness.

Keane et al. (1996) examine the cross-cultural validity of the SIQ-JR tool among a sample of 163 Native American students from an anonymized tribal community. Keane and colleagues stratify their sample into three categories: those who attempted suicide after data collection; those who attempted suicide sometime in the past; and those who have never attempted suicide. Analysis of variance results were calculated across these categories for the total SIQ-JR scores and compared with other non-suicide related psychometric tools to substantiate concurrent validity. Results reveal a significant difference for the SIQ-JR tool across all three stratified samples ($p < 0.001$) indicating the tool's ability to measure distinct psychometric properties within this cross-cultural context. This study by Keane et al. (1996) establishes a precedent for implementing the SIQ-JR tool among Native American youth, as well as demonstrates the tool's efficacy with the substantiation of cross-cultural validity. Despite this, the authors introduce a call to examine the contextual processes that account for the cultural constructions of health and wellness related to effectively implementing prevention efforts for Native American youth; a point also highlighted by subsequent studies.

Hill et al. (2020) also conduct an intentional examination of the cross-cultural validity of the SIQ-JR tool for Native American youth. Hill and colleagues situate their study alongside the previous work conducted by the Cwik et al. (2016) noting both studies' utilization of the same suicide risk assessment tool and tribal population study samples. Hill and colleagues conducted a confirmatory factor analysis utilizing a two-factor model on the constructs of general ideation, and active ideation. Their study sample included 71 youth from the White Mountain Apache Tribe who recently attempted suicide. A composite reliability scores was calculated and established to be above the cutoff point of 0.7 (general ideation = 0.928; active ideation = 0.876). Cronbach's alpha scores were also generated establishing acceptable internal consistency (general ideation = 0.954; active ideation = 0.892). Building upon previously established work, this study by Hill et al. further verifies the cross-cultural validity of the SIQ-JR tool for use with Native American youth.

These findings are limited by the understanding that community held opinions and critiques can impact the implementation of a clinical suicide risk assessment tool in a real-world setting. Hill et al. (2020) best describe this by writing: "cultural and contextual considerations will be important to address relative to the use of SIQ-JR with AI youth" (p. 214). Outlining an implication for their study, Hill and colleagues name the need to formulate supplementary efforts that leverage community conceptions of culture and context to bolster the effective implementation of the SIQ-JR tool as a preventive effort. This understanding emphasizes how problems of effectiveness can be mediated through collaborative processes centering cultural constructions of health and wellness ensuring successful implementation of a clinical assessment tools. Despite substantiating research verifying the SIQ-JR tool's efficacy, community

collaborative and participatory processes are needed to design effective culture-based processes to effectively implementing prevention efforts for Native American youth.

Cwik et al. (2016) incorporate the SIQ-JR tool as an outcome measure for evaluating their New Life program using a single group design. These researchers implemented the SPS tool as a pre-/post-test measure for 11 youth participants from the White Mountain Apache Tribe who recently attempted suicide. The number of participants who scored above the SIQ-JR tool cutoff (7/11 at baseline) decreased following the intervention (1/11 at 1-month post-intervention). Statistical significance for this reduction in total SIQ-JR score was not calculated. This study conducted by Cwik et al. further buildings upon the precedent for implementing the SIQ-JR tool among Native American youth. Despite this conclusion, Cwik et al. (2016) also endorse processes of culture-based adaptation to amend problems of effectiveness arising from community held opinions and critiques. The authors explain: "the use of a community-driven participatory process and study implementation render preliminary findings more transferable to a real-world setting and to other populations with similar risk profiles and barriers to care" (p. 120).

These three studies align to document the efficacy of the SIQ-JR tool among Native American young people. However, authors from these studies are unanimous in their prescription of cultural-based adaptation processes that account for the contextual constructions of health and wellness as a means to address problems of effectiveness. This understanding arrives as a stipulation provided by the authors examining the SIQ-JR tool and their research verifying it cross-cultural efficacy. Despite research on the tool's efficacy, community held opinions and critiques can impact the implementation of the tool in a real-world setting. As such, collaborative processes centering cultural constructions of health and wellness can address this problem of effectiveness by integrating participatory processes that design prevention efforts by, with, and for communities ensuring successful implementation.

Patient Health Questionnaire-9

As the final tool of focus, the PHQ-9 has no substantiating literature demonstrating its application in suicide prevention efforts targeting Native American youth. However, literature has been identified formally validating its efficacy in cross-cultural contexts (Harry & Waring, 2019). Original developed by Kroenke et al., (2001), the PHQ-9 is a psychometric tool used to measure the symptomology of Major Depressive Disorder across nine questions using a four-point Likert scale assessing the frequency of certain characteristics or behaviors. The PHQ-9 tool was originally standardized and validated on a sample of 6,000 patients across 15 different clinics. At this baseline, the efficacy of the SPS tool in Native American contexts is unknown noting the predominantly non-Native American study sample.

The study conducted by Harry and Waring (2019) performed a confirmatory factor analysis of the tool on a comparative sample of 4,443 Native American adults and 4,443 white adults. Harry and Waring calculated ordinal alpha scores testing a single factor model, as well as multiple two factor models evaluating the validity of the tool for their samples. This study validated the efficacy of the PHQ-9 tool for use with Native American adults using a single factor model comprised of the summed total score (ordinal alpha = 0.95). Noting this study's focus on adults, the cross-cultural application of the PHQ-9 tool for Native American youth is currently unknown, but generalizability can be assumed.

Harry and Waring (2019) also align with previous recognitions on the importance of integrating supplementary efforts that leverage community conceptions of culture to bolster the

effective implementation of the tool in question. The authors recommend establishing a complementary system linking those who test positive for high suicide risk via the assessment tool to cultural-based treatment and resources. Harry and Waring explain "strengths-focused perspectives, such as emphasizing positive mental health and resilience with American Indian people, may provide a counterpoint to pathology-focused assessments of depression symptomology" (2019, p. 66). This understanding aligns with previously mentioned authors' calls to incorporate culture-based processes noting how community held opinions and critiques can impact the implementation of clinical suicide risk assessment tools in real-world settings, despite their emerging research verifying the tool's validity.

This review of literature examining clinical suicide risk assessment tools has revealed three main points. First, there is a lack of research examining the utility of clinical risk assessment tools in Native American contexts. Across these three systemic literature reviews, only three clinical suicide risk assessment tools were evaluated with Native American specific populations in mind. This is contrasted with a total possible 35 assessment tools identified in different systemic literature review (Runeson et al., 2017). Second, there has been limited evaluation of clinical suicide risk assessment tools substantiating their efficacy by a test of cross-cultural validity. Of the three previous identified risk assessment tools, only the SIQ-JR tool has been evaluated for cross-cultural validity utilizing standard methods (Hill et al., 2020; Keane et al., 1996). Third, there is a consistent call to incorporate culture, either through direct adaptation or contextual processes, to substantiate effectiveness ensuring successful implementation in real-world settings. This last point situates the understanding that despite some emerging evidence validating clinical suicide risk assessment tools for use among Native American youth, culture-based processes for understanding health and wellness must be a priority in effectively assessing suicide risk and implementing culturally relevant approaches.

Culture-Based Suicide Risk Assessment Tools

As previously demonstrated, there is a limited body of research examining the utility of clinical risk assessment tools in Native American contexts. Turning our attention, this section will survey culture-based suicide risk assessment tools previously developed by tribal communities. For the purposes of this paper, culture-based suicide risk assessment tools include clinical psychometric tools culturally adapted to meet the needs of a particular Native American community, as well as suicide risk assessment tools designed endogenously by, with, and for a particular community. The discussion here aims to highlight the feasibility and applicability of designing a culture-based suicide risk assessment tool for use with youth in the Sacramento Native American community. Three points emerge from the reviewed literature: 1) there is emerging evidence documenting the effectiveness of culture-based suicide risk assessment tools in assessing suicide risk among Native American youth; 2) the cultural contexts of the local community are integral to designing culture-based risk assessment tools but can be over specific creating challenges with generalizability; and 3) the processes for designing culture-based suicide risk assessment tools are precedented, feasible, and replicable.

From the previously mentioned literature reviews, only two studies were identified detailing the development or utilization of a culture-based suicide risk assessment tool (Clifford et al., 2013; Middlebrook et al., 2001; Pham et al., 2021). First, May et al. (2005) describe an outcome evaluation of a 15 yearlong suicide prevention program implemented among an anonymous tribal nation located in the Southwest US called the Adolescent Suicide Prevention Project. Second, Allen et al. (2009) describe their evaluation of the Elluam Tungiinun (Toward

Wellness) prevention program as implemented among rural Yup'ik youth in Alaska. This study integrated the Yup'ik Protective Factors Scale as a culture-based suicide risk assessment tool. One additional study (Hopson et al., 2022) is reviewed describing the Hope and Wellness Survey. This culture-based suicide risk assessment tool was developed through a partnership with the American Indian Health and Family Services of Southeast Michigan, Inc. (AIHFS) and the local, urban Native American community of Detroit, Michigan.

All three studies provide evidence substantiating the effectiveness of integrating a culture-based suicide risk assessment tool to assess suicide risk among Native American youth. One limitation defining these three studies, however, includes the generalizability of their developed culture-based suicide risk assessment tools noting the over specificity of the scope defining each study's inquiry. Given that each study engaged in a community-specific development process, these risk assessment tools may possess some limitations in their application in other Native American communities noting the frequent incorporation of tribal specific values and language. Nonetheless, these three studies cohesively present processes for designing culture-based suicide risk assessment tools to guide future work under the guise of replicability.

Adolescent Suicide Prevention Project

For May et al. (2005), the Adolescent Suicide Prevention Project utilized the public health model to address suicide at all levels of prevention. For the selective level of prevention, the authors situated a culture-based suicide risk assessment in accordance with their program's primary goal which involved "identifying suicide risk factors specific to the Western Athabaskan Tribal Nation that may be applicable to other AIAN communities" (2005, p. 1239). The risk assessment tool was complimented with social services case management, life skills education, and clinical mental health care. If a young person in the Adolescent Suicide Prevention Project screened positive for suicide risk, they were directed to the corresponding higher level of care. May and colleagues analyzed surveillance data pertaining to suicide-related behavior to evaluate the Adolescent Suicide Prevention Project. From 1988 to 2002, the prevention program facilitated a 61.1% drop in the annual mean total number of instances of suicide-related behavior (36 to 14 instances). These findings support the effectiveness of utilizing culture-based suicide risk assessment tools, in accordance with a continuum of care, to prevent suicide-related behavior among Native American youth from the tribe involved in the study.

The culture-based risk assessment tool, as part of the Adolescent Suicide Prevention Project, was designed utilizing a CBPR process. Over 50 community workgroup sessions were conducted involving tribal leadership, health care providers, parents, elders, youths, and clients. At each session, participants responded to the following three question: 1) "What are the problems and issues in the community?"; 2) "What are the barriers to resolving these problems?", and 3) "What can be done to solve problems and overcome barriers?" (May et al., 2005, p. 1239). Responses were recorded and used to formulate all the components of the Adolescent Suicide Prevention Project including the development of the risk assessment tool. Further information on the risk assessment tool, unfortunately, were not specified by the authors. The generalizability of this culture-based risk assessment tool is limited by this lack of information, as well as the over specificity of the participatory process designing the tool only involving one specific rural, Native American community. Responses to the aforementioned questions designed a tool relevant to the specific cultural contexts of the tribe in question. The cultural contexts of this tribe may not be universal, but the development process of the culture-

based risk assessment tool highlights replicable practices for conceptualizing these understandings in different settings.

People Awakening Yup'ik Protective Factors Scale

For the Elluam Tungiinun prevention program, the People Awakening Yup'ik Protective Factors Scale was utilized to assess suicide risk as an outcome measure evaluating the larger community-level intervention. Youth participants (n = 55) were administered the People Awakening Yup'ik Protective Factors Scale in a pre-/post- intervention time series. Allen et al. (2009) concluded that the Elluam Tungiinun prevention program increased community protective factors by a moderate effect size ($p = 0.01$, Cohen's $d = 0.79$). These findings support the utility of the People Awakening Yup'ik Protective Factors Scale for assessing suicide risk among Alaska Native youth, in addition to substantiating the effect of the Elluam Tungiinun prevention program.

Allen et al. (2006) describe the development of the People Awakening Yup'ik Protective Factors Scale as a CBPR process involving two distinct sub-studies. First, a 51 Yup'ik people were interviewed to conceptualize cultural and community constructions of risk and protective factors associated with substance misuse. This information was utilized to construct a heuristic model of the social problem and the accompanying People Awakening Yup'ik Protective Factors Scale. Verbatim statements from the interview process were used to construct the content of the developed tool. Second, Allen and colleagues administered the assessment tool to 127 Yup'ik people and conducted a principal component analysis to validate the internal structure of the instrument. A four-component model integrating 15 items was established involving the following: 1) Things I want for myself, Wangnun piyumiutenka; 2) Things I want for my family, Ilamnunpiyumiutenka; 3) Things I want for my body/wellbeing, Tememnunpiyumiutenka; and 4) Things I want for our way of life, Yuuyaramtenunpiyumiutenka (Allen et al., 2006, p. 52). The internal structure of the People Awakening Yup'ik Protective Factors Scale was validated by the low intercorrelation of the four components ($r = 0.09 - 0.50$).

The generalizability of the People Awakening Yup'ik Protective Factors Scale is also limited by the over specificity of the participatory process designing the tool for one specific tribal group. This is demonstrated by the assessment tool's use of Yup'ik language and cultural constructions. Implementing an assessment tool composed of Yup'ik language may not be as effective outside the context of rural Alaska or Yup'ik communities. However, the development process described by Allen et al. (2006) further highlights replicable practices for constructing culture-based risk assessment tools in different settings.

Hope and Wellness Survey

A supplemental review of literature locates an additional study involving a culture-based suicide risk assessment tool by AIFHS (2018) describe the Hope and Wellness Survey developed in partnership with the urban Native American community located in Detroit, Michigan. This study does not involve an evaluation of the risk assessment tool documenting its effectiveness, nor does it extensively describe the empirical processes that guided its cultural adaptation process. This study, rather, summarizes the actualized adaptations and related logics made to design the Hope and Wellness Survey. Working in partnership with the AIHFS, Hopson and colleagues utilized a CBPR approach to engage various community advisory boards and additional community members. Qualitative data was collected from these partners to guide the cultural adaptation process of the PHQ-9 assessment tool.

To meet the cultural needs of the local Native American community, the following changes were made to the clinical assessment tool: 1) examples were added to some items of the PHQ-9 to improve youth's understanding; 2) screening questions on substance misuse were added after identifying the importance of the risk factor in relation to suicide; 3) cultural engagement questions were added to assess how and what culture participants engage with; 4) five wrap-up questions were added to the end the assessment on a positive note; and 5) demographics questions on race and ethnicity, gender, sexual orientation, relationship status, living situation, education, employment, and household income were added (Hopson et al., 2022, p. 5). The cultural adaptations made to the PHQ-9 reflect the specific needs of the Detroit Native American community as identified through their CBPR process engaging various community advisory boards and additional community members. Similar to the previously mentioned studies, limitations arise noting the over specificity of the participatory process designing the Hope and Wellness Survey. Nonetheless, the cultural adaptations reflected in the Hope and Wellness Survey demonstrate the feasibility of designing culture-based suicide risk assessment tools with, by, and for an urban, intertribal Native American community.

