

## **ABSTRACT**

Title of Document: A SEQUENTIAL MIXED METHODS  
APPROACH TO IDENTIFYING AND  
UNDERSTANDING INDIGENOUS WAYS OF  
EVALUATING PHYSICAL ACTIVITY  
PROGRAMS

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Physical activity has been identified as a strategy for addressing the disproportionate prevalence of diabetes and obesity among American Indians/Alaska Natives (AI/AN). Despite the importance of evaluation to improve programs, there is a lack of evaluation among AI/AN physical activity programs. While the absence of evaluation broadly in Indian Country has been attributed to the disconnect between Western and Indigenous ways of knowing and the negative history of research among AI/ANs, barriers to and experiences with evaluation have not been explored in the context of physical activity. To address this gap, this dissertation used an exploratory sequential mixed methods design to explore AI/AN physical activity program evaluation.

In-depth interviews were conducted with staff at AI/AN organizations conducting externally funded AI/AN physical activity programs (n=17), transcripts were thematically analyzed, and the findings were used to create and pilot test a survey designed to assess the prevalence of the qualitative findings among the target population.

Through the interviews, the following themes emerged regarding barriers to evaluation: (1) measuring desired physical activity related constructs in ways that are scientifically and culturally sound is a challenge; (2) a lack of resources and support prevents AI/AN organizations from evaluating their physical activity programs; (3) collecting evaluation data is challenging due to the unique culture and experiences of AI/ANs and the context of physical activity programs; and (4) the lack of alignment between the evaluation requirements set by the external funding source and the evaluation desired by the AI/AN organization and community being served creates a barrier to meaningful evaluation. The following themes emerged explaining the perception of and interest in Indigenous evaluation: (1) Indigenous approaches to evaluating AI/AN physical activity programs are perceived as narrative and holistic; (2) Indigenous knowledge is used in AI/AN physical activity program decision-making but sometimes is not acknowledged as evaluation; and (3) there is not a universally desired way to evaluate AI/AN physical activity programs.

Findings from this study contribute to the knowledge base of physical activity program evaluation in the context of AI/AN programming, and informs the practice of culturally responsive evaluation with AI/AN communities.

A SEQUENTIAL MIXED METHODS APPROACH TO IDENTIFYING AND  
UNDERSTANDING INDIGENOUS WAYS OF EVALUATING PHYSICAL  
ACTIVITY PROGRAMS

By

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## **Dedication**

This dissertation is dedicated to all of those in Indian Country who are striving to conduct meaningful evaluation with and for their communities. Specifically, this dissertation is dedicated to the participants of this study who were willing to share their thoughts and experiences with me, and who saw the value my research. Thank you and I hope the findings from this study are of use to you!

## Acknowledgements

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# **Chapter 1: Introduction**

## **1.1. Problem Statement**

The prevalence of diabetes mellitus and obesity is disproportionately higher among American Indian/Alaska Natives (AI/ANs), as compared to the general U.S. population (Cobb, Espey, & King, 2014; O'Connell, Yi, Wilson, Manson, & Acton, 2010; Schell & Gallo, 2012). Scholars argue that these significant health disparities among Indigenous populations are result of colonization, westernization, and forced acculturation, and the associated outcomes of social inequality, poverty, and trauma (Bartlett, Iwasaki, Gottlieb, Hall, & Mannell, 2007). To address these issues and improve the health and wellbeing of Native people, scholars are calling for the “perspectives of Indigenous peoples to be adopted and valorized in the research process” – a method known as “decolonization” (Bartlett et al., 2007). Decolonization serves not to reject Western science or research (i.e., science grounded in knowledge created and accepted by the dominant culture), but rather to critically analyze and challenge Western knowledge, understand the perspectives and world-views of Indigenous peoples, and to contribute to self-determination for this population (Denzin & Lincoln, 2008; Poudrier, 2007; Workgroup, 2013).

While health promotion and disease prevention has begun to decolonize their practices by encouraging community-based and culturally appropriate program development, evaluation methods and instruments to measure the success of these programs are often still based in Western science. Involvement in physical activity has been identified as a strategy for diabetes and obesity prevention and management for

among AI/ANs (Coble & Rhodes, 2006; Kriska et al., 2003), and programs designed to improve physical activity levels often require rigorous evaluation based in Western science to demonstrate program effectiveness and garner external funding. The differences and complex relationship between Western methods (privileging objectivity) and Indigenous research methods (privileging subjectivity) may cause local program evaluation to be difficult for AI/AN public health program staff (Cavino, 2013; LaFrance & Nichols, 2010; Tribal Evaluation Workgroup, 2013), and thus, may contribute to the lack of evaluation identified among AI/AN physical activity programs (Teufel-Shone, Fitzgerald, Teufel-Shone, & Gamber, 2009). In addition, given the history of exploitative, intrusive, and invasive research and evaluation imposed upon Native populations there is a distrust among AI/AN communities of external researchers and evaluation processes (Cavino, 2013; Hodge, 2012; LaFrance & Nichols, 2010). Therefore, scholars have identified a need to build the capacity for AI/AN organizations to be competent in internally conducting program evaluation grounded in Indigenous knowledge, in a manner that is scientifically and culturally rigorous, as well as useful to both the organization and the community (Cavino, 2013; Kawakami, Aton, Cram, Lai, & Porima, 2007; LaFrance, 2004; Robertson, Jorgensen, & Garrow, 2004; Tribal Evaluation Workgroup, 2013).

To date, however, there is a limited amount of research that has examined decolonized approaches to evaluation among AI/ANs (existing body of research presented in Chapter 2); therefore, this study sought to build upon this literature and understand how AI/AN organizations are conducting (or could be conducting) program evaluation grounded in Indigenous knowledge and in the context of physical activity.

Using an exploratory sequential mixed methods design (Creswell, 1999), this study aimed to contribute to the decolonization of evaluation by first qualitatively exploring approaches to evaluating AI/AN physical activity programs grounded in Indigenous knowledge, the interest in using these methods, and the resources required to implement these practices. In addition, the study explored challenges currently faced by AI/AN organizations evaluating externally funded physical activity programs. Then the study aimed to use the qualitative findings to create and pilot a quantitative assessment designed to assess the extent of the representativeness of the qualitative findings amongst the broader target population of AI/AN organizations.

## **1.2. Study Aims**

The first aim of the study was *to explore, through in-depth interviews, Indigenous knowledge-based approaches to evaluating AI/AN physical activity programs, the interest in using these methods, and the organizational capacity and barriers associated with these approaches*. This aim was addressed through in-depth interviews conducted with staff at AI/AN organizations conducting externally funded physical activity programs.