Given this precedent, further information on the process designing the Hope and Wellness Survey was requested from AIHFS, and Hopson and colleagues. A series of semi-structured interviews and focus groups were utilized to assess the cultural and community constructions of Native American mental health, including the social problem of suicide. Specific questions included: 1) "What are the primary obstacles to efforts addressing Native youth suicide prevention?"; 2) "What do you think is the overall feeling regarding suicide in the Native community?"; and 3) "If you had a friend or family member that you think is at risk for suicide or struggling with depression, what would you do?" (AIHFS, 2018). Additionally, CBPR processes guided the adaptations made to the PHQ-9 assessment tool. Findings from the qualitative data collection process were presented to the community advisory boards and community members who provided further insight drafting the cultural adaptations reflected in the Hope and Wellness Survey. The development process described here further highlights replicable practices for constructing a culture-based risk assessment tool relevant for the Sacramento Native American community; an urban, intertribal community characterizable to the Detroit Native American community.

Overviewing all three culture-based risk assessment tools, three points emerge. First, there is emerging evidence documenting the effectiveness of culture-based suicide risk assessment tools in assessing suicide risk among Native American youth. Two studies (Allen et al., 2006; May et al., 2005) highlight assessment tools in accordance with empirical evidence demonstrating their utility for assessing for suicide risk. Second, the cultural contexts of the local community are integral to designing culture-based risk assessment tools but can be over specific creating challenges with generalizability. This is best understood examining the People Awakening Yup'ik Protective Factors Scale as implementing an assessment tool composed of Yup'ik language may not be as effective outside the context of rural Alaska. Lastly, the processes for designing culture-based suicide risk assessment tools are precedented, feasible, and replicable. All three studies establish precedents and demonstrate the feasibility of designing culture-based suicide risk assessment tools with, by, and for Native American communities across multiple contexts inducing urban, rural, mono-tribal, or intertribal.

Building upon this last point, all the three studies provide replicable process for developing a culture-based suicide risk assessment tool relevant to the Sacramento Native American community. As such, the present study replicates three general components: 1) a

qualitative process conceptualizing cultural constructions of Native American mental health including the social problem of suicide; 2) a CBPR approach involving health care providers, parents, and youths; and 3) a culture-based adaptation process involving a clinical risk assessment tool to bridge problems of effectiveness. Specifically, the present study will replicate the semi-structured interview and focus group structure that formulated the Hope and Wellness Survey. This includes replicating the three questions as described by AIFHS (2018). The present study will also operate a participatory process aligned with a transactional-ecological framework to engage staff members, community members, and youth as described by May et al. (2005).

Chapter 3: Methods

Participants

This study recruited individuals across various age groups who were residents of Sacramento County. The study sample consisted of 27 individuals (n = 27), segmented into three distinct strata to facilitate a structured comparative analysis aligned with the study's empirical objective. First, a Youth stratum was constructed involving self-identified Native American or Indigenous individuals aged 13 through 24. Second, a Community Member stratum was constructed involving self-identified Native American or Indigenous adults aged 25 years or older. Lastly, a SNAHC Staff Member stratum was formed involving adults over the age of 18 who were currently employed at SNAHC from all racial-ethnic backgrounds. The sample comprised of nine youth, eight community members, and ten SNAHC staff.

Study Site and Population

Working in collaboration with SNAHC— an urban Native American health center in Sacramento, California, this study focused on the empirical (re)centering of Native American voices. The prevalence of suicide as a significant health disparity among Native American youth in Sacramento County reflects broader national trends. In 2017, data revealed that Native American students within the county, aged 14-18, exhibited the highest rates of suicidal ideation at 24.5%, surpassing those of their peers in other racial-ethnic groups—17.5% for White, 18.1% for Black/African American, 20.7% for Asian, and 18.7% for Latino students (California Healthy Kids Survey, 2020). This rate of suicidal ideation among Native American youth in Sacramento County is notably higher, nearly 1.5 times the state average for all students (24.5% vs. 17.1%), further underscoring the critical need for targeted research and intervention efforts.

SNAHC is a federally qualified health center located in Sacramento, California. It serves as a comprehensive patient-centered health home, offering a wide array of services including medical, dental, vision, behavioral health, and Native American cultural services to individuals of all racial-ethnic backgrounds across Sacramento County. The study focused on a diverse subject population that encompasses the entire Sacramento Native American community, in addition to individuals currently employed at SNAHC. For this study, the community was defined in relation to SNAHC's role as an Urban Indian Health Organization, extending beyond traditional tribal affiliations. This CBPR approach does not limit its engagement to a single tribal government or group. Instead, it embraces the broader urban Sacramento Native American community, inclusive of: individuals enrolled in any of the 574 federally recognized tribes in the United States; members of state-recognized, federally terminated, or unrecognized tribes; members from any Indigenous community outside the settler colonial borders of the US; and those relationally or otherwise self-identified as part of the Sacramento Native American

community. This inclusive definition ensures a comprehensive understanding and engagement reflective of the community's diverse construct of "who counts?" as Native American. (Perea, 2021, p. 6).

In the construction of community and population, special attention is given to the roles of staff members at SNAHC noting the health center's significance as a hub within the Sacramento Native American community. Notably, not all staff members identify as Native American or directly identify as members of the Sacramento Native American community. Despite this, their integral role in SNAHC's mission— especially in suicide prevention efforts targeted at urban Native American youth— warrants their inclusion in the study's collaborative framework and study population.

Drawing upon the transactional-ecological framework, SNAHC staff are included in the study's design to better understand the transactional exchanges within the ecological model of care as people seek access to mental healthcare services at the health center. More specifically, this means examining the nuanced interactions between Native American patients and the healthcare system at SNAHC across racial and professional positionalities. By involving staff members, who may be non-Native American, the study aims to gain valuable insights into the broader ecological dynamics at play encompassing not only the cultural but also the operational aspects of delivering effective, culturally relevant suicide prevention efforts in a community mental health setting. This comprehensive perspective is essential for designing a future culture-based suicide risk assessment tool that is both effective and resonant with the community's values and needs.

Sampling and Recruitment

The study adopted a stratified purposive sampling strategy to comprehensively represent all segments of the Sacramento Native American Community, including individuals currently employed at SNAHC (Teddlie & Yu, 2007). To facilitate a structured comparative analysis aligned with the study's empirical objective, the sample was divided into three strata: Youth; Community Members; and SNAHC Staff Members. This methodological approach allowed for an in-depth and balanced examination of each subgroup's perspectives. Given the relatively small size of the Sacramento Native American community, a large sample size was neither feasible nor necessary to achieve the aims of this research study. Purposive sampling allows for subjectivity in approving the most appropriate sample size given study's specific needs, the nature of the subject matter, and the goal of achieving detailed insights into the community's perspectives (Creswell, 2009, 2014). The final sample comprised of nine youth, eight community members, and ten SNAHC staff members— 27 people in total.

The youth stratum of the study specifically targeted Native American adolescents and transition-age individuals aged 13 to 24 years. To qualify for participation, individuals needed to self-identify as Native American or Indigenous and reside within Sacramento County. The adult community member stratum included Native American individuals aged 25 years and older, with the same eligibility criteria regarding self-identification and residency. Recruitment for both the youth and adult community member strata was conducted through non-random sampling methods. The final stratum of the study focused on staff members from SNAHC and encompassed individuals from a wide spectrum of racial, ethnic, and age demographics. Eligibility for SNAHC staff participation was defined by maintaining a current employment status at SNAHC and meeting an age requirement of over 18 years old. Recruitment of staff participants was conducted through non-random sampling methods.

Study participants were actively engaged through a multifaceted recruitment strategy leveraging social media, email outreach, and direct in-person methods. Specifically, social media recruitment capitalized on the digital presence of SNAHC and utilized its official Facebook and Instagram accounts to post recruitment materials. Additionally, email campaigns targeted potential participants by sending recruitment information through SNAHC's established community member and employee email listservs. Lastly, in-person recruitment efforts included disseminating recruitment materials during SNAHC-hosted programs, community advisory board gatherings, and staff meetings. All recruitment activities directed interested individuals to the study's dedicated website (https://vqsierra.github.io/HOPES/), where they could find comprehensive details about the study's objectives, methodology, and participation criteria. Enrollment into the study was facilitated through specific links available on the website streamlining the process for prospective participants.

Measures

Data collection for this study involved two parts constructing quantitative and qualitative measures. First, quantitative data was collected using a Demographics Survey (See Appendix A). The data, here, measured respondents' demographic information across several different categorizations of identity, affiliations, and experiences. Second, qualitative data was primarily collected across two thematic domains: 1) Native American Mental Health and Culture; and 2) Implementation of Culture-Based Screeners. To construct inquiry in these areas, the research process utilized two tailored interview guides: the Youth and Community Member Interview Protocol (See Appendix B) and the SNAHC Staff Interview Protocol (See Appendix C). Each participant's stratum determined the specific interview guide employed to ensure that data collection was systematic, relevant, and aligned with the perspectives of the different groups involved. The qualitative data measured respondent's perspectives on Native American mental health and their insights on how to best implement prevention efforts. A detailed breakdown of the qualitative data, categorized by thematic domain and corresponding data collection instrument, is provided in Table 2.

Thematic Domains		
Youth	**Community Member**	**SNAHC Staff**
Native American Mental Health & Culture **(YCM Interview Protocol)**	Native American Mental Health & Culture **(YCM Interview Protocol)**	Confidence in Addressing Suicidality **(Staff Interview Protocol)**
Implementation of Culture-Based Screener **(YCM Interview Protocol)**	Implementation of Culture-Based Screener **(YCM Interview Protocol)**	Implementation of Culture-Based Screener **(Staff Interview Protocol)**

Table 2 – Qualitative Data by Thematic Domain, Strata, and Data Collection Instrument

Demographics

During the study onboarding process, every study participant completed a brief Demographics Survey online via the Qualtrics survey platform. This survey was designed to gather information on various aspects of the participants' identity including: race, age, gender, sexual orientation, and disability status. A detailed breakdown of these variables is provided below:

- Race (Categorical; **race**): This variable surveys the racial-ethnic classifications describing each study participant. Respondents were prompted to self-identify which best describes themselves across 10 categories (1 = American Indian or Alaska Native; 2 = Asian or Asian American; 3 = Black or African American; 4 = Latina, Latino, or Latinx; 5 = Middle Eastern or North African; 6 = Native Hawaiian or Pacific Islander; 7 = White; 8 = Multiracial or Biracial; 9 = Something else fits better; 10 = Prefer not to answer). The demographics of race and ethnicity were collapsed into a single question following the recommendations provide by Hughes et al. (2016) to mitigate confusion caused from older categorical constructions.
- Age (Categorical; **age**): This variable describes the approximate age of each study participants as they self-identify across eight categories (1 = 13 – 17 years old; 2 = 18 – 24 years old; 3 = 25 – 35 years old; 4 = 36 – 45 years old; 5 = 46 – 55 years old; 6 = 56 – 65 years old; 7 = 66 years old or older; 8 = Prefer not to answer).
- Gender Identity (Categorical; **genderx**): This variable was constructed by recoding and combining responses from two gender-based demographic questions (See Table 3) utilizing an adapted "two-step approach" described by The GenIUSS Group (2014). The **genderx** variable describes the gender identity of each study participant across five categories (1 = Transgender; 2 = Woman; 3 = Man; 4 = Something else fits better; 5 = Prefer not to answer). From the first question, the variable **gender_q1** was recoded to classify respondents into the previously defined groups (1 = Agender, Intersex, Non-Binary or Genderqueer, and Two-Spirit; 2 = Woman; 3 = Man; 4 = Something else fits better; 5 = Prefer not to answer). For the second question, "Are you transgender?", the variable **gender_q2** kept its original coding scheme (1 = Yes; 2 = No; 3 = Prefer not to answer). The variable **genderx** was then constructed by grouping the responses from both questions using the following if-then commands: if **gender_q1** or **gender_q2** = 1, then **genderx** = 1; if **gender_q1** = 2, then **genderx** = 2; if **gender_q1** = 3, then **genderx** = 3; if **gender_q1** = 4, then **genderx** = 4; if **gender_q1** = 5 or **gender_q2** = 3, then **genderx** = 5.

Question	Responses	Variable
How would you describe your gender identity?	a. Agender b. Woman c. Intersex d. Man e. Non-Binary or Genderqueer f. Two-Spirit g. Something else fits better h. Prefer not to answer	**gender_q1**
Question	**Responses**	**Variable**
Are you Transgender?	a. Yes b. No c. Prefer not to answer	**gender_q2**

Table 3 - Two-Step Gender Identity Questions as part of the Demographics Survey

- Sexual Orientation (Categorical; **sexualityx**): This variable was constructed by recoding responses to a survey question prompting participants describe the sexual orientation. The **sexualityx** variable describes the sexual orientation of each study participant across four categories (1 = LGBTQ+; 2 = Heterosexual; 3 = Something else fits better; 4 = Prefer not to answer). As part of the Demographics Survey, all respondents were asked to respond to the following question "How would you describe your sexual orientation?". Responses to this question defined the variable **sexuality** (1 = Asexual; 2 = Bisexual, 3 = Gay or Lesbian; 4 = Heterosexual or Straight; 5 = Pansexual; 6 = Queer; 7 = Two-Spirit; 8 = Something else fits better; 9 = Prefer not to answer). The variable **sexualityx** was then constructed by recoding responses from the **sexuality** variable using the following if-then commands: if **sexuality** = 1, then **sexualityx** = 1; if **sexuality** = 2, then **sexualityx** = 1; if **sexuality** = 3, then **sexualityx** = 1; if **sexuality** = 4, then **sexualityx** = 1; if **sexuality** = 5, then **sexualityx** = 1; if **sexuality** = 6, then **sexualityx** = 1; if **sexuality** = 7, then **sexualityx** = 1; if **sexuality** = 8, then **sexualityx** = 3; if **sexuality** = 9, then **sexualityx** = 4.
- Disability Status (Categorical; **ability**): This variable provides each study participants the opportunity to disclose if they self-identify as disabled utilizing a three possible categorical response (1 = Yes; 2 = No; 3 = Prefer not to answer).
- Strata Membership (Categorical; **strata**) This variable will be constructed to delineate which strata each study participant is a member of across three categories (1 = Youth; 2 = Community Member; 3 = SNAHC Staff). The variable **strata** will then be constructed by grouping the responses from the **employee** and **community_position** variables using the following if-then commands: if **community_position** = 1, then **strata** = 1; if **community_position** = 2, 3, or 4 and **employee** = 2, then **strata** = 2; if **employee** = 1, then **strata** = 3; if **community_position** = 9 or 10, or **employee** = 3, then **strata** = 9.

Native American Mental Health and Culture

This thematic domain was constructed from responses to the following three questions:

Q1: What are the primary obstacles to efforts addressing Native youth suicide prevention?

Q2: What do you think is the overall feeling regarding suicide in the Sacramento Native community?

Q3: If you had a friend or family member that you think is at risk for suicide or struggling with depression, what would you do?

These questions replicated the process described by AIHFS (2018) to illuminate the cultural construction of suicide as a social problem. Respondents were prompted to describe their cultural understandings of Native American mental health to provide insight on the key features relevant for designing effective prevention efforts. This series of questions guided inquiry to uncover the unique cultural dimensions that inform the community's conceptualization of suicide, thereby identifying key elements that are essential for the development of culturally relevant and effective suicide prevention strategies. These questions were integrated as the first

part of the Youth and Community Member Interview Protocol. Responses from youth and community members were collected during the data collection process.

Implementation of Culture-Based Screeners

This thematic domain was constructed from responses to the following three questions:
Q1: Where would you like to see a culture-based suicide screener used?
Q2: How would you like to see a culture-based suicide screener used or implemented?
Q3: What barriers do you foresee in doing this kind of suicide screening work?

These questions aimed to further understand the cultural conceptions of suicide including what a culture-based suicide screener should entail and how to best implement prevention efforts. Respondents were prompted to articulate their views on the ideal contexts and modalities for the application of a culture-based risk assessment tool, including potential settings, responsible parties, and implementation strategies. Furthermore, this inquiry sought to uncover any perceived barriers to the successful adoption and execution of culture-based suicide screening practices. By exploring these dimensions, the study aimed to uncover nuanced understandings of how a culture-based approach to suicide risk assessment can be most effectively realized within the Sacramento Native American community. This includes identifying the settings where such a tool would be most beneficial, understanding the community's preferences for its application, and anticipating any cultural, logistical, or systemic challenges that might hinder its implementation. Responses from participants in all three strata were collected. These questions defined the second part of the Youth and Community Member Interview Protocol, and the first part of the SNAHC Staff Interview Protocol.

Procedure

Data Collection

All data for this research study was collected virtually using the Qualtrics and Zoom platforms. Demographic data was collected from all participants using the Demographics Survey which was administered digitally using the Qualtrics survey platform. Additionally, semi-structured interviews were conducted by the researcher to gather qualitative data from each study participant. All interviews were conducted virtually via the Zoom platform and guided by either the Youth and Community Member Interview Protocol or the SNAHC Staff Interview Protocol depending on the participant's stratum membership. An audio recording of the interview was captured and saved using Zoom’s recording functions. The audio recordings from each interview were then manually transcribed by the researcher forming a collection of transcribed text documents.

Text Corpus Construction

The collection of text documents was then compiled and organized into a comprehensive dataset. Individual rows in the dataset were organized to represent each participant in the study. First, the columns of the dataset were structured to represent the responses of each participant organizing key variables that delineate respondents' strata and the demographic variables as collected from the Demographics Survey. Next, multiple columns were added to the dataset to systematically organize the transcribed text data gathered from participant interviews reflecting the structure of the study's thematic domains.

A column, labeled '**all**', was dedicated to aggregating the entirety of text data obtained from each participant's interview offering a comprehensive view of all the collected responses. To align with the study's thematic analysis, additional columns—labeled '**t1**' and '**t2**'—were added. The '**t1**' column specifically housed text data related to the first thematic domain focusing on Native American Mental Health and Culture. Similarly, the '**t2**' column was added for responses that illuminated the second thematic domain focusing on the Implementation of Culture-Based Screeners. This structured aggregation of text data facilitated a targeted analysis of responses within each thematic domain. Encapsulating the text corpus, the completed dataset was then imported into the Python statistical software. This prepared the text corpus for further processing with the next step involving text processing which refines the text data into a format amenable to detailed computational analysis.

Text Preprocessing

To prepare the constructed dataset for analysis, text preprocessing further refined the dataset by transforming the raw text data into a format compatible with computational text analysis methods as described by Jurafsky and Martin (2021). This stage involved a systematic data cleaning process utilizing the spaCy natural language processing library. For text preprocessing, the raw text data associated with the study's three thematic domains—specifically, the data within the '**t1**' and '**t2**' columns— underwent two key transformations involving tokenization and stop word removal.

Initially, the process of tokenization dissected the long strings of raw text data into individual word units or tokens. Tokenization enables a granular analysis of the text data by breaking down complex, large bodies of text into singular word units to facilitate the identification of patterns, frequencies, and relationships among the words within the dataset (Honnibal et al., 2020). Subsequently, stop words were removed from the dataset. Stop words are commonly used words, phrases, and expressions— like, "oh," "um", "uh", etc. — used in conversation language that offer little value in the context of text analysis.

As outputs of this text preprocessing step, new variable columns were added into the dataset: '**t1_text_data**' and '**t2_text_data**'. These variables represent the processed text data for each thematic domain which have now been prepared for further analysis.

Analyses

Descriptive

To conduct descriptive analysis, the variables from the Demographics Survey were analyzed to present key characteristics of the study's sample. Descriptive analysis included generating a data table representing the frequencies and percentages based of the categorical data collected from the Demographics Survey. Of interest, identitarian characteristics concerning race (**race**), age (**age**), gender identity (**genderx**), sexual orientation (**sexualityx**), and disability status (**disability**) were assembled into one data table. All descriptive analysis was conducted utilizing the Stata SE 17 statistical software.

Exploratory Data Analysis

To begin facilitating analysis of the text data, exploratory data analysis was conducted on the preprocessed text data across two key processes: 1) identify n-grams (specifically, bi-grams or two-word key phrases) to gauge the prominence of specific terms within the corpus; and 2) generate ScatterText visualizations to discern patterns, trends, and relationships within the text

data. Explorative data analysis was facilitated in a serialized process across the study's two thematic domains and the corresponding strata that structured the text corpus. This methodological approach was selected to provide a standardized, time effective, and easily replicable analysis of the text data to begin quantifying linguistic patterns and uncovering the implicit connections between concepts expressed by participants. All analysis was conducted using the Python statistical program.

N-Grams. For exploratory data analysis, n-grams served to parse and illuminate the structured nature of language used within a text corpus. N-grams provide insight into the common patterns of word usage and their syntactic structures to identify recurring phrases, terminologies, and themes that characterize the discourse on a particular topic. For this study, n-gram analysis was conducted with a specific focus on generating lists of bi-grams (two-word n-grams) across different thematic domains and study stratum. This approach was chosen to elucidate the key word phrases and concepts used by the participants as they provided responses in the context of a specific thematic domain.

The first research question asked: What are the differences between how suicide is conceptualized by youth and adult community members? To begin answering this question, n-gram analysis identified the top five bi-grams from the responses given participants in the youth stratum for the Native American Mental Health and Culture thematic domain. Additional analysis identified the top five bi-grams from the responses given participants in the community stratum. Comparison between the two lists were then made to identify differences between the two groups.

The second research question asked: What are the differences between the most important strategies for preventing suicide as described by youth and adult community members when compared to SNAHC Staff? To begin answering this question, text data from both the youth and community member strata were combined and analyzed together. This approach facilitated a concise comparison between the distinct perspectives of the Native American or Indigenous-identified study participants with those representing professional roles associated with the health center. N-gram analysis identified the top five bi-grams from the responses given by community members (both youth and adults) for the Implementation of a Culture-Based Suicide Screener thematic domain. Additional analysis identified the top five bi-grams from the responses given by participants in the SNAHC staff stratum. Comparison between the two lists were then made to identify differences between the two groups.

ScatterText Visualization. Next, ScatterText visualizations were generated to provide a graphical representation of the text data in accordance with the study's research questions. ScatterText analysis facilitates a nuanced exploration of how specific terms and phrases are uniquely or commonly used across the various stratum, youth, community members, and SNAHC staff, providing a visual mapping of the linguistic landscape. This method allows for the direct comparison of language use between the distinct participant strata to highlight differences and similarities in the context of Native American Mental Health and Culture and the Implementation of Culture-Based Screeners.

The first research question asked: What are the differences between how suicide is conceptualized by youth and adult community members? To begin answering this question, a ScatterText visualization was generated analyzing all the text data from the Native American Mental Health and Culture thematic domain comparing responses from youth and adult community members. The visualization graphically mapped the linguistic patterns and word

usage of respondents with words spoken by adult community members positioned on the x-axis, and words spoken by youth charted on the y-axis.

The second research question asked: What are the differences between the most important strategies for preventing suicide as described by youth and adult community members when compared to SNAHC Staff? To begin answering this question, a ScatterText visualization was generated analyzing all the text data from the Implementation of a Culture-Based Suicide Screener thematic domain comparing responses from community members (both youth and adults) and SNAHC staff member. Again, text data from the youth and community member stratum were merged and analyzed together to streamline a succinct comparison between community members (both youth and adults) and SNAHC staff member allowing for a more concise comparison between the distinct perspectives of the Native American or Indigenous-identified study participants with those representing professional roles associated with the health center. The visualization graphically mapped the word usage of respondents with words spoken by SNAHC staff on the x-axis, and words spoken by community members (both youth and adults) positioned on the y-axis.

Computational Text Analysis

After exploratory data analysis, computational text analysis was used to facilitate a deeper analysis in line with both research requestions. This study utilized natural language processing to analyze patterns and themes in the language used by participants from the transcribed interviews to provide insights into their perceptions surrounding Native American youth suicide and its prevention within the Sacramento Native American community. The research process methodologically collected, transcribed and analyzed interview data through a text-as-data approach to elicit sentiments, meanings, and emergent themes (Grimmer et al., 2022). Model specification involved two parts: 1) Sentiment analysis to assess polarity and subjectivity scores; and 2) Latent Dirichlet Allocation (LDA) topic modeling to identify emerging themes across the different thematic domains.

Sentiment analysis provided insights into the emotional valence and the subjective opinions expressed in the text by quantifying the overall sentiment as positive, negative, or neutral further gauging the gauging the intensity of the language used by respondents. LDA topic modeling then systematically uncovered latent themes by categorizing the corpus into distinct topics based on word co-occurrence patterns to reveal the predominant topics discussed within the interviews by respondents. In conjunction with this study's research questions, the specific models were deployed in a tiered process across the study's two thematic domains and the corresponding strata that structured the text corpus. Natural language processing methods were selected to provide a standardized, time effective, and easily replicable analysis of the text data to guide a uniform inquiry on the cultural perceptions regarding suicide and its prevention for Native American youth.

Sentiment Analysis. Looking at both research questions, sentiment analysis was employed to calculate polarity and subjectivity scores for all respondents based upon their responses constructing the study's two thematic domains. This study employed the textblob natural language processing library to evaluate the emotional tone and subjective perspectives embedded within the text corpus (Loria, 2020). Sentiment analysis quantifies polarity and subjectivity scores on a spectrum from negative to positive represented by a numerical value ranging from -1.00 to 1.00, with a value of 0.00 representing a neutral score.

Polarity scores measure the emotional valence of the text to indicate whether the expressed sentiment leans towards a positive, negative, or neutral outlook. For example, if a respondent used phrases like: “I love this,” or “this is amazing,” their polarity score would equate with a positive number. Alternatively, if a respondent used expressions like: “I hate this,” or “this is awful,” their polarity score would equate with a negative number. Subjectivity scores reveal the extent of personal bias or subjective judgment present in the responses from participants. For example, if a respondent exclaimed: “I love Native American culture,” their subjectivity score would equate with a positive number. Alternatively, if a respondent explained: “the PHQ-9 is an evidence-based practice,” their subjectivity score would equate with a negative number. The score here is equated with a negative value noting how the statement is grounded in factual information, rather than personal belief or a subjective interpretation. The dual-faceted nature of sentiment analysis illuminated the affective and perceptual dimensions of the respondents' conceptions regarding suicide prevention within the Native American youth community. Sentiment analysis, here, can provide a granular evaluation of the emotional and subjective nature of the language used by respondents to further illuminate the complex emotional and subjective viewpoints surrounding the study’s thematic domains.

To calculate polarity and subjectivity scores, the preprocessed text data associated with the study’s two thematic domains— specifically, the data within the '**t1_text_data**', and ‘**t2_text_data**' columns— was algorithmically analyzed using a standard Python coding pipeline and the textblob natural language processing processing library. This process is underpinned by a mathematical approach where for each word w_i spoken by a respondent, a polarity score $P(w_i)$ was assigned based on a predefined dictionary of words from the textblob natural language processing library. For each individual respondent, an overall polarity score, $P(D)$, was calculated by averaging the polarity scores of all the words spoken within a particular thematic domain where n was the number of words in a thematic domain D:

$$P(D) = \frac{1}{n}\sum_{j=1}^{n} P(w_i)$$

Similarly, each word w_i spoken by a respondent was assigned a subjectivity score $S(w_i)$ by the same textblob natural language processing library. An overall subjectivity score for each individual respondent, $S(D)$, was calculated by averaging the subjectivity scores of all the words spoken within a particular thematic domain where n was the number of words in a thematic domain D:

$$S(D) = \frac{1}{n}\sum_{j=1}^{n} S(w_i)$$

As outputs, new variable columns were added into the dataset: '**t1_polarity**’, '**t1_subjectivity**’, '**t2_polarity**', and ‘**t2_subjectivity**'. These variables represent the polarity and subjectivity scores for each respondent based on their responses constructing each thematic domain, as applicable. Once individual polarity and subjectivity scores were calculated, additional analyses using Wilcoxon rank-sum tests were conducted to evaluate statistical differences in the scores for the different strata across both thematic domains noting the study’s small sample size and non-normal distribution of data. To answer the first research question comparing youth and adult community members, a Wilcoxon rank-sum test was employed to compare the distribution of polarity scores of the responses given by respondents for the Native American Mental Health and Culture thematic domain. An additional

Wilcoxon rank-sum test was utilized to compare the distribution of subjectivity scores of the response between the sample strata of youth and adult community members. For the second research question, a Wilcoxon rank-sum test was utilized to compare the distribution of polarity scores of the responses given by community members (both youth and adults) and SNAHC staff members within the Implementation of a Culture-Based Suicide Screener thematic domain. Additionally, a Wilcoxon rank-sum test was employed to compare the distribution of subjectivity scores between the sample strata of community members (both youth and adults) and SNAHC staff members.

LDA Topic Modeling. Guided by both research questions, LDA topic modeling was used to identify latent themes within the text corpus by clustering words into topics and sorting documents based on these topics. The scikit-learn machine learning algorithm was used to iteratively analyze all the text data constructing each thematic domain to assign individual words to a topic, with the likelihood of topic assignment based on, both the prevalence of the topic across all thematic domains and the prevalence of the word within the topics. LDA topic modeling, as a probabilistic model, operates three levels of Bayesian hierarchy where each document is represented as a random mixture of topics, each topic is a distribution of words, and each word's topic assignment is drawn from a document-specific topic distribution.

Drawing upon (Blei et al., 2003), LDA topic modeling can be mathematically described by the following process for each individual respondent's transcribed interview document d in a particular thematic domain D:

1. Choose $N_d \sim Poisson(\xi)$, where N_d is the number of words in an interview document d, and ξ is a parameter that determines the average length of the interview document.
2. Choose $\theta_d \sim Dirichlet(\alpha)$, where θ_d is the topic distribution for an interview document d, and α is a parameter that controls the distribution's shape. Here, a larger α value represents a larger mixture of topics in the interview documents.
3. For each of the N_d, words $w_{d,n}$:
    a. Choose a topic $z_{d,n} \sim Multinomial(\theta_d)$, where $z_{d,n}$ is the topic assigned for the n-th word in the interview document d. In other words, for the n-th word in interview document d, a topic $z_{d,n}$ is selected based on a multinomial distribution governed by θ_d. This represents the distribution of the topics within an interview document d.
    b. Choose a word $w_{d,n} \sim Multinomial(\beta_{z_{d,n}})$, where $\beta_{z_{d,n}}$ is the word distribution for topic $z_{d,n}$, and β is a matrix of word probabilities for each topic. Similarly, for the n-th word in interview document d, a word $w_{d,n}$ is chosen based on a multinomial distribution determined by $\beta_{z_{d,n}}$. This is the specific word probability distribution for the topic $z_{d,n}$, where β is the matrix that contains the word probabilities for all the topics.