Aim 1 sought to answer the following research questions:

- (1) How do AI/AN organizations define and describe Indigenous knowledge-based evaluation in the context of physical activity programs?
- (2) How interested are AI/AN organizations in using Indigenous knowledge-based evaluation to evaluate their AI/AN physical activity programs?
- (3) What organizational capacity is necessary for conducting evaluation grounded in Indigenous knowledge?

- (4) What barriers do AI/AN organizations face in implementing Indigenous knowledge-based evaluation to evaluate their physical activity programs?

The second aim of the study was *to create and disseminate a survey designed to assess the prevalence of the qualitative findings on Indigenous knowledge-based approaches to evaluating AI/AN physical activity programs among AI/AN organizations.*

This aim was addressed through connected mixed methods data analysis (Creswell & Plano Clark, 2011, p. 234), whereby the findings from the in-depth interviews conducted for Aim 1 were used to inform the creation of a survey instrument designed to build on these findings. The survey was then disseminated to the target population of AI/AN organizations conducting externally funded physical activity programs, and the process of survey recruitment and implementation was analyzed. The new survey instrument sought to answer the following research questions:

- (1) What methods of Indigenous knowledge-based evaluation are AI/AN organizations using to evaluate their physical activity programs?
- (2) What Indigenous knowledge-based outcomes are AI/AN organizations interested in collecting to evaluate physical activity programs?
- (3) Which methods of Indigenous knowledge-based evaluation are AI/AN organizations interested in using?
- (4) What resources do AI/AN organizations need to evaluate physical activity programs using Indigenous knowledge-based approaches and/or to capture Indigenous knowledge-based outcomes?

- (5) What barriers do AI/AN organizations commonly face in conducting Indigenous knowledge-based evaluation when evaluating physical activity programs and collecting Indigenous knowledge-based outcomes?
- (6) How does the funding agency/grant impact the perception, delivery, and utility of evaluation among AI/AN organizations?
- (7) What are the areas of disconnect between funding agency/grant-driven evaluation and the evaluation desired by the AI/AN organizations?
- (8) What are the staff's perceptions of the use of Indigenous knowledge-based evaluation to evaluate their physical activity programs?

### **1.3. Dissertation Format**

In what follows, I present the dissertation study conducted to address the identified study aims and answer the associated research questions (as appropriate). The remainder of Chapter 1 provides the study justification, theoretical framework, conceptual model, overview, and the definitions of variables and/or terms used. Chapter 2 presents a review of the literature on diabetes and obesity among AI/ANs, Indigenous knowledge and decolonizing methodologies, the need to decolonize physical activity program evaluation, and the existing Indigenous evaluation frameworks. Chapter 3 is the first manuscript developed from this study, titled “Barriers to Evaluating Physical Activity Programs in American Indian/Alaska Native Communities.” This paper presents the study findings specific to the barriers to conducting program evaluation faced by externally funded AI/AN physical activity programs. Chapter 4 is the second manuscript derived from the study, titled “Identifying and Understanding Indigenous Ways of Evaluating Physical Activity Programs.” This paper communicates the study findings

regarding perceptions and use of Indigenous evaluation, and desired ways for evaluating AI/AN physical activity programs. In Chapter 5 I provide a discussion of all study findings, implications for the field and future research, and the limitations.

#### **1.4. Justification for Study**

There is an identified lack of program evaluation among physical activity programs in Indian Country (Teufel-Shone et al., 2009). While scholars have begun to address this disparity for other health program evaluations (Tribal Evaluation Workgroup, 2013), few have sought to understand the state of physical activity program evaluation among this population; an important area of research given the high rates of physical activity related illness (e.g. obesity, diabetes) throughout Indian Country (Cobb et al., 2014; O'Connell et al., 2010). It is argued that the lack of evaluation among AI/AN programs may be due, most significantly, to a disconnect between Western evaluation methods and instruments, and Indigenous ways of knowing (LaFrance, 2004). For example, Indigenous knowledge is described as favoring holistic thinking, which is often presented as in contrast to Western practice that values linear and hierarchical thinking (LaFrance, 2004). However the relationship between these two epistemologies is complex and is likely not as distinctly different as presented because each tribe has a culturally unique worldview (Hodge, Limb, & Cross, 2009) and Indigenous knowledge reflects the history, social position, values, and interests of those who create it (Cochran et al., 2008), which vary across the over 560 unique federally recognized AI/AN tribes (Bureau of Indian Affairs, 2015).

To support and empower the creation of Indigenous ways of evaluating, scholars have prioritized the need to “build Tribal infrastructure for evaluation” (Tribal Evaluation

Workgroup, 2013, p. 18), recognizing the association between internal infrastructure and Tribal sovereignty and ownership over research and evaluation. However, frameworks for conducting evaluation grounded in Indigenous ways of knowing have rarely been assessed (even less so in the context of physical activity) and the types and sources of capacity necessary to implement these methods have not been identified.

This study seeks to address these gaps, while also attending to the overarching goal of contributing knowledge to the ways in which evaluation can be conducted such that it is meaningful and useful to both Native community members and funding agencies (Chouinard & Cousins, 2007). Researchers have identified the exploration of Indigenous knowledge as a necessary topic for scholarly discussion and further research, to effectively address power differentials, increase community capacity, and create a climate that is conducive to culturally responsive and locally important evaluation (Chino & DeBruyn, 2006; Chouinard & Cousins, 2007). Findings from this study contribute significantly to the literature around Indigenous evaluation and identify ways in which AI/AN organizations can improve their capacity to internally conduct successful evaluation.

### **1.5. Theoretical Framework**

To better understand what program evaluation means to AI/ANs, a decolonizing research approach was used to frame this study. Decolonizing methodology seeks to undo the negative impact of colonization by conducting research in a manner that is based in the ‘worldview’ of the participating Indigenous community (Kawakami et al., 2007; Robertson et al., 2004). In the domain of health, the concept of colonization (or “colonial suppression”) occurs when the assumptions of the majority group or society regarding



health and disease are applied to address the health disparities (often caused by colonization) among the marginalized (e.g. Indigenous) population (Bartlett et al., 2007). To begin to address colonization, the decolonizing methodology framework recognizes that the majority of current research and evaluation are grounded in Western (dominant) ideologies, thus dismissing “other” ways of knowing. In this context, “other” ways of knowing are epistemologies that differ from the norm or dominant viewpoint, and thus are often rejected in order to privilege and impose the dominant way on the marginalized population (Bartlett et al., 2007; Kawakami et al., 2007). Therefore, Indigenous researchers have called for an increase in the use of decolonizing methodologies to identify and support the perspectives of Indigenous people on research and evaluation processes (Bartlett et al., 2007; Kawakami et al., 2007; Smith, 2012).