For each thematic domain, LDA is used to calculate three things: 1) the hidden structure of the topics z; 2) the document-specific distribution of these topics θ; and 3) the topic-specific distribution of individual words β. For all the interview documents in a particular thematic domain D, the following equation was used to calculate the likelihood of the data given the model parameters α and β:

$$p(D|\alpha,\beta) = \prod_{d=1}^{M} \int p(\theta_d|\alpha) \left(\prod_{n=1}^{N_d} \sum_{z_{d,n}} p(z_{d,n}|\theta_d) p(w_{d,n}|z_{d,n},\beta) \right) d\theta_d$$

To execute the LDA topic modeling, the preprocessed text data associated with the study's two thematic domains— specifically, the data within the '**`t1_text_data`**', and '**`t2_text_data`**' columns— was algorithmically analyzed using a standard Python coding pipeline and the scikit-learn machine learning algorithm. To answer the first research question concerning Native American Mental Health and Culture, three lists of key words were generated as outputs with each representing a different latent theme present in the text corpus. Each list of key words is calculated by evaluating the distribution of word frequencies and their co-occurrence patterns within the thematic domain, thereby identifying the most statistically significant terms that characterize each theme. To answer the second research question on the Implementation of a Culture-Based Suicide Screener, an additional three lists of key words were generated as outputs.

Chapter 4: Results

Descriptive Analysis

The descriptive analysis presented the distribution of the study's sample across various categorical variable demonstrating a breadth of the diversity among the participants (See Table 2). The sample was strategically segmented into three distinct groups: Youth, Community Members, and SNAHC Staff. Each strata represented approximately a third of the sample at 33.33%, 29.63%, and 37.04%, for each group respectively. This stratification ensured a comprehensive exploration of the perspectives across different positionalities to deliberately integrate youth voices, community member insights, and the professional viewpoints of SNAHC staff members.

Categorical Variable		Categories for Categorical Variables	n (%)
1	Race	American Indian or Alaska Native	14 (51.85%)
		Asian or Asian American	1 (3.70%)
		Black or African American	2 (7.41%)
		Latina, Latino, or Latinx	4 (14.81%)
		Middle Eastern or North African	0 (0.00%)
		Native Hawaiian or Pacific Islander	3 (11.11%)
		White	1 (3.70%)
		Multiracial or Biracial	2 (7.41%)
		Something else fits better	0 (0.00%)
		Prefer not to answer	0 (0.00%)
2	Age	18 - 25 years old	9 (33.33%)
		26 - 35 years old	7 (25.93%)
		36 - 45 years old	2 (7.41%)
		46 - 55 years old	3 (11.11%)
		56 - 65 years old	4 (14.81%)
		66 years old or older	2 (7.41%)
		Prefer not to answer	0 (0.00%)
3	Gender	Transgender	5 (18.52%)
		Woman	10 (37.04%)
		Man	10 (37.04%)
		Something else fits better	2 (7.41%)
		Prefer not to answer	0 (0.00%)
4	Sexual Orientation	LGBTQ+	14 (51.85%)
		Heterosexual	13 (48.15%)
		Something else fits better	0 (0.00%)
		Prefer not to answer	0 (0.00%)
5	Disability Status	Yes	8 (29.63%)
		No = 0	19 (70.37%)
		Prefer not to answer	0 (0.00%)
6	Strata	Youth	9 (33.33%)
		Community Member	8 (29.63%)
		SNAHC Staff	10 (37.04%)

Table 4 – Results for Descriptive Analysis

For racial demographics, the participants predominantly identified as American Indian or Alaska Native accounting for over half of the sample at 51.85%. Other racial categories were less represented, with Asian or Asian American and White individuals each making up 3.70% of the sample, and Black or African American participants constituting 7.41%. Notably, there were no respondents who identified as Middle Eastern or North African, and none opted out of answering the racial identification question. Age demographics revealed a concentration on younger participants, with those aged 18 - 25 years and 26 - 35 years forming 33.33% and 25.93% of the sample, respectively. This skew towards younger individuals aligned with the study's emphasis on capturing the perspectives of youth alongside adult community members.

Older age groups were less represented, with the least number of participants being 66 years or older. Gender distribution within the sample was relatively balanced between women and men, each comprising 37.04% of the participants. Additionally, 18.52% of respondents identified as transgender, and 7.41% reported a gender that "fits better." The study's sample regarding sexual orientation was nearly evenly split between LGBTQ+ individuals and heterosexual participants, with a slight majority (51.85%) identifying as LGBTQ+. Regarding disability status, a majority (70.37%) of participants did not identify as having a disability, while 29.63% did.

In summary, the sample's composition reflected a deliberate effort to encompass a broad spectrum of identities and experiences, with a particular focus on the representation of Native American people. The study's demographic diversity, especially in terms of sexual orientation and gender, enriched the analysis of the perceptions of suicide and risk assessment tools by providing a multifaceted view that captures a wide range of cultural, social, and individual factors influencing mental health. This diversity ensured that the findings derived from the study are reflective of the community's complex realities.

N-Grams

Native American Mental Health and Culture

N-gram analysis involved generating two lists of bi-grams displaying the top two-word key phrases used by youth and adult community members, respectively (See Table 5; See Table 6). Examining Native American Mental Health and Culture, these lists comparatively highlighted the specific language and terminology prevalent among the two groups to provide insights into the shared and divergent perspectives on mental health issues within the Sacramento Native American community. The examination of these bi-grams allowed for a nuanced understanding of how cultural concepts, mental health topics, and community narratives are linguistically constructed and prioritized by the members of the different stratum— a core objective of the first research question which sought to identify the key differences in the conceptualization of suicide between youth and adult community members.

	Phrase	Frequency
1	Native American	46
2	Mental Health	38
3	Family Member	34
4	Risk Suicide	31
5	Friend Family	30

Table 5 – Results for N-Gram Analysis of Youth Participant Responses on Thematic Domain 1

	Phrase	Frequency
1	Mental Health	30
2	Family Member	27
3	Native American	26
4	Suicide Prevention	25
5	Risk Suicide	24

Table 6 – Results for N-Gram Analysis of Community Member Participant Responses on Thematic Domain 1

For youth, n-gram analysis revealed the following top five phrases: “Native American” with 46 occurrences; “mental health” with 38 occurrences; “family member” with 34 occurrences; “risk suicide” with 31 occurrences; and “friend family” with 30 occurrences. For adult community members, n-gram analysis revealed the following top five phrases: “mental health” with 30 occurrences; “family member” with 27 occurrences; “Native American” with 26 occurrences; “suicide prevention” with 25 occurrences; and “risk suicide” with 24 occurrences. Comparing youth and adult responses, the predominant word choices were very similar with a slight divergence in the rank order of the key phrases. One notable difference involves how youth in the responses describing Native American mental health and culture mentioned the phrase “family member” at a higher frequency compared to adult community members. This trend is further highlighted with the phrase “friend family,” representing friends and family, emerging as an additional key phrase for youth participants that is not prominent among adult community members.

The first research question asked: What are the differences between how suicide is conceptualized by youth and adult community members? N-gram analysis highlights a divergence in emerging themes concerning Native American mental health and culture, particularly underlining how youth perceive effective prevention efforts with the importance of social and emotional relationships. The frequent mention of "family member" and the unique appearance of "friend family" among youth responses highlight how personal relationships emerge as an important feature of effective suicide prevention efforts not prominently held by adult community members. This emphasis on personal relationships and social and emotional support systems among youth indicates a potentially critical area for optimizing targeted suicide

prevention strategies within the community. It suggests that programs and policies aimed at enhancing mental health outcomes for Native American youth might benefit from incorporating elements that strengthen and leverage these support networks. Furthermore, the slight variations in the prioritization of key phrases between youth and adults hint at generational differences in the perception of mental health challenges and the strategies deemed most effective for addressing them.

Implementation of Culture-Based Screeners

Examining the Implementation of Culture-Based Screeners, additional n-gram analysis generated two lists of bi-grams displaying the top two-word key phrases used by community members (both youth and adult) and SNAHC staff members, respectively (See Table 7; See Table 8). N-grams analysis, here, brought into focus the unique language and terminology used by each group. This analysis identified the shared and divergent perspectives on the practicalities, challenges, and expectations surrounding the adoption and effectiveness of culture-based suicide risk assessment tools within the Sacramento Native American community. Responding to the second research question, n-gram analysis was implemented to identify the key differences in the perceptions of effective suicide prevention efforts held by community members when contrasted with SNAHC staff members.

	Phrase	Frequency
1	Young People	46
2	Culture Screener	38
3	Community Members	34
4	Think Best	31
5	Social Media	30

Table 7 - Results for N-Gram Analysis of Youth and Adult Community Member Participant Responses on Thematic Domain 2

	Phrase	Frequency
1	Native American	36
2	Culture Screener	35
3	Young People	34
4	Mental Health	33
5	Making Sure	20

Table 8 – Results for N-Gram Analysis of SNAHC Staff Member Participant Responses on Thematic Domain 2

For youth and adult community members, n-gram analysis unveiled the following top five phrases: “young people” with 46 occurrences; “culture screener” with 38 occurrences; “community members” with 34 occurrences; “think best” with 31 occurrences; and “social media” with 30 occurrences. For SNAHC staff members, n-gram analysis revealed the following top five phrases: “Native American” with 36 occurrences; “culture screener” with 35 occurrences; “young people” with 34 occurrences; “mental health” with 33 occurrences; and “make sure” with 20 occurrences. When contrasting the responses from staff and community members, word choice was notably similar, although minor differences in the prioritization and frequency of certain key phrases do emerge. One observed distinction includes the emphasis on “social media” by youth and adult community members; a term absent from the top phrases used by SNAHC staff.

The second research question asked: What are the differences between the most important strategies for preventing suicide as described by youth and adult community members when compared to SNAHC Staff? The variation in preferential word choice underscores a role-based divergence in the perceived platforms deemed effective for suicide prevention outreach and engagement between community members and SNAHC staff. The mention of “social media” proposes digital platforms as vital tools in implementing suicide risk assessment and mental healthcare in a community or cultural context. In contrast, the absence of this key phrase in the word choice by staff members may reflect more standard, procedural or assurance-driven approach to implementing risk assessments and mental healthcare. The n-gram analysis reveals nuanced differences in the perspectives on the methods and platforms for effectively engaging in suicide prevention efforts along community and professional orientations.

ScatterText Visualization

Native American Mental Health and Culture

A ScatterText visualization was generated to analyze all the text data from the Native American Mental Health and Culture thematic domain (See Figure 2). Responding to the first research question, the visualization contrasted the word usage and responses from youth and adult community members. The visualization charted the words spoken by adult community members positioned on the x-axis, and the words spoken by youth situated on the y-axis. This ScatterText visualization provided an exploration of the commonalities and divergences in the vocabulary used by the two groups to reveal the nuanced ways different segments of the community articulated their experiences and perceptions regarding mental health within a cultural context. Analysis of the ScatterText visualization was guided by inquiry from the first research question which seeks to identify the key differences in the conceptualization of suicide between youth and adult community members.

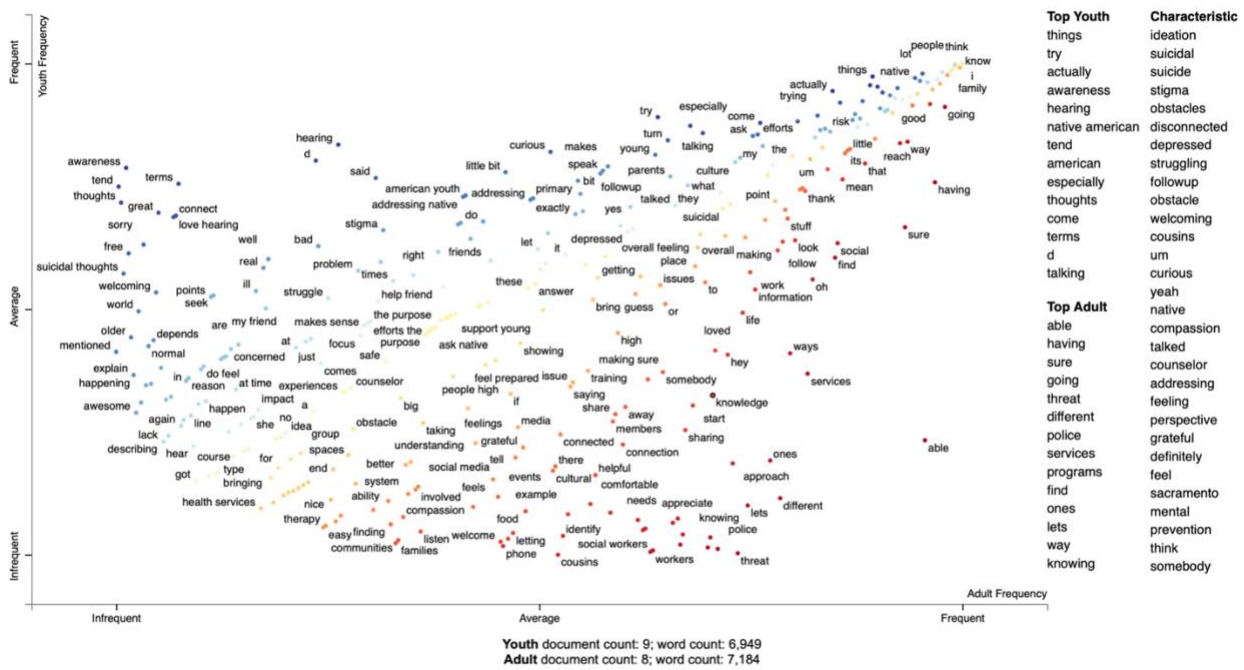


Figure 2 – ScatterText Visualization for Thematic Domain 1

The analysis of the ScatterText visualization revealed a distinct narrative style among all the participants from the two groups as characterized by the use of the first-person pronoun "I" in conjunction with verbs like "think" and "know." This linguistic pattern, located in the top right corner of the ScatterText graph, underscores a personal and subjective approach to discussing Native American mental health and culture. Common word choices shared across all respondents further highlight important concepts of relationships and identity with the use of the words “family,” “people,” and “Native.” This underscores the cultural value of community relationships ingrained in the discussions about mental health within a Native American context.

On the y-axis, the word choices of youth distinctly emphasized prevention and positive coping mechanisms within mental health discourse. The is evidenced by the frequent appearance of terms such as “awareness,” “connect,” “love hearing,” and “welcoming.” The linguistic pattern used by youth illustrates a proactive and prevention-focused stance towards mental health that centers on awareness, connection, and positive engagement as key strategies. This suggests that youth participants are not only aware of the importance of mental health but also advocate for constructive engagement and support systems as essential components of effective mental health care.