In the field of public health, researchers have begun to decolonize health promotion and disease prevention by encouraging Native communities to create programs that are culturally responsive and grounded in their ways of knowing; however, the evaluation of these programs is often outlined and determined by the funding entity and based on Western methods of evaluation (Grover, 2010). Indigenous researchers have highlighted that historically, evaluation has been conducted “on” Native communities, and has used a deficit model whereby communities are negatively constructed as the “other” leading to a cultural resistance to evaluation practices (Kawakami et al., 2007). Scholars suggest that through the decolonization of evaluation, AI/AN evaluation practices can be established that are grounded in Indigenous epistemologies and produce culturally appropriate, meaningful, and useful outcomes (Bartlett et al., 2007; Kawakami et al., 2007). Indigenous epistemologies (or knowledge) that transcend many tribal

communities have been described within three categories: traditional knowledge, empirical knowledge, and revealed knowledge (LaFrance & Nichols, 2009). As compared to Western knowledge that is often built in a linear fashion, traditional knowledge is co-created holistically, occurring through relationships, experiences, interpretations, Native teachings, and community learning (LaFrance & Nichols, 2009). In the creation of empirical knowledge subjective truth is often viewed in higher regard than objective truth for many Indigenous peoples, and knowledge is derived from experiences and environmental observations that occur over time (LaFrance & Nichols, 2009; Lavallee, 2009). Finally, Indigenous people often respect revealed knowledge (or spiritual knowledge) that is created through the interpretation of messages that are individually received during ceremonies, visions, and dreams (LaFrance & Nichols, 2009; Lavallee, 2009). These ways of knowing, contrasting Western epistemologies, have been suggested to influence how evaluation is conducted given the emphasis on subjective reflection, the often modified and fluid processes of measuring program success, and the importance of “capturing the journey of the program” rather than the expected outcome (LaFrance & Nichols, 2009).

To contribute to the decolonization of evaluation, the study used culturally appropriate strategies in recruitment, data collection, and data analysis. When seeking to conduct decolonizing research it is recommended that a diverse sample of participants be recruited, to ensure the viewpoints of many within the community of interest are heard (Bartlett et al., 2007). Thus, AI/ANs were recruited to participate in the semi-structured in-depth interviews based on the following factors: tribal/reservation-based or urban, source of funding, and geographic location (Bartlett et al., 2007). When seeking to

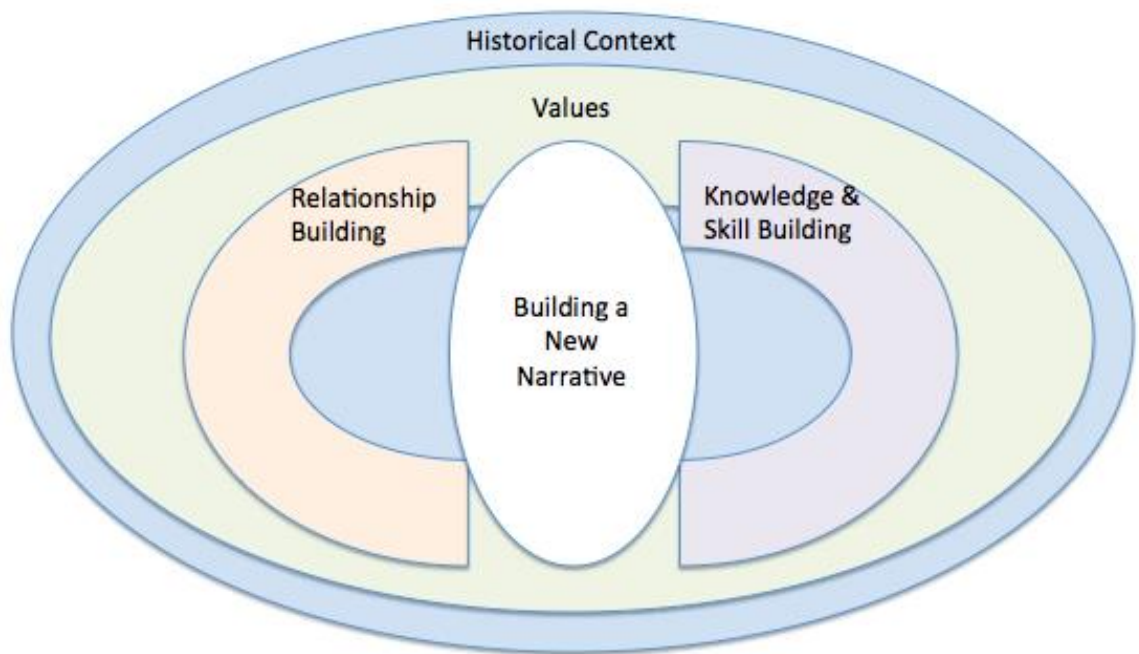
understand concepts through the voices of the population, it is recommended that Western words not be used, as they are suggested to increase the likelihood that participants provide responses aligned with Western culture rather than their cultural perspective (Bartlett et al., 2007). Therefore, the semi-structured interview guide did not use Western words (e.g. evaluation, reporting) in the beginning sections of the protocol. Lastly, decolonizing research uses the process of member checking to ensure the voices of the community are heard and interpreted correctly, as well as reflexivity to capture both the experiences of the researcher and the participant to create emergent theory or new ways of understanding the world (Bartlett et al., 2007). Thus, the study included member checking and on-going reflexivity throughout the research process to further the bi-directional learning said to occur during decolonizing research (Bartlett et al., 2007).

## **1.6. Conceptual Model**

In 2012 the Tribal Evaluation Workshop was established by the Department of Health and Human Services' Children's Bureau with the goal of improving evaluation strategies and capacity for child welfare programs in Indian Country. This workgroup, comprised of evaluators with expertise in working with tribal communities, university researchers working with AI/AN programs, training and technical assistance providers for AI/AN funding recipients, and program partners from the federal government, identified the need for a "fundamental change in the way evaluation is practiced within Tribal contexts" (Tribal Evaluation Workgroup, 2013, p. 4). Thus, they established a "roadmap" as a guide for tribal programs and supporting entities (e.g. universities, funding agencies) to increase the capacity for evaluation practice for AI/AN child welfare programs that is both scientifically and culturally rigorous (Tribal Evaluation Workgroup,

2013). To address the lack of evaluation for physical activity programs among AI/AN communities (Teufel-Shone et al., 2009), this study used the “Roadmap” as the framework for inquiry and to guide the creation of a new narrative for evaluating AI/AN physical activity programs.

The model includes the concepts of historical context, values, relationship building, knowledge and skill building, and building a new narrative (explained in Chapter 2) as the necessary components for establishing an evaluation practice that is grounded in Indigenous ways of knowing and provides outcomes that are meaningful and appropriate to AI/AN communities.



*Figure 1.* Conceptual Model for Building a New Narrative around Physical Activity Program Evaluation in Indian Country

## **1.7. Study Overview**

Through an exploratory sequential mixed methods design (Creswell & Plano Clark, 2011), this study first used qualitative methods to identify and understand Indigenous knowledge-based approaches to evaluating AI/AN physical activity programs, and then through those findings created and pilot tested a quantitative survey instrument designed to capture the prevalence of the qualitative findings across the target population. For the first stage of the study, in-depth interview participants were recruited from AI/AN organizations conducting externally funded physical activity programs. In an effort to gather a diverse group with regards to reservation/urban locale, funding source, and geographic location, 33 organizations that were conducting AI/AN physical activity programs were purposefully sampled based on these factors. The program staff from each organization that works most closely with the design and implementation of the evaluation was targeted for participation (e.g. Program Coordinators, Program Managers, Internal Evaluators). The in-depth interviews sought to understand approaches to evaluation grounded in Indigenous knowledge, interest in using these methods, the organizational capacity necessary for conducting Indigenous evaluation, and barriers to implementing these approaches among AI/AN organizations conducting externally funded physical activity programs. In-depth interviews were conducted over the phone during November and December 2014, and January 2015.

As the second stage of the study, the in-depth interviews were analyzed using a thematic analysis, and the results (e.g. themes and concepts) were connected to the creation of a survey (e.g. guided survey questions and served as response options). To pilot test the survey and its platform with the target population, an Internet link to the

online version of the new instrument was disseminated to AI/AN organizations conducting externally funded physical activity programs using my professional network and a dissemination plan. Individuals were eligible to complete the survey if they worked on the evaluation of an externally funded physical activity program serving AI/ANs and if they were over the age of 18. It was strongly encouraged that only one individual from each grant-funded organization complete the survey. Survey data collection took place from the end of May 2015 through July 2015.

### 1.8. Definition of Variables/Terms

The following terms were used in the proposed study.

| <i>Term</i>                                 | <i>Definition</i>  |
|---|--|
| AI/AN organization                          | “The recognized governing body of any Indian tribe; any legally established organization of Indians which is controlled, sanctioned or chartered by such governing body or which is democratically elected by the adult members of the Indian community to be served by such organization and which includes the maximum participation of Indians in all phases of its activities.” (Indian Self Determination and Education Assistance Act of 1975) |
| Barrier                                     | “Something immaterial that impedes or separates” (synonym – obstacle) (“Barrier,” n.d.).   |
| Evaluation                                  | Knowledge used for “learning and improving both programs and the broader communities of which they are a part” (LaFrance, Nichols, & Kirkhart, 2012, p. 69).   |
| Externally funded physical activity program | Any program, event, or activity designed to provide, promote, or support the opportunity for engaging in bodily movement produced by skeletal muscles that results in caloric expenditure (Caspersen, Powell, & Christenson, 1985), and is monetarily supported by an external funding source (e.g. federal or non-profit grant funded).   |
| Indigenous knowledge                        | Indigenous knowledge is comprised of: traditional knowledge (community knowledge passed down through generations and based on experience and adaptation to local culture and environment), empirical knowledge (knowledge gained through observations over time), and revealed knowledge (knowledge acquired through dreams and spiritual practices) (Hansen &   |

|                         |   |
|-------------------------|---|
|                         | VanFleet, 2003; LaFrance & Nichols, 2009; Lavallee, 2009).  |
| Organizational Capacity | Aligned with the values of tribal sovereignty and self-determination, organizational capacity (specific to evaluation) is an organization's potential for developing and implementing program evaluation, as well as taking ownership of the evaluation findings (Chino & DeBruyn, 2006; LaFrance & Nichols, 2010). |
| Reservation community   | An American Indian/Alaska Native community residing on an area of land reserved for a tribe(s) through an agreement with the U.S. (Bureau of Indian Affairs, 2014).   |
| Urban community         | An American Indian/Alaska Native community residing off-reservation/tribal land (Bureau of Indian Affairs, 2014).   |
| Western science         | In the context of this study, Western science refers to research methodologies supported by the dominant culture (those in power in the United States), and includes the methods commonly taught and practiced in educational settings (i.e., empirical, objective inquiry) (Tribal Evaluation Workgroup, 2013).    |

## **Chapter 2: Literature Review**

The following section provides a review of the literature regarding diabetes and obesity among AI/ANs, Indigenous knowledge and decolonization, and Indigenous evaluation. Two frameworks for conducting evaluation grounded in Indigenous ways of knowing are then discussed, as the study presented sought to build upon these frameworks to identify Indigenous ways of evaluating physical activity programs.

### **2.1. Diabetes and Obesity among AI/ANs**

Diabetes and obesity are significant public health issues for American Indian/Alaska Natives (AI/ANs). AI/ANs suffer disproportionately from higher rates of type 2 diabetes and obesity, as compared to the general U.S. population (Cobb et al., 2014; O'Connell et al., 2010; Schell & Gallo, 2012). In 2009, the prevalence of diabetes among AI/AN adults (aged 20+) was more than twice the rate of non-Hispanic whites (16.1% vs. 7.1%), and close to twice the rate of the general population (8.3%) (Indian Health Service, 2011). While rates of diabetes vary across AI/AN communities, reaching as high as 60%, it has been identified as the fourth leading cause of death in this population (O'Connell et al., 2010; Indian Health Service, 2011). Strikingly, from 1994 to 2009 rates of diabetes among AI/AN young adults (aged 25-34 years) increased by 161%, and among AI/AN youth (aged 15-19 years) prevalence increased by 110% (Indian Health Service, 2011). An analysis of a national dataset comprised of data from 2000-2010 found 15.1% of AI/AN adult males identified as having diabetes, compared to 7.3% of Whites, and 14.3% of AI/AN adult females compared to 5.8% of Whites (Cobb et al., 2014). Researchers have identified obesity and physical activity to be modifiable risk



factors for diabetes (Cobb et al., 2014; Indian Health Service, 2011). Obesity has been recognized as the “most important single risk factor for type 2 diabetes”, with studies finding that as obesity decreased, the incidence of type 2 diabetes was reduced (Alberti, Zimmet, & Shaw, 2007). In addition, AI/ANs also suffer disproportionately from obesity, with 71.1% of AI/AN adults (aged 18+) identified as overweight or obese, compared to 59.9% of non-Hispanic whites from 2008-2010 (Schoenborn, Adams, & Peregoy, 2013). This disparity is even more significant when looking at only those who are identified as obese, finding that 40.8% of AI/AN adults (aged 18+) were classified in 2011 as obese and only 26.2% of non-Hispanic whites were identified as obese (Schiller, Lucas, & Peregoy, 2012). Physical activity has been identified as a modifiable risk factor for both diabetes and obesity (Acton & Bullock, 2009; Teufel-Shone et al., 2009).