Conversely, the x-axis reveals that adult community members often referenced the consequences of mental health challenges and the systemic responses to them. This is evidenced by the use of words like “threat,” “different,” “police,” and “social workers.” This linguistic pattern points to a concern with the external and, often, institutional reactions to mental health crisis. The word choices used by adult community members reflects a perspective that is acutely aware of the complexities and challenges involved with navigating the mental health system in terms of both, intervention and treatment.

Responding to the first research question comparing the two groups, the bifurcation in the linguistic patterns between youth and adults not only highlights thematically differing priorities and concerns, but also underscores the multifaceted nature of mental health discourse within the Sacramento Native American community. Analysis of the ScatterText visualization suggests a generational divide in the perceptions regarding mental health, with youth leaning towards prevention and positive engagement, while adults express caution and concern over the systemic and often punitive responses to mental health crises. These divergent perspectives provide insight on the needs and preferences of both youth and adult community members in developing comprehensive, culturally relevant mental health interventions.

Implementation of Culture-Based Screeners

A ScatterText visualization was generated to analyze all the text data from the Implementation of Culture-Based Screener thematic domain (See Figure 3). The visualization charted the word usage of SNAHC staff members positioned on the x-axis, and words spoken by community members (both youth and adults) situated on the y-axis. This ScatterText visualization provided a survey of the linguistic patterns used by the two groups to articulate their perspectives, concerns, and recommendations regarding the implementation of culture-based suicide risk assessment tools. By mapping these patterns, the visualization highlighted the distinct and overlapping word choices to reveal the nuanced insights into how each group perceives the role, effectiveness, and potential challenges associated with integrating culture-based approaches into suicide prevention efforts. This analysis was guided by the second research question to identify the key differences in the perceptions of effective suicide prevention efforts held by community members when contrasted with SNAHC staff members.

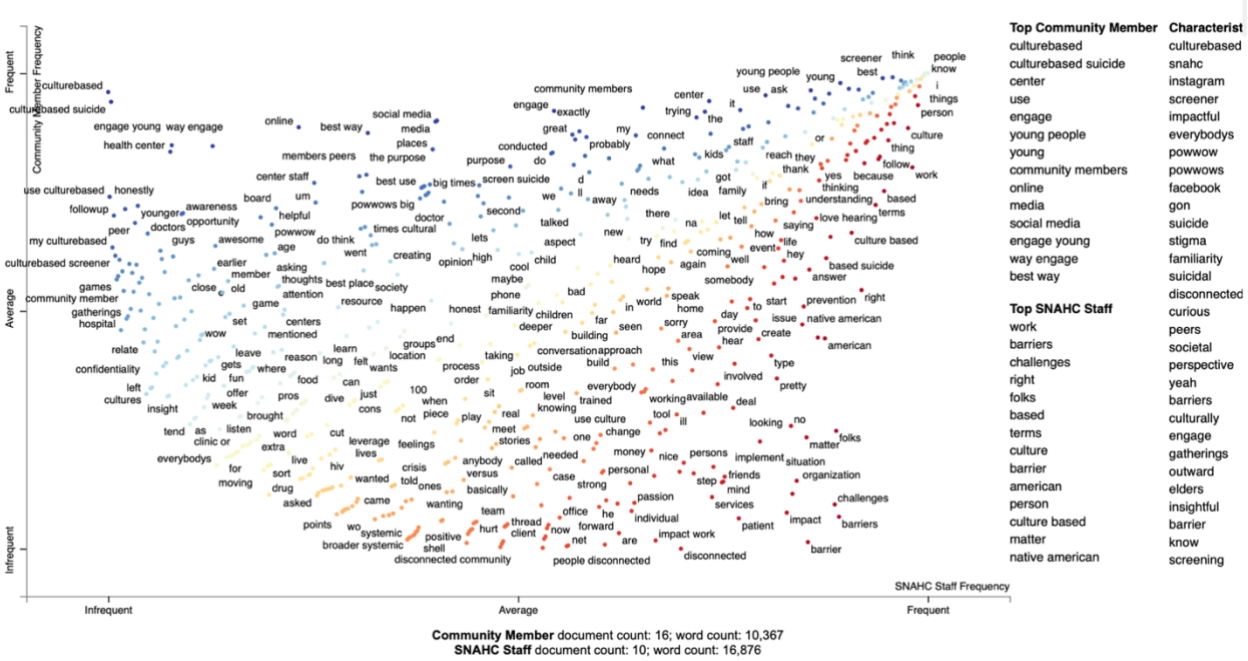


Figure 3 – ScatterText Visualization for Thematic Domain 2

The analysis of the ScatterText visualization once more illustrates a distinct narrative style held by all the study participants from the two groups as marked by the prevalent use of the first-person pronoun "I" alongside verbs such as "think" and "know." This linguistic pattern, consistent with earlier findings, highlights a deeply personal and subjective approach to the discourse on the implementation of culture-based suicide risk assessment tools. The frequent use of words like “people,” “things,” and “culture” across all respondents reaffirms an emphasis on centering community and cultural values in the discussions about mental health and suicide prevention within a Native American context.

On the y-axis, both youth and adult community members distinctly advocated for culture-based methods in suicide prevention, as evidenced by the reoccurring mention of phrases such as: “culture-based,” “use culture-based,” “my culture-based,” and “culture-based screener.” This linguistic pattern highlights a strong consensus among community members on the importance of integrating cultural components and values into suicide prevention strategies. This underscores the perceived effectiveness of culture-based approaches in addressing mental health challenges within the Sacramento Native American community.

Furthermore, a theme emerges on a potential implementation strategy regarding social media and online methods. This is seen with the use and clustering of the words: “best way,” “engage young,” “social media,” and “online” by community members. This linguist pattern signifies a consensus on the importance of leveraging modern digital approaches to engage a younger demographic of the community in effective and relevant ways. This trend underscores the recognition of digital platforms as a potential avenue to establish and maintain personal relationships and social and emotional support systems in the context of culturally relevant mental healthcare. More specifically, this linguistic pattern reflects a perspective that to effectively engage Native American youth, strategies must evolve to incorporate the virtual spaces where this demographic gathers and interacts.

Conversely, the x-axis reveals that SNAHC staff members focus on the pragmatic aspects of deploying suicide risk assessment tools. The word choice prevalent among SNAHC staff members articulated concerns around structural, organizational, and service-related obstacles. This is evidenced using words like: “barriers,” “challenges,” “organizational,” “patient,” “services,” and “disconnected.” This linguist pattern highlights a critical awareness of the complexities inherent to the implementation process of suicide prevention efforts. Among staff members, there is an acute recognition of the multifaceted nature of effectively integrating cultural components within existing healthcare frameworks. This perception emphasizes the need for systemic solutions to address these challenges.

Responding to the second research question comparing the two groups, the divergence in linguistic patterns between community members and staff highlights a complex interplay between the ideal cultural conceptions and the practical realities related to the effective implementation of culture-based suicide prevention strategies. While SNAHC staff members contend with the challenges of integrating cultural components within the existing healthcare infrastructure, community members name the potential of social media and online platforms as innovative channels for engagement and support. This contrast not only reflects differing priorities but also points to a broader dialogue on how to reconcile these perspectives to enhance the efficacy of suicide prevention efforts in a Native American cultural context.

Sentiment Analysis

Native American Mental Health and Culture

Regarding perspectives on Native American mental health and culture, all respondents from the youth and adult community stratum received a polarity score and subjectivity score based on their individual responses. Sentiment analysis compared these scores to respond to the first research question by identifying potential key differences in the conceptualizations of suicide held by youth when contrasted with adults. Descriptive statistical analyses were conducted to identify the minimum, maximum, and mean scores for both youth and adult community members. Additional analyses involved conducting Wilcoxon rank-sum tests to compare the distributions of polarity scores and subjectivity scores between the two groups. (See Table 9).

Variables		n	Min	Max	Mean	Standard Deviation	Adjusted Variance	z	p
t1_polarity									
	Youth	9	0.03	0.23	0.14	0.05	108.00	0.29	0.81
	Community Members	8	0.09	0.22	0.15	0.05			
t1_subjectivity									
	Youth	9	0.39	0.57	0.50	0.06	108.00	1.06	0.32
	Community Members	8	0.47	0.59	0.53	0.04			

Table 9 – Results for Sentiment Analysis of Thematic Domain 1

Responding to the first research question comparing youth and adult community members, all respondents spoke about Native American mental health and culture with a positive polarity profile. This is evidenced by positive values for the minimum and maximum polarity scores for both groups. Polarity analysis reveals that both youth and adult community members consistently express favorable and affirmative perspectives towards Native American mental health and culture. This positive uniformity in the polarity profile across the age demographics underscores a shared conceptual recognition of the strengths and potential culture-based approaches maintain for promoting health and healing.

Furthermore, all respondents spoke about Native American mental health and culture with a positive subjectivity profile. This is, again, evidenced by positive values for the minimum and maximum subjectivity scores for both groups. The positive subjectivity profile reveals a deeply personal and engaged stance towards Native American mental health and culture. Subjectivity analysis indicates that discussions around these topics are not only perceived positively but are also imbued with personal statements and emotional linguist patterns. This shared subjectivity profile illustrates a collective conceptualization of mental health rooted in personal experiences and cultural identity.

A Wilcoxon rank-sum test was conducted to compare the distribution of polarity scores of the responses given by respondents from the two groups. Analysis revealed that there was a not a significant difference in the distribution of polarity scores between youth and adults ($z = 0.29$, $p > 0.05$). An additional Wilcoxon rank-sum test was conducted to compare the distribution of mean subjectivity scores of the sample strata comparing youth and adult community members.

Analysis revealed that there was a not a significant difference in the distribution of subjectivity scores between youth and adults ($z = 1.06$, $p > 0.05$).

The two Wilcoxon rank-sum test reveal that, statistically, youth and adult community members share similar sentiment profiles in their discussions surrounding Native American mental health and culture. This analysis suggests a uniformity in the emotional and subjective perceptions on the conceptualization of suicide between youth and adult community members. Despite generational differences in experiences and perspectives, there exists a commonality in how both groups emotionally engage with and subjectively perceive mental health issues within the Sacramento Native American community.

Implementation of Culture-Based Screeners

The sentiment analysis examined both the polarity and subjectivity of the responses from community members (both youth and adults) and SNAHC staff members regarding their perspectives on culture-based suicide risk assessment tools. All respondents from the two groups received a polarity score and subjectivity score based on their individual word choices. Descriptive statistical analyses were conducted to identify and contrast the minimum, maximum, and mean scores for the community member and SNAHC staff member groups. Further statistical analyses involved conducting Wilcoxon rank-sum tests to compare the distributions of polarity scores and subjectivity scores between the two groups. (See Table 10).

Variables		n	Min	Max	Mean	Standard Deviation	Adjusted Variance	z	p
t2_polarity									
	Community Members	17	0.14	0.47	0.23	0.07	360.00	-3.27	<0.01
	SNAHC Staff Members	10	0.06	0.21	0.15	0.05			
t2_subjectivity									
	Community Members	17	0.39	0.59	0.49	0.03	360.00	2.42	<0.01
	SNAHC Staff Members	10	0.47	0.59	0.53	0.05			

Table 10 –Results for Sentiment Analysis of Thematic Domain 2

For the second research question, both community members and SNAHC staff members spoke about the implementation of culture-based suicide risk assessment tools with a positive polarity profile. This is evidenced by positive values for the minimum and maximum polarity scores for both groups. Polarity analysis reveals that there is a positive consensus regarding the potential benefits and effectiveness of implementing culture-based suicide risk assessment tools. This positive polarity profile illustrates a shared belief in the value of culture-based approaches to suicide prevention. These perceptions reflect a collective confidence in cultural methods to effectively address and mitigate suicide risk within the Sacramento Native American community.

Similar to previous findings, a positive subjectivity profile emerges among all respondents in their discussions about the implementation of culture-based suicide risk assessment tools. This is, again, evidenced by positive values for the minimum and maximum

subjectivity scores for both groups. The positive subjectivity profile reveals a personal engagement and connection to the concept of culture-based suicide risk assessment tools among all respondents. This engagement suggests that discussions around the implementation of these tools are personally significant involving emotional investment and a collective aspiration for culture-based mental health interventions. This shared subjectivity profile illustrates the community members' and healthcare providers' vested interest in leveraging cultural strengths and knowledge to enhance suicide prevention efforts.

A Wilcoxon rank-sum test was conducted to compare the distribution of polarity scores of the sample strata comparing community members and SNAHC staff members. Analysis revealed that there was a statistical difference in the distribution of polarity scores between the two groups ($z = -3.27$, $p < 0.01$). An additional Wilcoxon rank-sum test was conducted to compare the distribution of subjectivity scores of the sample strata comparing community members and SNAHC staff members. This analysis revealed that there was a statistical difference in the distribution subjectivity scores between community members and SNAHC staff members ($z = 2.42$, $p < 0.01$).

The Wilcoxon rank-sum tests highlight a divergence in the perspectives of community members and SNAHC staff members regarding the implementation of culture-based suicide risk assessment tools. The variance in polarity scores suggests that community members may hold a more varied emotional viewpoint on the role, effectiveness, and potential challenges associated with integrating culture-based approaches into suicide prevention efforts when compared to the more uniform perspectives of SNAHC staff members. Additionally, the variance in subjectivity scores between the two groups indicates a divergence in the level of personal investment and emotional engagement with the topic, despite differing opinions on the implementation strategies of the interventions, as earlier analysis revealed. This nuanced understanding provides valuable insight into the complex dynamics at play in the community's and healthcare providers' perceptions of suicide prevention efforts. It highlights the presence of perceptual gaps that may need to be bridged in order to develop suicide prevention efforts that are both culturally relevant and pragmatically viable.

LDA Topic Modeling

Native American Mental Health and Culture

LDA topic modeling analysis was applied to the text data from youth and adult community members to identify the latent themes in their responses discussing Native American mental health and culture. The distribution of word frequencies and their co-occurrence patterns within the responses from all respondents were analyzed by a probabilistic machine learning algorithm. To respond to the first research question, three lists of ten key words were generated to reveal the predominant themes and concepts regarding the preconceptions of mental health (See Table 11).

Native American Mental Health and Culture			
Topic	1	2	3
Title	Community Vales and Wholistic Wellbeing	Need for Enhanced Support and Connection	Practical Actions and Emotional Needs
Key Words	lot	lot	actually
	love	love	person
	person	person	able
	want	want	yeah
	yeah	yeah	like
	having	having	love
	trying	trying	things
	reach	reach	need
	resources	resources	want
	good	good	lot

Table 11 – Results for Latent Dirichlet Topic Modeling of Thematic Domain 1

Constructing the first topic, topic modeling analysis identified ten words as a cohesive cluster indicative of positive, relational, and social aspects of community connections. The key words were: 1) things, 2) need, 3) good, 4) social, 5) love, 6) person, 7) like, 8) thing, 9) way, and 10) having. Interpreting this topic involved examining the key words in conjunction with the thematic domain, the study's guiding theory, and previous findings. Titled Community Vales and Wholistic Wellbeing, this topic appears to focus on the fundamental needs and aspects of wellbeing that are social and emotional in nature with the use of words "social" and "love." The word "good" suggests a normative dimension—in other words, what is considered positive or desirable in the community. This could reflect elements of the Indigenous Wholistic Theory, which typically encompasses a broad view of health and wellbeing, including social and emotional domains. The references to the words "need" and "having" indicates how the expanded view of health and wellness in tandem with relational support systems are necessary in the community for suicide prevention.