Physical activity has been found to be inversely associated with body mass index (BMI) and percentage of body fat, indicators of obesity (Coble & Rhodes, 2006). When controlling for obesity, physical activity is shown to be independently associated with type 2 diabetes (Kriska et al., 2003). A 2000 study of non-diabetic AI/ANs aged 15-59 found a relationship between total physical activity and diabetes incidence among women and men, after adjusting for BMI and age (Kriska et al., 2003). In addition, physical inactivity has shown to be associated with type 2 diabetes among AI/AN adults (Alberti et al., 2007). Yet, in 2012 only 18.7% of AI/AN adults (aged 18+) met the federal recommendations for aerobic and muscle strengthening physical activity, compared to 20.8% of the general U.S. population (Centers for Disease Control and Prevention, 2012). A 2009 systematic review identified physical activity programs being implemented across Indian Country (not counting those that are not published in the literature), but

found that few programs were evaluating their impact, thus limiting their ability for program improvement and, most importantly, sustainability (Teufel-Shone et al., 2009).

## **2.2. Indigenous Knowledge and Decolonizing Methodologies**

Indigenous knowledge (or epistemology) is, in its most basic form, the ways in which Indigenous people (e.g. American Indians, Alaska Natives, First Nations, aboriginals) come to know the world. This knowledge is uniquely created within each Indigenous community; however, the following three processes often transcend across the larger population: empirical knowledge, traditional knowledge, and revealed knowledge (Barnhardt & Kawagley, 2005; Lavallee, 2009). Empirical knowledge is representative of observations taken from different vantage points over time in real-life settings (LaFrance & Nichols, 2009; Lavallee, 2009). Traditional knowledge is based on the history and experiences of the community and is passed down through generations (LaFrance & Nichols, 2009; Lavallee, 2009). Revealed knowledge is discovered through dreams, visions, and spiritual practices (LaFrance & Nichols, 2009; Lavallee, 2009).

During the process of colonization by the European settlers over Indigenous populations (and the resulting forced acculturation and assimilation), these ways of understanding the world were ignored and dismissed, privileging Western knowledge and viewing all else as “other”. In the current social context, the continued view of Western knowledge as the only “rational ideas” perpetuate imperialism, colonialism, and power differentials between Western and Indigenous peoples (Smith, 2012). In relation to research, Western science is identified as superior and is widely taught and practiced, and while it may seek to include Indigenous perspectives in the data, findings are then used to improve or “bring progress into the lives of indigenous peoples” based on Western

assumptions and standards of what is progress or what is good/bad and right/wrong (Bartlett et al., 2007; Smith, 2012). Western science often prioritizes objectivity, analytic and reductionist methods, and linear processes; where as, Indigenous knowledge is often relational (acknowledging interconnectedness), subjective, and values holistic thinking (LaFrance, 2004; LaFrance & Nichols, 2009; Lavallee, 2009; Tribal Evaluation Workgroup, 2013). To address the inappropriate use of Western science among Indigenous people, Indigenous and non-Indigenous researchers have called for the decolonization of research to privilege Indigenous knowledge, voices, and experiences, and “re-write and re-right the Indigenous position” in society (Denzin & Lincoln, 2008; Lavallee, 2009).

### **2.3. Importance of Decolonized Physical Activity Program Evaluation**

Program evaluation can significantly impact the effectiveness of physical activity programs. Evaluation has been identified as an essential service of the field of public health (Harrell & Baker, 1994) and for American Indian communities, it can lead to improvement in public health programming, a knowledge base for future programming, and ultimately greater health outcomes in this population (LaFrance & Nichols, 2009). In addition, program evaluation is ‘inextricably linked’ to continued services (e.g. physical activity programming), as public health organizations are required to demonstrate success to ensure future funding, as well as to be competitive in a field where funding mechanisms are limited (Teufel-Shone et al., 2009). However, among AI/AN programs, evaluation is often lacking and/or limited and stigmatized (Kawakami et al., 2007; Teufel-Shone, 2014; Teufel-Shone et al., 2009).

To address the identified lack of evaluation, scholars have stressed the importance of creating ‘evaluation plans’ that are culturally-appropriate and scientifically rigorous, and can be successfully implemented by trained local public health practitioners, researchers, and associated physical activity program staff (Teufel-Shone et al., 2009). Most importantly, scholars have recognized the need for decolonized evaluation, whereby methodology and instrumentation are grounded in Indigenous ways of knowing, and thus, meaningful, productive, and useful to Indigenous communities and organizations (Kawakami et al., 2007; LaFrance, 2004). Due to the colonization of research and evaluation, the “over-researching” of Indigenous peoples, and the absence of including Indigenous peoples in the evaluation decision-making process, over time this population has become resistant to evaluation (Kawakami et al., 2007). Therefore, there has been a call to decolonize evaluation, creating culturally-responsive evaluation that is contextualized within the history of the community, grounded in Indigenous ways of knowing (or epistemologies), respects Tribal sovereignty, and serves to benefit the health and wellbeing of the community (Kawakami et al., 2007; LaFrance, 2004). The decolonization of evaluation has been promoted to ensure that evaluation practices are “of, for, by, and with [Indigenous peoples]” (Kawakami et al., 2007). However, in the context of physical activity, efforts have not been made to decolonize evaluation practices for AI/AN communities. The proposed study aims to address this gap, seeking to explore and understand Indigenous ways of assessing the “success” of AI/AN physical activity programs.

## **2.4. Initial Steps to Decolonize Evaluation: Existing Indigenous Frameworks**

Scholars have suggested that a mistrust of research (and researchers), a disconnect between Western and Indigenous ways of assessing ‘success’, and a lack of resources to support the capacity for local, culturally appropriate evaluation may be the reasons behind the lack of evaluation for AI/AN public health programming (Cavino, 2013; Grover, 2010; Kawakami et al., 2007; LaFrance & Nichols, 2010; Tribal Evaluation Workgroup, 2013). The history of research and evaluation across Indian Country has been a contentious one, with instances of cultural exploitation, losses of intellectual property rights, intrusiveness, and often little reciprocity from the researcher to the AI/AN community (LaFrance, 2004; LaFrance & Nichols, 2010). Given the history of research and evaluation with Indigenous populations across the country, evaluation may be viewed as a form of colonization when grounded in Western ways of knowing and thus imposing “outsider” understandings of success and value with regards to the outcomes of a program (Cavino, 2013). Specific to public health programming, evaluation is often a required condition of funding, with instruments, data collection methods, objectives, and reporting formats predefined and based on Western standards, and as such, it is often perceived as a form of or means for judgment (Grover, 2010; Tribal Evaluation Workgroup, 2013).