The Community Vales and Wholistic Wellbeing topic focuses on positive, relational, and social aspects of community connections. It is illustrated by the responses from participants regarding their actions in how they would provide support to others. For instance, one respondent, a Yaqui, Latina woman, and a parent, exemplified the essence of this topic when discussing her approach to helping a friend or family member at risk for suicide. She stated:

> I think the first person that always comes to my mind, or who I always call first, is my mom just because I think she's wise, she's the strongest person I know. And she's my sounding board, you know, I can talk things through. Or she can tell me brutally honest and that's what I love. And I think she helps me if I am concerned, yes, and you know to act, I guess it's just someone to help guide me on what I'm feeling and what I'm thinking and to make sure I see it through. So again, it's having that other person, a family member

> or a loved one someone in the community. Just to know you're not alone because it is scary, especially if it's someone so close to you, that you're so concerned about.

Her narrative underscores the importance of community and social support networks in providing emotional and positive support, which are core values for the community in formulating suicide prevention efforts. From the quote, the key words “person” and “love” were used several times. The reliance on such strong personal connections not only reflects the community's emphasis on social and emotional wellbeing but also highlights the practical application of Indigenous Wholistic Theory in everyday life where relational support systems are seen as vital to maintaining holistic health.

For the second topic, topic modeling analysis revealed ten words as a clustered around a topic pertaining to the community’s need for more robust support systems and deeper interpersonal connections to navigate mental health challenges effectively. The words included: 1) lot, 2) love, 3) person, 4) want, 5) yeah, 6) having, 7) trying, 8) reach, 9) resources, and 10) good. This topic is titled Need for Enhanced Support and Connection. By using the words “trying,” “reach,” and “want,” this topic seems to emphasize community efforts and the desire for better support structures as seen by the word “resources.” There is a relationship here with personal connections as seen by the words “love,” and “person.” The repetition of the word “good” from Topic 1 suggests a continued focus on the positive or beneficial aspects of emotional and personal relationships. This topic contains a discussion about what is required to improve prevention efforts or access to mental healthcare. The cluster of words highlights a perspective on how these concepts are necessary for promoting culturally relevant care.

The Need for Enhanced Support and Connection topic underscores the community's call for more robust support systems and deeper interpersonal relationships to address mental health challenges effectively. This need is poignantly reflected in the following quote from a young Yaqui, Latina woman respondent who responded to a query about the primary obstacles in Native American youth suicide prevention. She explained:

> I think it's likely just that help isn't there, or that the help that is there isn't adequate, or just like the systems in place aren't designed to reach people that are Native American. So a lot of the times the treatment and even just like self-help types of resources just don't help and just aren't effective because it's not geared towards, you know, meeting people and their specific needs and culture and their experiences.

Her insights bring attention the critical gaps within existing support systems and available resources which are often not tailored to the unique cultural needs and experiences of Native American communities. This quote highlights the use of the key words “reach” and “resources.”

The final topic identified a cluster of words pertaining to the understanding that effective mental health care should encompass both tangible assistance and holistically fulfill of the emotional needs of Native American youth. The key terms included: 1) actually, 2) person, 3) able, 4) yeah, 5) like, 6) love, 7) things, 8) need, 9) want, and 10) lot. Titled Practical Actions and Emotional Needs, this topic highlights the necessary actions that youth and adult community members feel are necessary to support at-risk individuals, specifically the need to integrate culturally relevant practices with accessible, direct support mechanisms. The use of the words “able” and “actually” underscores a call for actionable, feasible strategies that can be realistically implemented within the community. The words “need,” “want,” and “love” signal a deeper

understanding that effective mental health interventions should not only address the practical aspects of care but should also resonate with the emotional and cultural domains that the community has identified as important. For this topic, a perspective emerges advocating for a mental health care system that is both grounded in practicality and enriched by the cultural constructions of health and wellness; bridging these viewpoints can ensure a holistic support system that is both effective and empathetic.

The Practical Actions and Emotional Needs topic encapsulates the community's aspiration for a mental health care system that not only offers tangible support but also aligns with the emotional and cultural needs of Native American youth. This dual focus on practicality and cultural sensitivity is vividly illustrated in the response made by a male respondent who is a Nisenan youth. When asked about the overall feeling regarding suicide within the Sacramento Native community, he highlighted the importance of openness in discussing mental health by stating:

> Okay, I'd say it should be where we are actually talking about the issues or being able to talk about it to you, to the family group or community members about issues around mental health where it would be actually easier. And I think an initiative should be started to actually create awareness around it.

This quote closely uses the key terms "actually" and "able" identified in the topic analysis which underscores a call for actionable strategies that facilitate open dialogues on the topics of mental health and suicide prevention. The respondent's emphasis on starting initiatives to raise awareness reflects the community's desire for proactive steps towards improving mental health discourse which resonates with the identified need for practical actions that are culturally relevant and emotionally supportive.

The synthesis of these three topics underlines a comprehensive perspective on mental health care within the Sacramento Native American community that emphasizes a balanced approach integrating practical support with emotional and cultural understandings. The first topic, Community Values and Wholistic Wellbeing, underscores a community perspective that values social bonds and emotional support as essential components of wellbeing. This reflects a multifaceted view of health which suggests that community wellbeing is deeply rooted in the strength of social connections and mutual support. The second topic, Need for Enhanced Support and Connection, further builds on this foundation by articulating a call for strengthened support mechanisms and deeper relational ties. It illustrates a how a sense of belonging and interconnected support networks can address mental health challenges. Lastly, the topic of Practical Actions and Emotional Needs converges on the understanding that effective mental health interventions must bridge actionable support with the fulfillment of emotional and cultural needs. It highlights a pragmatic approach to suicide prevention that acknowledges the importance of implementable measures that resonate with the community's cultural valuing of social connections and emotional support.

Implementation of Culture-Based Screeners

Guided by the second research question, LDA topic modeling analysis was applied to the text data from community members (both youth and adults) and SNAHC staff members to identify the latent themes in their responses discussing the implementation of culture-based suicide risk assessment tools. A probabilistic machine learning algorithm was employed to

identify the perceptions of effective suicide prevention efforts held by both groups based on the distribution of word frequencies and their co-occurrence patterns within the responses from their responses. Topic modeling analysis involved generating three lists of ten key words (See Table 12).

Implementation of Culture-Based Screeners			
Topic	1	2	3
Title	Empowering Cultural Self-Determination in Suicide Prevention	Youth-Centered Emotional Wellbeing in Suicide Prevention	Contextual and Relevant Mental Health Policy Development
Key Words	want	feel	person
	lot	good	yeah
	work	yeah	terms
	feel	like	matter
	culture	lot	mean
	able	want	course
	yeah	little	issue
	good	love	situation
	different	actually	right
	sure	youth	hearing

Table 12 – Results for Latent Dirichlet Topic Modeling of Thematic Domain 2

The first topic emerged from a cluster of key words related to the concept of self-determination involving the community's continued called to integrate cultural values and understandings into suicide prevention efforts. Constructing a topic titled Empowering Cultural Self-Determination in Suicide Prevention, the cluster of key words included: 1) want, 2) lot, 3) work, 4) feel, 5) culture, 6) able, 7) yeah, 8) good, 9) different, and 10) sure. As seen by the words “want” and “able,” this topic expresses a strong community desire for self-determination in addressing mental health issues, particularly in how cultural elements are integrated into suicide prevention efforts. This is evidenced by the use of the words “culture” and “work.” The use of the words “different” and “sure” highlight a need for diverse, culturally relevant approaches that move away from the clinical approaches often seen in the current mental healthcare system. Policies should be crafted to support diverse and culturally relevant strategies to ensure they align with what the community actually wants and feels as seen by the words “want” and “feel.” Overcoming barriers here means acknowledging and integrating culture-based approaches into mental health practices to position these approaches as equally valid and effective as described by the word “good.”

The topic Empowering Cultural Self-Determination in Suicide Prevention extends the community's aspirations to incorporate Native American cultural values into suicide prevention

efforts. This sentiment is reflected in the thoughts of an adult Tohono O'odham woman, community member, and parent, who shared her vision for the implementation of a culture-based screener. She emphasized the importance of allowing youth to express their feelings and to engage with cultural practices as an important feature of mental healthcare by explaining:

> I would like very much, of course, for them to allow questions for our youth to express how they're feeling. I would also love for teaching of tribal culture practices, or you know, for self-care, doing smudge, offering different tools... You know, offering something to do to connect with their own bodies, or connecting out in nature, because I feel like, so many, so many people, and especially our youth, we're not feeling worthy. We're not feeling deserving of a certain kind of life. We almost, I feel like sometimes when things are going well, a lot of people are just waiting for the ball to drop for something bad to happen. And so I would love to see youth being reminded of their worth, of how amazing how, you know, just being themselves how amazing they are, and how they were created. And that within them, they carry, they carry our ancestors. They carry the strength and resilience of our ancestors. And so to feel that, to feel that pride and to know that there's going to be something, there's going to be a gift, there's a reason they're here.

Her insights underline the need for suicide prevention efforts that are not only culturally relevant but also empower and affirm the identity and self-worth of Native American youth. The quote features the use of the key terms like “culture” and “feel.”

For the second topic titled Youth-Centered Emotional Wellbeing in Suicide Prevention, the key words illustrated a perspective on prioritizing the emotional wellbeing and voices of youth as central to effective suicide prevention efforts. The key words included: 1) feel, 2) good, 3) yeah, 4) like, 5) lot, 6) want, 7) little, 8) love, 9) actually, and 10) youth. Analysis reveals an emphasis on the emotional states and perspectives of as seen with the words “feel,” “love,” “youth,” and “want.” This highlights the need for policies that prioritize emotional wellbeing and youth engagement. As seen by the use of the words “actually” and “want,” policies should prioritize youth-centered approaches in mental health initiatives incorporating what youth actually need and want. With this, the word “little” points to a critique of existing systems that may not fully recognize or incorporate perspectives and realities Native American youth. There's an implication for policies to promote empathetic and youth-centered approaches to suicide prevention that emphasize the value of positive emotional or social connectedness as seen by the words ‘good' and ‘love'.

The topic Youth-Centered Emotional Wellbeing in Suicide Prevention emphasizes prioritizing youth voices and their emotional wellbeing. This is exemplified by a response given by an adult, Yaqui Two-Spirit, community member, and parent who explains the importance of giving youth the platform to express themselves by stating:

> It's really important with the youth, that they get the mic. Which I know is kind of counterintuitive. It's like: No, I want to share with them what I'm going through, and I want to have the mic and I want to, you know, give them teachings and knowledge and have them practice this and do that. But our youth have a lot to say that is unspoken. And I want to know what's unspoken in their lives. So giving them the mic so that they can

> say what's unspoken in their life is lifesaving. So for me, engaging the youth means actively listening.

This perspective highlights the critical need for mental health policies and practices that truly listen to and prioritize the voices and emotional needs of youth. The use of key term “want” in the quote reflects a dynamic of the emotional desires for youth in shaping suicide prevention efforts that are effective and resonate with their real-life experiences.

The final topic illustrated a need for community-driven policy change that is ecologically-grounded in the needs of the community. Constructing a topic titled Contextual and Relevant Mental Health Policy Development, the cluster of key words included: 1) person, 2) yeah, 3) terms, 4) matter, 5) mean, 6) course, 7) issue, 8) situation, 9) right, and 10) hearing. This topic indicates the importance of interpersonal and contextual approaches in mental healthcare as seen by the words “person” and “situation.” Referencing the Transactional-Ecological Framework, the use of the words “terms” and “matter” highlight a need for policies to focus on personalized care that acknowledges the unique ecological context of each individual. Overcoming barriers here means ensuring that policies are not only inclusive but also responsive to the specific issues faced by Native American youth and community members. The words “right” and “hearing” highlight a need for change to occur through a process of actively listening and collaboration to incorporate community voices in policy development and implementation.

The topic Contextual and Relevant Mental Health Policy Development speaks to the need for responsive, community-driven policy changes in mental healthcare. Speaking on the challenges faced when implementing standardized practice in healthcare, one adult community member respondent, a Santa Ynez Chumash woman, articulated:

> What I think is hard in developing tools and best practices in healthcare is that when it boils down to it's all going to be like policy and procedure, and it's all like inflexible. Either that, you know, the doctor is going to do it after they do ABC, and or the other person is going to do it when they're checking them in, and then it's going to have to be redone by the doctor. It's hard. Like, I basically just wish there was more flexibility of just like, having that staff person who is really, really good at talking to people, making people feel comfortable, being present in community outside of work, that person should be, you know, be doing these things while they're here. I wish that was easier. And I know that's like way easier said than done.

Her perspective highlights the importance of person-centered approaches in developing contextual and relevant policies noting the importance of flexibility and the role of staff in implementing the technicalities of a policy. This is exemplified by the quote with the use of the key term “person.”

The analysis of these three topics illustrates the community's desire for mental health interventions that are culturally relevant, youth-focused, and ecologically aware. It highlights a collective call for policies and practices that honor cultural self-determination, prioritize emotional wellbeing, and align with the unique ecological context of the Sacramento Native American community. The first topic, Empowering Cultural Self-Determination in Suicide Prevention, discusses the importance of incorporating cultural values into suicide prevention efforts by highlighting the community's desire for self-determination in mental health strategies. It emphasizes the need to overcome the barriers associated with mainstream mental healthcare by

generating policies that align with the culture-based approaches to promoting health and wellness.

In parallel, the second topic, Youth-Centered Emotional Wellbeing in Suicide Prevention, brings to light the significance of prioritizing the emotional health and the perspectives of youth within suicide prevention frameworks. This topic call for an integration of youth voices into the design and implementation of mental health initiatives to challenge existing systems to embrace the insights and experiences of Native American youth more fully. For the final topic, the discourse around Empowering Cultural Self-Determination in Suicide Prevention further emphasizes the necessity for community-driven policy transformation that is ecologically sensitive to the lived realities of the community. This final topic encapsulates the reoccurring call for mental health policies to be grounded in the ecological realities of the community and guided by a collaborate process with the community.

Chapter 5: Discussion

The study aimed to better understand how to prevent suicide by analyzing the perceptions surrounding Native American youth suicide and its prevention within the Sacramento Native American community. This study has illuminated the complex interplay of cultural values, generational perspectives, and the collective recognition for a desire to integrate culturally relevant approaches to into mainstream mental health care.

Research Question #1

The first research question guided analyses to identify the differences between how suicide is conceptualized by youth and adult community members. Across the different analyses, three key findings emerge: 1) identification of social and emotional relationship as a cultural value; 2) emergence of distinct generational perspectives on mental health; and 3) shared conceptual recognition of the importance of culturally relevant approaches to suicide prevention.

Social and Emotional Relationships as a Cultural Value

Across the discussions on Native American mental health and culture, the significance of social and emotional relationships consistently emerged as a pivotal cultural value across various analytical methods. The n-gram and ScatterText analyses illuminated this theme through the linguistic patterns of youth respondents marked by the reoccurring use of terms like “family members,” “awareness,” “connect,” and “welcoming.” This word choice highlights the youth's propensity to view social and emotional bonds as essential to suicide prevention, in addition to illustrating a broader cultural perception towards valuing interpersonal connections as integral to holistic wellbeing.