Often evaluation with AI/AN programs is grounded in Western science, and while acceptance of Western science may vary by AI/AN community, it is often in contrast to Indigenous knowledge – which also varies by community. Western evaluation science traditionally uses linear logic models, viewing theoretical constructs as isolated factors, which is in contrast to commonly identified Indigenous ways of knowing that are holistic

and cyclical (LaFrance, 2004). Western evaluation science also often prefers standardized quantitative instruments (with an emphasis on validity and reliability), as compared to the use of qualitative methods, which are generally more accepted and more meaningful among AI/ANs given the culture of oral traditions (Chouinard & Cousins, 2007; LaFrance, 2004). In addition, Western outcomes often focus on individual change whereas outcomes focused on improvements and relationships within the broader community have been identified as more culturally and contextually appropriate among Indigenous communities (Chouinard & Cousins, 2007). These differences in ways of understanding the world (ontology) and generating knowledge (epistemology) contribute to the disconnect between Indigenous and Western evaluation, and may accentuate the resistance and apathy towards required evaluation for funded public health programming, as well as the power imbalance between Western and Indigenous populations (Chouinard & Cousins, 2007; Kawakami et al., 2007; LaFrance, 2004) ultimately limiting the implementation and meaningful use of evaluation.

To address this disconnect and to be culturally sensitive to the relationship between researchers and Indigenous populations, experts have developed strategies and frameworks for conducting program evaluation with AI/AN communities. These strategies include the Indigenous Evaluation Framework (LaFrance & Nichols, 2009; LaFrance & Nichols, 2010) and the Roadmap for Co-Creating Collaborative and Effective Evaluation to Improve Tribal Child Welfare Programs (referred to as the Roadmap for the remainder of this dissertation) (Tribal Evaluation Workgroup, 2013).

**2.4.1. Indigenous Evaluation Framework.** Appreciating the need for including Indigenous epistemologies in national evaluation practices and discourse, the National

Science Foundation funded the American Indian Higher Education Consortium to create an “Indigenous Framework” for evaluation (LaFrance, 2004). Through focus groups comprised of AI/AN scientists, educators, evaluators, and cultural experts, researchers identified four ‘core values’ that framed an Indigenous approach to evaluation, including: being a people of place, recognizing gifts, honoring family and community, and respecting sovereignty (LaFrance & Nichols, 2010).

The framework’s concept of “being a people of place” refers to AI/ANs historical and present reciprocal relationship with their land and sacred space. With regards to evaluation, this concept identifies the relationship between the creation of Indigenous knowledge (i.e. assessment) and the balance between the community and nature (LaFrance & Nichols, 2010). Therefore, the framework suggests that evaluation with AI/AN programs should not be focused on producing generalizable results, as each evaluation and its associated program are designed to be contextually specific to each community (LaFrance & Nichols, 2010). The concept or core value of “recognizing our gifts” relates to the importance of recognizing and honoring the unique skills within each and every individual, and thus, creating measures that are respectful and celebratory of individuals’ and communities’ progress. In the context of evaluation, this concept stresses a strength-based approach to assessing “achievement” using multiple measures, whereby programs examine impact beyond limited measures, connecting “accomplishment” with responsibility (LaFrance & Nichols, 2010). The Indigenous Evaluation Framework also includes the concept of “honoring family and community,” which, relating strongly to the other concepts, stresses the importance of relatedness for AI/AN identity. In contrast to Western understandings of family, AI/AN individuals

make sense of who they are by acknowledging where they came from and who came before them (LaFrance & Nichols, 2010). In the context of program evaluation and with the recognition of tribal sovereignty, this concept stresses the importance of: including the community throughout the evaluation, focusing on community growth as opposed to individual growth, and also building capacity to allow for local control and ownership of evaluation development, implementation, analyses, and utility (LaFrance & Nichols, 2010). Finally, the framework, while addressing this concept within each of the other core values, identifies tribal sovereignty as its own core concept, imperative for conducting evaluation with AI/ANs. This concept stresses the importance of recognizing AI/AN tribes as sovereign nations and as such, respecting tribal ownership and control of data, tribal Institutional Review Board processes, community capacity and knowledge, and the value of the findings to the community and funding agencies (LaFrance & Nichols, 2010). The Indigenous Evaluation Framework, while developed in the context of educational evaluation, served as a guide for this study.

**2.4.2. Roadmap.** The U.S. Department of Health and Human Services, Administration for Children and Families, Children's Bureau convened a Tribal Evaluation Workshop, comprised of staff of Tribal child welfare programs, university researchers that have worked with AI/AN communities, technical assistance providers, and others with expertise in evaluation to create a tool that improves AI/AN evaluation capacity through the incorporation of Indigenous knowledge, culture, and tradition (Tribal Evaluation Workgroup, 2013). The Tribal Evaluation Workgroup created a roadmap (Figure 1) to guide the development and implementation of evaluation with external partners (i.e., "outsiders" of the AI/AN community), for reference in grant



applications, for use in training future researchers and evaluators at Tribal colleges or universities, to inform evaluation requirements established by Federal and State funders, and to improve Tribal Institutional/Research Review Boards' guidelines (Tribal Evaluation Workgroup, 2013). One of the authors of the Indigenous Evaluation Framework serves on the Tribal Evaluation Workgroup and thus, the framework likely informed elements of the Roadmap. This Roadmap served as the conceptual model for this study.

With regards to the design of the Roadmap, its circular shape represents the cyclical process of improving programming through evaluation. The overarching concepts of 'relationship building' and 'knowledge and skill building' overlap to reflect their interdependence and equal importance, with the goal of 'building a new narrative' symbolically in the center as the central focus of the Roadmap. These concepts are encompassed by 'values' of Indigenous communities, and further underpinned by 'historical context', which shapes existing and future practices with this population. Embedded within the Roadmap are the names of various types of stakeholders that play significant roles in the process of evaluation with AI/ANs (Tribal Evaluation Workgroup, 2013).

**Values.** The concept, or priority, of 'values' is identified as being "essential to the process of becoming culturally adept" when conducting evaluations with Indigenous communities (Tribal Evaluation Workgroup, 2013). Workgroup members recommend that the following values be considered during each phase of program evaluation: Indigenous ways of knowing, respect for Tribal Sovereignty, strengths focus, cultural and scientific rigor, community engagement, ethical practices, and knowledge sharing.

Similar to what has been identified above, the Roadmap refers to ‘Indigenous Ways of Knowing’ as the traditional ways of identifying what is working and what is not working, through generational knowledge and dissemination via storytelling and oral tradition. However, the Roadmap additionally stresses that evaluators should seek to use the most appropriate scientific methods available, with a focus on respecting and adhering to cultural protocol (Tribal Evaluation Workgroup, 2013). Consistent with the Indigenous Evaluation Framework, the roadmap’s concept of ‘Tribal Sovereignty’ recognizes the importance of using culturally appropriate and meaningful measures of success, and conducting research that both “protects and benefits” AI/AN communities (Tribal Evaluation Workgroup, 2013). The value of a ‘strengths focus’ suggests that evaluators move away from identifying the deficits of AI/AN communities, as compared to other U.S. populations, and instead explore what programs are working well among AI/ANs, to inform effective program development across other tribal/urban communities (Tribal Evaluation Workgroup, 2013). The Roadmap, seeking to bridge Western and Indigenous evaluation strategies, emphasizes the equal importance of both scientific and cultural rigor in evaluation; identifying examples of cultural rigor as the use of oral tradition or ongoing community engagement and suggesting the prospect of redefining scientific rigor to be culturally appropriate for AI/AN communities (Tribal Evaluation Workgroup, 2013). Reflecting the community emphasis in the Indigenous Evaluation Framework, the Roadmap also identifies ‘community engagement’ as a core concept, noting the importance of AI/AN-driven evaluation and internal capacity building, to ensure significant and meaningful contribution to the community (Tribal Evaluation Workgroup, 2013). In another instance of bridging Western and Indigenous methods, the Roadmap

highlights ‘ethical practices’ as a core concept, citing the ethical principles followed by Western researchers (e.g. beneficence, justice, respect for persons), as well as the importance of being aware of the history of research with Indigenous communities and its implications for ethical standards (Tribal Evaluation Workgroup, 2013). Lastly, the Roadmap identifies ‘knowledge sharing’ as a core concept within ‘values,’ recommending that evaluators be aware of knowledge sharing practices within the communities they are serving, as well as how Western knowledge sharing practices may create conflict. For example, it may be critical that AI/AN community members are aware of all knowledge created during the evaluation, and therefore, methods for ensuring transparency must be incorporated into any Western Institutional Review Board applications. The concepts, identified as values in the Roadmap, informed the creation of the semi-structured in-depth interview guide, designed to understand these values in the context of physical activity program evaluation, as compared to Tribal child welfare.

***Historical context.*** The design of the Roadmap clearly emphasizes the importance of acknowledging, understanding, and respecting the ‘historical context’ that shapes how evaluation is conducted in AI/AN communities. Historically, Indigenous communities have been mistreated and misinformed by external entities conducting research and evaluation (Hodge, 2012; LaFrance & Nichols, 2010; Pacheco et al., 2013; Tribal Evaluation Workgroup, 2013). As a result, the Roadmap notes that many AI/ANs view evaluation as invasive, imposing, judgmental, and a threat, based on their historically accurate perception of research and evaluation as an external tool that may be used to end local programming and that often provides little benefit to the AI/AN community members (Tribal Evaluation Workgroup, 2013). To help to mend the distrust, the scholars

of the Roadmap suggest non-Native evaluators invest time in the AI/AN community, seek mentorship, strive to build internal capacity, use evaluation as a positive and useful tool for the community, and respect Indigenous ways of knowing (Tribal Evaluation Workgroup, 2013).

***Relationship building.*** The Roadmap also identifies priorities by which those conducting evaluation with AI/AN communities should strive to attend. With regards to building relationships, the Roadmap states that evaluators should develop an evaluation practice that: involves the community in determining the goals/outcomes, is grounded in cultural and ethical practices, provides examples for how the evaluation outcomes will benefit the community and how they are linked to funding, and is transparent and translatable (Tribal Evaluation Workgroup, 2013).

***Knowledge and skill building.*** As a second priority, the Roadmap notes that evaluators should engage in knowledge and skill building through: community-engaged and comprehensive evaluation, the provision of mentoring and technical assistance to local staff, the development of culturally appropriate and meaningful data collection instruments, the use of storytelling to enhance the evaluation process and data interpretation, training on how to use the data to improve local programming, and the translation and coordination of data collection across AI/AN communities (Tribal Evaluation Workgroup, 2013).

***Building a new narrative.*** Identified as the goal of the Roadmap, this framework seeks to guide the creation of a ‘new narrative’ around Indigenous evaluation. Developers of the Roadmap suggest that effective AI/AN evaluation are conducted when external evaluators have attained the following strategic goals: collaborative and culturally

responsive evaluation, system improvement, locally guided data collection and interpretation, meaningful analyses, bidirectional learning, and enhanced AI/AN evaluation skills (Tribal Evaluation Workgroup, 2013). Scholars state that evaluation should inform practice, programming, and ongoing system improvement to ensure the needs of the community are met, and the program is culturally rigorous and effective (Tribal Evaluation Workgroup, 2013). The study presented in this dissertation sought to build a new narrative around the evaluation of AI/AN physical activity programs to identify ways in which these strategic goals can be met amongst AI/AN communities, thus producing meaningful and effective evaluation.

## **2.5. Next Steps: Improving Indigenous Evaluation of Physical Activity Programs**

While powerful in their ability to improve culturally appropriate evaluation in Indian Country, ultimately providing meaningful ways to improve programs and sustain funding, the strategies outlined above are primarily designed to improve outsiders' (non-Natives) ability to conduct evaluation *with* AI/AN programs, rather than improving AI/AN capacity to conduct evaluation *internally*. Moreover, researchers have rarely examined the concept of evaluation capacity within the AI/AN context; specifically, what constitutes “capacity” for Indigenous evaluation. This study aimed to address these gaps, exploring Indigenous evaluation practices and the organizational capacity necessary to implement these practices, and contributing to the decolonization of evaluation.

Specification to physical activity programming will serve to support the improvement and sustainment of locally developed AI/AN programs designed to address diabetes and obesity in Indian Country, a significant public and community health issue. Identifying the state of the Indigenous evaluation knowledge and practice among AI/ANs

provides four meaningful outcomes: 1) strategies by which AI/ANs can implement Indigenous evaluation for physical activity programs; 2) identification of ways in which AI/AN organizations can improve their internal capacity to conduct Indigenous evaluation; 3) recommendations for how external funding agencies can increase support for meaningful and useful physical activity program evaluation by AI/AN organizations; and 4) scholarly contribution to the Indigenous research around decolonizing evaluation.

## **Chapter 3: Barriers to Evaluating Physical Activity Programs in American Indian/Alaska Native Communities**

### **Abstract**

Despite the importance of evaluation to successful programming, there is a lack of evaluation among physical activity programs in American Indian/Alaska Native (AI/AN) communities. While studies have identified barriers to evaluation in this population broadly, they have not explored the barriers specific to the context of physical activity programming. To address this need, in-depth interviews were conducted with individuals working on the evaluation of externally funded AI/AN physical activity programs to understand their evaluation challenges. A thematic analysis found that the following present barriers to the meaningful evaluation of their programs: challenges with measurement and data collection, a lack of resources and support, unique cultural factors and the logistics of physical activity programming, and the lack of alignment between evaluation requirements set by the funding agency and the evaluation desired by the AI/AN organization. Findings identify ways to improve culturally responsive and decolonized evaluation for AI/AN physical activity programs.