This emphasis on relational support systems was further echoed by the LDA topic modeling. The first topic, titled Community Values and Wholistic Wellbeing, emphasized the community's view of health and wellness as inherently tied to relational support systems. This perception reflects a holistic understanding of wellbeing that integrates cultural and social dimensions, highlighting the importance of community connections in fostering mental health resilience. Additionally, the second topic, Need for Enhanced Support and Connection, pointed to a pressing need for stronger support systems that foster deeper interpersonal connections. This topic articulates a articulates a perception that extends beyond the provision of clinical services in a singular, individual context. It reflects a nuanced understanding that effective mental health

care must be expansive to the to include community, interpersonal, and social conceptions of mental health treatment and intervention.

The thematic findings from the LDA topic modeling, particularly regarding the role of relational support systems and the need for enhanced support and connections are vividly illustrated in the following quote shared by a female, Paiute youth respondent. Responding to a question about the primary obstacles to suicide prevention efforts among Native American youth, she articulated:

> Well, I feel it's also a lack of support from people you love, or people who love you. If they can't see through you, if you're, when you're dealing with a lot of things, just a lack of support from the people you wanted, people you love to see through you that yes, you're dealing with something. And the right resources that I mentioned earlier, and just the lack of awareness of where to start from. Because sometimes you as a person, you might notice that you're not feeling well, even though you try to convince yourself 1,000 times that yeah you're okay, but you know, deep down, you're not feeling well but because you're not exposed to the right resources to help you gain your health back. You would, you would want to lean back or sit back and feel that the chaos.

Her insights echo the two topics of Community Values and Wholistic Wellbeing and Need for Enhanced Support and Connection by underscoring the critical need for a supportive community network that not only recognizes but actively responds to the social and emotional needs of its members.

Together, these findings underscore a central cultural value within the Sacramento Native American community— the recognition of social and emotional relationships as vital components of mental health and suicide prevention. This value calls for a transformation in how mental health interventions are conceptualized and implemented by urging for move towards approaches that expand beyond a psycho-centric conceptualization. Wexler and Gone (2016) explain this in their critique of clinical suicide prevention efforts implemented in Native American contexts which their identification of two of the limiting core assumptions: 1) suicide indicates underlying psychological issues; and 2) intervention is best achieved through mental health treatment (p. 59). These two interlinked core assumptions of clinical suicide prevention efforts frame suicide solely as psychological phenomenon imbedded in the individual. With this, the prescription of individual mental health treatment is constructed as the best means to effectively intervene on suicide-related behavior.

The conceptualization of social and emotional relationships as vital components of mental health and suicide prevention for Native American youth counters these assumptions held by clinical suicide prevention efforts. This transformation highlights the perception that suicide is not just as a manifestation of individual psychological distress, but rather reflects a complex interplay of social, cultural, and emotional factors. By challenging this psycho-centric view that positions suicide strictly within the realm of individual pathology, this perspective on the cultural value of social and emotional relationships prioritizes the strengthening of interpersonal bonds, cultural connectedness, and the fostering of environments where social and emotional support systems are recognized as integral to mental health.

Generational Perspectives on Mental Health

The utilization of n-gram and ScatterText analyses reveals a pronounced generational distinction in the discourse on mental health within the community. Youth participants in the study consistently highlighted themes of prevention, connection, and positive community engagement in their discussions on mental health. The frequent use of terms such as "family members," "awareness," "connect," and "welcoming" illustrated a preference for proactive and preventive measures, in addition to the positioning of importance on social and emotional support networks. This linguistic pattern illuminates the perception held among younger community members which conceptualizes mental health through a lens of wholistic health. Here, this perception emphasizes the cultural value of social and emotional relationships in preventing mental health crises, as previously discussed.

In contrast, the discussions among adult participants frequently referenced the challenges and consequences associated with mental healthcare, most notably the implications of systemic and institutional responses. Adult community members' frequent use of terms like "threat," "different," "police," and "social workers" in their discussions on Native American mental health and culture points to perception concerning the often punitive and pathologizing nature of clinical mental health interventions. The focus on these aspects documents a wariness of clinical suicide prevention efforts for their failures and perpetration of harm by overlooking the cultural constructions of health and wellness. This cautious stance is reflected from lived experiences and the obstacles faced within the existing mental health care system. Undoing these practices, by extension, involves (re)centering cultural values.

This generation contrast is evident when comparing responses from respondents to the question: "If you had a friend or family member that you think is at risk for suicide or struggling with depression, what would you do?" A male, Choctaw, youth respondent explained:

> Okay, first of all, I think I'd turn to my mother, you know, because she's the closest person to me and she is the person who can freely, who can fully converse with me about sensitive issues like that. So, my mother should be the first person I will turn to.

This quote, from a youth perspective, highlights the theme around positive social and emotional relationships as seen by how the respondent places importance on his supportive relationship with his mother. This point ties back into the frequently used term of "family members" highlighted by the ScatterText analysis.

Conversely, a male, Cherokee, adult community member respondent reacted to the same question by explaining his perspective of systemic and institutional responses. He described:

> You could be very pro-police even and you could believe that police have a lane for like law enforcement. There are moments where there's some kind of threat and it's like, okay, address the threat, you can believe that. And I think that having police involved with suicide prevention, the immediate assumption, even for me is here's the person that's going to come in, like neutralize the threat. And that's just what every, that's just how everyone views police. That's dangerous.

This quote, from an adult perspective, places emphasis on the perceptions of the failures and perpetration of harm associated with how the mental healthcare system responds to those in

need. This quote documents the frequent use of the term “police” highlighted by the ScatterText analysis.

The perspectives from both youth and adult community members underscore the necessity for mental health services that are culturally relevant and responsive to the cultural values of Native American communities. With their responses, however, a generational divide emerges in the linguistic patterns used by the two groups. The generational divide elucidates a clear contrast in priorities: where youth emphasize the need for early intervention, cultural values, and the strengthening of social bonds as preventive measures, adults express concerns about systemic barriers and the often detrimental responses of existing mental health services. Despite these differing approaches and understandings of mental health, both groups frame a necessity around transforming current mental health practices. In other words, both groups maintain distinct perceptions of mental health but arrive at the same conclusion— a pronounced call for the transformation of current mental health care and suicide prevention efforts. For youth, this involves the promoting approaches to mental health care that leverage relational support networks to foster health and wellbeing. For adults, this involves deconstructing harmful practices related to the punishment of mental health challenges to better empower individuals in fostering health and wellbeing.

Shared Conceptual Recognition

The discourse on the necessity for mental health services that are culturally relevant and responsive to the cultural values of Native American communities is further elucidated by the study’s use of sentiment analysis. Despite the generational divide in how both groups discuss mental health and approaches to suicide prevention, sentiment analysis reveals a shared positive polarity and subjectivity profile across both youth and adult community members. This uniformity in sentiment underscores a shared conceptual recognition of the strengths and potential of culture-based approaches to mental health and suicide prevention.

Both groups discuss Native American mental health and culture with positive polarity and subjectivity profiles as evidenced by the positive polarity and subjectivity scores of their individual word choices. Comparisons between the two groups made by using independent sample t-tests did not reveal any statistically significant differences in mean polarity and subjectivity scores. These findings indicate a pervasive emotional connection and subjective perception on the conceptual importance of integrating cultural values and practices into mental health approaches. This uniformity in sentiment across generational markers illustrates that, despite differing experiences and perspectives on the means to transform mental health care delivery, there exists an agreement on the necessity of culture-based approaches to mental health and suicide prevention. By transcending generational boundaries, this agreement further points to the shared conceptualization that current mental health care and suicide prevention efforts need to be transformed to better foster mental health and wellbeing, as previously discussed.

Research Question #2

The second research question sought to identify the differences between the most important strategies for preventing suicide as described by youth and adult community members when compared to SNAHC Staff. Three key findings emerge from the different analyses: 1) identification of digital platforms as a vital tool; 2) the importance of empowering cultural self-determination; and 3) the need for community-led policy development.

Digital Platforms as a Vital Tool

In their discussions on implementing culture-based suicide risk assessment tools, community members identify the applicability of digital platforms as a vital tool. This theme emerges from the analyses of the n-gram and ScatterText visualizations. Digital platforms are situated as one potential implementation strategy to engage Native American youth in effective and relevant ways.

First, n-gram analysis highlighted the community members' emphasis on using social media in their discussions on implementing culture-based suicide risk assessment tools. The term "social media," occurring 30 times across different community member's interviews, emerged as one of the top five key terms. This term was absent from the top phrases used by SNAHC staff members. Furthermore, ScatterText analysis revealed a preferential linguistic pattern used by community members demonstrating the importance of leveraging modern digital approaches to engage a younger demographic of the community in effective and relevant ways. This is seen with the clustering of the words: "best way," "engage young," "social media," and "online" by community members.

The role of social media is exemplified by the following perspective shared by a Choctaw, Two Spirit youth on the optimal ways to engage their fellow peers in terms of implementing a culture-based suicide risk assessment tool. This respondent emphasized the influential role of social media, stating:

> I'd say definitely social media is a huge part, of course, you know? Like, I can't deny that social media is definitely very impactful. Social media and maybe hearing from other people their age. Like, especially as you get younger people hearing from people around their age, it's sometimes I feel like, especially when I was younger, it was like, I didn't want to listen to adults. Because I was like: Oh, you guys are old, you know what I mean? So maybe, like, younger people explaining to them: Hey, these are mental health struggles, like, there's nothing wrong with it, you know, whatever. The whole spiel would be great to hear from a younger person.

This quote reflects the community's broader perspective on using digital platforms as a means to foster more meaningful and effective engagement with young people in the community. The specific mention of preferring communication from peers rather than adults highlights a nuanced understanding of the social dynamics that influence youth engagement in mental health discussions. The quoted passage also features the frequent use of the term "social media" highlighted by the ScatterText analysis.

This linguistic pattern structures the discussion around integrating digital platforms in suicide prevention efforts to illustrate a clear preference among community members for utilizing technology to enhance suicide prevention efforts. It highlights the community's recognition of digital platforms as one potential implementation strategy for advancing culturally relevant, accessible, and youth-centered mental health interventions. In academic literature, the use of digital tools for suicide prevention efforts in Native American communities does emerge a promising approach (Bogic et al., 2023; Toombs et al., 2021).

Empowering Cultural Self-Determination

Previous findings have highlighted the conceptualization of the need to transform current mental health and suicide prevention efforts. Analysis conducted via LDA topic modeling

provides a key framework to facilitate this change based upon the emergence of a latent topic emphasizing the community's desire for autonomy in integrating cultural values into suicide prevention efforts. Centered on the concept of cultural self-determination, participants in their discussion on implementing culture-based suicide risk assessment tools position that these efforts should be led and informed by the community itself. The construction of cultural self-determination as a cultural value positions it as a central feature in the development and implementation of mental health and suicide prevention strategies.

Topic modeling analysis revealed an emerging topic titled Empowering Cultural Self-Determination in Suicide Prevention. This topic reflected a strong community desire for self-determination in addressing mental health issues, particularly in how cultural elements are integrated into suicide prevention efforts, as seen by the clustering of the words “want,” “able,” “culture,” and “work.” To overcome the limitations, cultural self-determination represents a responsive pathway to acknowledge and integrate culture-based approaches into mental health practices to position these approaches as equally valid and effective. Here, the transformation is sponsored by a collective vision that champions the empowerment of the community to lead and shape its mental health initiatives. This vision for cultural self-determination in suicide prevention is underpinned by the belief that the community itself holds the knowledge, resources, and capacity to develop interventions that are not only culturally relevant, but also effective.

The concept of cultural self-determination manifests holding special connotations regarding Native American identity, culture, and political status (Deloria, 1997). Cisneros (2014) defines self-determination as “the right to be recognized as an autonomous nation with international status free from paternalistic intervention by a settler state” (p. 1). In the context of health and healing, Cisneros links cultural self-determination with a process of regeneration which “seeks to restore a sacred relationship to others: the spirit world, the community, the land and its phenomena and even one’s self” (p. 12). This process allows for healing to transcend the confines of colonial subjugation and reinstate Native American lifeways.

Cultural self-determination, in the context of mental health and suicide prevention, thus embodies a transformative approach for Native American communities to reclaim and revitalize their inherent rights to self-governance, cultural autonomy, and holistic wellbeing. By enacting cultural self-determination, communities can engage in a process of decolonization to challenge and dismantle the colonial legacies that have historically and systemically marginalized tribal approaches to health and wellness. This process can affirm the validity and efficacy of Indigenous ways of knowing in addressing mental health challenges, in addition to empower communities to facilitate healing that is synchronous with their cultural identities, values, and traditions.

Community-Led Policy Development

In the discourse surrounding the transformation of mental health services, the principle of cultural self-determination emerges not only as a foundational cultural value but also as a strategic directive for community-led policy development. Additional findings from the topic modeling analysis identify community members’ desire to lead and sponsor policy development initiatives in transforming the current mental health services.

Topic modeling identified a cluster of key terms defining the topic of Youth-Centered Emotional Wellbeing in Suicide Prevention. This topic prioritizes the centering of the voices of Native American youth in promoting emotional wellbeing. The analysis revealed a significant

emphasis on the key terms “actually” and “want” signaling a call for policies that accurately reflect the needs, wants, and lived experiences of Native American young people. This topic locates the advocacy for a shift towards empathetic, youth-centered approaches that prioritize emotional and social connections as evidenced by the recurrent use of the words “good” and “love.” This finding aligns with the need for suicide prevention efforts to be responsive to the emotional and cultural needs of Native American youth while ensuring efforts are led and informed by the community itself.

This idea is further supported by the third topic identified by the topic modeling conducted on the responses collected under the Implementation of Culture-Based Screeners thematic topic. Titled Contextual and Relevant Mental Health Policy Development, this topic emerged from the analysis highlighting the demand for policy reforms that are rooted in the specific needs and contexts of the community. The cluster of key words like “terms” and “matter” by respondents points to an advocacy for personalized, ecologically-grounded care models that honor the individual and cultural identity of community members. Moreover, the clustering of the key words “right” and “hearing” underscores the importance for policies to be developed through a collaborative process that engages community voices to ensure that policy development and implementation are both responsive and accountable to those they aim to serve.

Together, these topics articulate a perspective that the development and implementation of culture-based suicide prevention efforts should be facilitated by community-led efforts, particularly involving the perspectives of Native American youth. This approach departs from top-down, one-size-fits-all models, and instead calls for a mental health care paradigm that is responsive and grounded in the cultural value of self-determination. By fostering policy development that is led by the community, the empowerment of those impacted by suicide can be significantly enhanced while ensuring that interventions are culturally aligned with the lived experiences and needs of the community.

Limitations

This study, while analyzing the perceptions of Native American mental health and the implementation of culture-based suicide risk assessment tools within the Sacramento Native American community, encounters several limitations. These limitations involve the generalizability of study’s findings given its specific geographic location, small sample size, and recruitment methods. Several additional limitations do arise noting the application of computational text analysis methods.

Firstly, the geographical scope of this research was confined to Sacramento County to provide a detail survey of the perceptions regarding mental health and suicide prevention for this specific Native American community. As such, these findings may not be representative of the diverse experiences and perspectives held by Native American populations outside of Sacramento County. The study's sample size, comprising of 27 participants, presents another limitation. While these participants offered valuable insights into the community's perceptions and experiences, this relatively small sample size may not be representative of the diversity and complexity of the broader Sacramento Native American community.

Additionally, the methodology of relying on digital platforms for recruitment and data collection introduces a potential bias towards participants who are more engaged with or have greater access to online social media platforms. This methodological choice might inadvertently skew the findings towards a subset of the community that is more digitally literate or has more favorable views of digital engagement. Consequently, the study's insights into the community's

preference for online and social media methods in suicide prevention and mental health interventions may be influenced by this selection bias.

For the computation text analysis methods, the study's use of n-grams and sentiment analysis may be limited by their quantitative nature. While innovative for capturing the emotional and linguistic nuances of the participants' linguistic patterns, the depth and complexity of individual and collective experiences with mental health, cultural identity, and suicide prevention may not be fully encapsulated by these analytical tools. Specifically, the study's use of Wilcoxon rank-sum test to compare the mean distribution of polarity and subjectivity scores between the different stratum may not capture the full spectrum of nuanced perspectives within these groups.

Additionally, the aggregation of responses into predefined groups for the sake of statistical analysis may overlook important intra-group variations and individual experiences that could offer deeper insights into the community's mental health needs and preferences. This also fails to account for any potential moderators or other confounding variables when making comparisons between sample strata groups. Lastly, the computation text analysis methods are limited by their dependence on available text data. Although effective in identifying key themes and topics, these methods are constrained by the scope of the discussions captured in the study, potentially omitting relevant topics or perspectives not explicitly articulated in the data collected.

Conclusion

This study formulated a deliberate act to re-politicize the lives of Native American youth by analyzing their perceptions concerning mental health and suicide prevention. This study provided analytical insight on the cultural values defining effective mental health efforts, in addition to the expectations and aspirations for formulating culture-based suicide prevention efforts held by the members of the Sacramento Native American community. Leveraging computational text analysis, this study highlighted the importance of cultural values like social and emotional relations and cultural self-determination. This study underscores the necessity for mental health interventions that are deeply rooted in the community's cultural perspectives to ensure their successful implementation in the realms of efficacy and effectiveness. Sponsored by intellectual sovereignty, this study contributes to a growing body of work under the that supports the empowerment of Native American communities in leading their mental health and suicide prevention strategies, marking a significant step towards culturally relevant and decolonizing mental health care.

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Appendix A – Demographics Survey

HELPING OUR PEOPLE END SUICIDE STUDY
DEMOGRAPHICS SURVEY
UNIVERSITY OF CALIFORNIA, BERKELEY

INSTRUCTIONS
Here is a set of questions about your age, race, and other details about yourself. You can skip questions you do not feel comfortable answering. The survey will take about five (5) minutes to complete. All responses will be kept confidential, and anonymous.

1. How would you describe your racial or ethnic identity? (Mark all that apply)
    a. American Indian or Alaska Native
    b. Asian or Asian American
    c. Black or African American
    d. Latina, Latino, or Latinx
    e. Middle Eastern or North African
    f. Native Hawaiian or Pacific Islander
    g. White
    h. Multiracial or Biracial
    i. Something else fits better. Please describe: _____
    j. Prefer not to answer
2. Are you Native? Meaning, you belong to an Indigenous tribe, nation, community, village, pueblo, clan, island, reserve, or rancheria.
    a. Yes
        i. Please describe: _____
    b. No
    c. Prefer not to answer
3. What is your age?
    a. 13 – 17 years old
    b. 18 – 25 years old
    c. 26 – 35 years old
    d. 36 – 45 years old
    e. 46 – 55 years old
    f. 56 – 65 years old
    g. 66 years old or older
    h. Prefer not to answer
4. How would you describe your gender identity?
    a. Agender
    b. Woman
    c. Intersex
    d. Man

    e. Non-Binary or Genderqueer
    f. Two-Spirit
    g. Something else fits better. Please describe: _____
    h. Prefer not to answer
5. Are you Transgender?
    a. Yes
    b. No
    c. Prefer not to answer
6. How would you describe your sexual orientation?
    a. Asexual
    b. Bisexual
    c. Gay or Lesbian
    d. Heterosexual or Straight
    e. Pansexual
    f. Queer
    g. Two-Spirit
    h. Something else fits better. Please describe: _____
    i. Prefer not to answer
7. Are you living with a disability?
    a. Yes
    b. No
    c. Prefer not to answer
8. Have you been to a suicide prevention training? (e.g., Youth Mental Health First Aid, QPR, ASIST, safeTALK, etc.)
    a. Yes
        i. Please specify: _____
    b. No
    c. Prefer not to answer
9. Are you a member of a SNAHC advisory board?
    a. I am not a member of any advisory boards
    b. Native Youth Ambassadors
    c. Native Youth Communications Team
    d. Native Health Task Force
    e. Community Action Panel
    f. Multi-Agency Partners
    g. Prefer not to answer
10. Are you a current employee at SNAHC?
    a. Yes
    b. No
    c. Prefer not to answer

------ (if Yes)

11. Which best describes your role at SNAHC?
    a. Patient Services Representative
    b. Medical Assistant
    c. Dental Assistant

d. Mental Health Provider
e. Medical Provider
f. Dental Provider
g. Program Coordinator
h. Program Manager
i. Administrator
j. Something else fits better. Please describe: _____
k. Prefer not to answer

------ (if No)

12. Which best describes you? (Mark all that apply)
    a. Youth
    b. Parent
    c. Elder
    d. Member of the Sacramento Native Community
    e. Some else fits better. Please describe: _____
    f. Prefer not to answer

Appendix B - Youth & Community Member Interview Protocol

HELPING OUR PEOPLE END SUICIDE STUDY
INTERVIEW PROTOCOL
YOUTH & COMMUNITY MEMBERS
UNIVERSITY OF CALIFORNIA, BERKELEY

PART I – PRE-INTERVIEW

INSTRUCTIONS

Lios em chania. Ketche allea. Greetings. My name is Val Sierra. I want to thank you for your time today. The goal of this interview is to gain your knowledge and perspective. The answers you provide will help to develop a culture-based suicide screener. Our hope is to prevent suicide by connecting youth in need of extra support to health care services at places like the Sacramento Native American Health Center (SNAHC). This interview involves two parts.

The first part will ask questions on Native American mental health and culture. The second part will ask you for your ideas on how to best use the culture-based suicide screener that will be developed from this research study.

There are no right or wrong answers. My hope is that you feel comfortable sharing what you really think. All the answers you provide will be kept confidential and anonymous.

This interview will take about 90 minutes or 1½ hours. You may ask me to repeat questions at any time during the interview. I can also explain any questions you do not understand. It is okay to skip questions that you do not want to answer. You may also ask that we take breaks or end the interview at any time.

EMOTIONAL SUPPORT PROTOCOL

This interview will talk about mental health and suicide. These topics can be triggering. You might feel certain emotions that can make you uncomfortable or upset. I have prepared some procedures to help you process and become (re)grounded as needed. These include:

- Eagle feather and sage for smudging
  [Show Respondent eagle feather and sage medicine bundle.]
  [If asked for support, light the sage medicine bundle and begin to spread the smoke with the eagle feather in a smudging ceremony. Ask Respondent how they would like to proceed.]
- Connecting with an outside mental health and crisis support line
  [If asked for support, share information on mental health and crisis support lines. Connect Respondent with the appropriate resource. Ask Respondent how they would like to proceed.]
  [Mental health and crisis support lines include:

National Suicide Prevention Hotline – 988
The Trevor Project – (866) 488-7386
Trans Lifeline – (877) 565-8860
Sacramento County Suicide Prevention Crisis Hotline – (916) 368-3111]

You may ask for these supports at any time. Again, you may also ask that we take a break or end the interview at any time.

I am a mandated reporter. I am required to report to the other project staff if you at any time express that: harm is being done to you; you are thinking of harming yourself; or you are thinking of harming someone else. This is to ensure that we can connect you with the best supports and ensure your safety.

AUDIO RECORDING INSTRUCTIONS
If it is okay with you, I will record the audio from our conversation using Zoom's recoding functions. The purpose is so I can get all the details while remaining present during our conversation. I will also take notes. I can turn off the recording function if you feel uncomfortable or change your mind for any reason during the interview. If you choose not to be recorded, I will just take notes instead.

CONSENT FORM INSTRUCTIONS
At this time, I will review your consent form to make sure it is completed. [Review Respondent's Consent Form]. Thank you for signing the consent form before the start of the interview. With your permission, are you ready to start the interview?

[Start Zoom recording]

PART II – COMPONENT ONE QUESTIONS

INSTRUCTIONS
At this time, I will ask you some questions about Native American mental health and culture. These questions focus on suicide prevention efforts. The purpose is to understand your perspective on how to best support young people who may be at a high risk for suicide.

Q1: What are the primary obstacles to efforts addressing Native American youth suicide prevention?
PROBE: How do we reach people who are disconnected from community and health services?

Q2: What do you think is the overall feeling regarding suicide in the Sacramento Native American community?

Q3: If you had a friend or family member that you think is at risk for suicide or struggling with depression, what would you do?

PROBE: Do you feel prepared to help a friend or family member who is depressed or at risk for suicide?
Who would you turn to first and why?
Where would you go?

PART III – COMPONENT TWO QUESTIONS

INSTRUCTIONS
I will now ask you some questions on your ideas about how to best use a culture-based suicide screener in the community. The purpose is to understand your perspective on how to best screen for suicide and connect people with the resources they need.

Q1: Where would you like to see a culture-based suicide screener used?
PROBE: Is the best setting in the health clinic?
Is the best setting at community events like powwows, big times, other cultural events?

Q2: How would you like to see a culture-based suicide screener used or implemented?
PROBE: Should the suicide screener be conducted by health center staff?
Should the suicide screener be conducted by community members, or other peers?
What is the best way to engage young people?

PART IV – DEBRIEF

INSTRUCTIONS
Thank you so much for your time and for participating in this interview. Your thoughts, ideas, and opinions are greatly appreciated.

DQ1: Is there any other information you would like me to know?
IF YES: Please share that information with me.
IF NO: [Continue to Closing below]

CLOSING
Thank you so much, again for your time. I will now end the audio recording.

[End audio recording]

Appendix C - SHANC Staff Interview Protocol

HELPING OUR PEOPLE END SUICIDE STUDY
INTERVIEW PROTOCOL
SNAHC STAFF MEMBERS
UNIVERSITY OF CALIFORNIA, BERKELEY

PART I – PRE-INTERVIEW

INSTRUCTIONS

Lios em chania. Ketche allea. Greetings. My name is Val Sierra. I want to thank you for your time today. The goal of this interview is to gain your knowledge and perspective. The answers you provide will help to develop a culture-based suicide screener. Our hope is to prevent suicide by connecting youth in need of extra support to health care services at places like the Sacramento Native American Health Center (SNAHC). This interview involves two parts.

The first part will ask about your confidence in talking about suicide and providing support to youth who express suicidal ideation. The questions in the second part will ask for your ideas on how to best use the new culture-based suicide screener that will be developed from this research study.

There are no right or wrong answers. My hope is that you feel comfortable sharing what you really think. All the responses you provide will be kept confidential and anonymous.

This interview will take at maximum 90 minutes or 1½ hours. You may ask me to repeat questions at any time during the interview. I can also explain any questions you do not understand. It is okay to skip questions that you do not want to answer. You may also ask that we take breaks or end the interview at any time.

EMOTIONAL SUPPORT PROTOCOL

This interview will talk about mental health and suicide. These topics can be triggering. You might feel certain emotions that can make you uncomfortable or upset. I have prepared some procedures to help you process and become (re)grounded as needed. These include:

- Eagle feather and sage for smudging
  [Show Respondent eagle feather and sage medicine bundle.]
  [If asked for support, light the sage medicine bundle and begin to spread the smoke with the eagle feather in a smudging ceremony. Ask Respondent how they would like to proceed.]
- Connecting with an outside mental health and crisis support line
  [If asked for support, share information on mental health and crisis support lines. Connect Respondent with the appropriate resource. Ask Respondent how they would like to proceed.]

[Mental health and crisis support lines include:
National Suicide Prevention Hotline – 988
The Trevor Project – (866) 488-7386
Trans Lifeline – (877) 565-8860
Sacramento County Suicide Prevention Crisis Hotline – (916) 368-3111]

You may ask for these supports at any time. Again, you may also ask that we take a break or end the interview at any time.

I am a mandated reporter. I am required to report to the other project staff if you at any time express that: harm is being done to you; you are thinking of harming yourself; or you are thinking of harming someone else. This is to ensure that we can connect you with the best supports and ensure your safety.

AUDIO RECORDING INSTRUCTIONS
If it is okay with you, I will record the audio from our conversation using Zoom's recoding functions. The purpose is so I can get all the details while remaining present during our conversation. I will also take notes. I can turn off the recording function if you feel uncomfortable or change your mind for any reason during the interview. If you choose not to be recorded, I will just take notes instead.

CONSENT FORM INSTRUCTIONS
At this time, I will review your consent form to make sure it is completed. [Review Respondent's Consent Form]. Thank you for signing the consent form before the start of the interview. With your permission, are you ready to start the interview?

[Start Zoom recording]

PART II – COMPONENT ONE QUESTIONS

INSTRUCTIONS
At this time, I will ask you some questions to better understand your confidence in talking about suicide with Native American youth. Suicide can sometimes be a scary or complex issue. The purpose of these questions is to identify ways to improve the support offered to young people in need.

Q1: How confident are you with assessing or identifying a young person who is feeling suicidal?
PROBE: Have you had any trainings on suicide or suicide assessment?
Have these trainings been helpful?

Q2: How confident are you in your ability to provide care for a young person who is feeling suicidal? This can include peer support, therapy, or referring to an outside resource.
PROBE: Are there any ways to potentially improve your confidence in providing care?

PART III – COMPONENT TWO QUESTIONS

INSTRUCTIONS
For this next part, I will ask you some questions on your ideas about how to best use a culture-based suicide screener in the community. The purpose is to understand your perspective on how to best screen for suicide and connect people with the resources they need.

Q1: Where would you like to see a culture-based suicide screener used?
PROBE: Is the best setting in the health clinic?
Is the best setting at community events like powwows, big times, other cultural events?
How do we reach people who are disconnected from community and health services?

Q2: How would you like to see a culture-based suicide screener used or implemented?
PROBE: Should the suicide screener be conducted by health center staff?
Should the suicide screener be conducted by community members, or other peers?
What is the best way to engage young people?

Q3: What barriers do you foresee in doing this kind of suicide screening work?
PROBE: Are there any challenges within the organization that might impact this work?
Are there any broader systemic or societal challenges that might impact this work?

PART IV – DEBRIEF

INSTRUCTIONS
Thank you so much for your time and for participating in this interview. Your thoughts, ideas, and opinions are greatly appreciated.

DQ1: Is there any other information you would like me to know?
IF YES: Please share that information with me.
IF NO: [Continue to Closing below]

CLOSING
Thank you so much, again for your time. I will now end the audio recording.

[End audio recording]