### **Introduction**

American Indians and Alaska Natives (AI/ANs) suffer disproportionately higher rates of obesity and diabetes, as compared to the general population, and among AI/ANs physical activity has been shown to positively impact these health conditions (Coble & Rhodes, 2006; Foulds, Warburton, & Bredin, 2013; Kriska et al., 2003). In a 2014 analysis of national data obtained from 2000-2010, when compared to White

respondents, AI/ANs reported higher rates of obesity among males (33.9% vs. 23.3%) and females (35.5% vs. 21%) (Cobb et al., 2014). The same analysis also found higher rates of diabetes among AI/AN males (15.1% vs. 7.3%) and females (14.3% vs. 5.8%) when compared to their White counterparts (Cobb et al., 2014). However, national data suggests that AI/ANs are less physically active than other racial/ethnic groups, with 27.2% of AI/AN males and 31.8% of AI/AN females reporting no leisure-time physical activity, compared to 18% of White males and 27.9% of White females (Cobb et al., 2014). This disparity has been attributed, in part, to Indigenous communities being rapidly acculturated to the Western (more sedentary) lifestyle, which is in stark contrast to their traditional physically active lifestyle that included regular engagement in activities like hunting, gathering, fishing, farming, and dancing (Foulds et al., 2013; Rode & Shephard, 1994).

Despite the apparent importance of and need for effective interventions that promote physical activity among this population, two recent systematic reviews of peer-reviewed literature identified a lack of evaluation among AI/AN physical activity programs (Fleischhacker, Roberts, Camplain, Evenson, & Gittelsohn, in press; Teufel-Shone et al., 2009). The 2009 systematic review found that only 42% of included physical activity interventions mentioned an assessment of impact (Teufel-Shone et al., 2009), and the 2015 review similarly reported only 42% of interventions, specific to AI/AN youth physical activity, described the use of evaluation (Fleischhacker et al., in press).

Program evaluation can significantly impact the effectiveness and sustainability of physical activity programs occurring in AI/AN communities. Evaluation has been



identified as an essential service for the field of public health (Harrell & Baker, 1994) and for AI/AN communities specifically, it can grow the knowledge base of evidence-based physical activity programming in this population, directly impact future funding for interventions, and ultimately, contribute to addressing the health disparities faced by AI/ANs (Going et al., 2003; LaFrance & Nichols, 2009; Teufel-Shone et al., 2009). The lack of evaluation has, most notably, been attributed to the negative history of evaluation in this population (Cavino, 2013; Hodge, 2012; LaFrance & Nichols, 2010) and the differences between Western and Indigenous research and evaluation methods and ways of knowing (Cavino, 2013; LaFrance & Nichols, 2010; Tribal Evaluation Workgroup, 2013).

**AI/AN experiences with research and evaluation.** The history of research and evaluation has been a contentious one for Indigenous peoples. Over the years there have been instances of cultural exploitation, the loss of intellectual property rights, intrusiveness, and often little reciprocity from the researchers to the Indigenous communities involved (LaFrance, 2004; LaFrance & Nichols, 2010). This has left Indigenous communities feeling that the research was performed *on* them rather than *with* or *for* them (Wallerstein, 1999; Tribal Evaluation Workgroup, 2013). In the context of public health programming, evaluation is often a required condition of funding, with instruments, data collection methods, objectives, and reporting formats predefined, and as such, it is often perceived as a form of or means for judgment and accountability (Chouinard, 2013; Grover, 2010; Tribal Evaluation Workgroup, 2013). Due to the negative history of research and evaluation, the imposition of evaluation on Indigenous communities, the “over-researching” of this population, the perception of evaluation as

judgment, and the absence of including Indigenous communities in the evaluation decision-making process, there is a growing unpopularity towards research and evaluation, posing significant challenges, and rightfully so, to the implementation of evaluation (Kawakami et al., 2007; LaFrance & Nichols, 2010). This stigma towards evaluation can limit the potential effectiveness of public health programming.

**Western and Indigenous worldviews.** In addition, notable differences between Western and Indigenous epistemologies and worldviews have been identified. Thus, when evaluation based in Western science is required and/or conducted without being validated among Indigenous Peoples and vetted by the communities involved, it can yield research and evaluation that is culturally inappropriate, invalid, and not meaningful for the Indigenous participants (Bowman, Francis, & Tyndall, 2015; Grover, 2010; Kirkhart, 2005; LaFrance, Kirkhart, & Nichols, 2015; Tribal Evaluation Workgroup, 2013). Researchers have rigorously examined the differences between Western and Indigenous worldviews in the context of evaluation; and describe Western science and evaluation as favoring linear and hierarchical thinking, objectivity, analytic and reductionist methods, and a focus on the impact of the program on the individual, whereas Indigenous knowledge and evaluation often values holistic thinking, subjectivity, methods that acknowledge relations and interconnectedness, and a focus on impact of the program to the community (LaFrance, 2004; LaFrance et al., 2015; LaFrance & Nichols, 2009; Lavallee, 2009; Tribal Evaluation Workgroup, 2013). Additionally, Western science typically seeks to answer research questions and build empirical evidence, and Indigenous knowledge often focuses on explaining human experience and connectedness with the greater environment (Tribal Evaluation Workgroup, 2013). However, it is

important to note that the differences between these two ways of knowing may not always be as distinct as is presented, because Indigenous knowledge reflects the history, social position, values, and interests of those who create it (Cochran et al., 2008), and therefore it varies across the over 560 unique federally recognized tribes (Bureau of Indian Affairs, 2015) and for some communities may include what has been identified as “Western knowledge”. These nuances in how Indigenous and Western ways of knowing are experienced and lived by each unique AI/AN community adds to the complexity of designing evaluations that are appropriate and meaningful.

While these factors create challenges to evaluation in AI/AN communities broadly, they may not be *the* challenges or the *only* challenges faced by those seeking to evaluate AI/AN physical activity programs. In order to address the lack of physical activity program evaluation in this population, those unique challenges must be explored. The purpose of this study is to help address this knowledge gap by identifying and understanding the barriers associated with evaluating externally funded AI/AN physical activity programs. Through this exploration, emergent themes arose around the barriers to implementing evaluation (both Western science based and Indigenous knowledge based) faced by those evaluating AI/AN physical activity programs. This paper presents these emergent themes and discusses ways in which to improve the evaluation of physical activity programs in Indian Country.

## **Methods**

I, the first author, conducted this study, and I self-identify as female, White, and American Indian, and was a doctoral candidate in public health during this project. Through my experience as a technical assistance provider to grant funded AI/AN

organizations to support the evaluation of their behavioral and mental health programs, I noticed the difficulty in implementing meaningful evaluation faced by the grantees. In an effort to understand and address these challenges, this study (my dissertation) was developed with the purpose of contributing to the growing research and practice of Indigenous evaluation and culturally responsive evaluation in AI/AN communities. My assumptions at the start of this study were that those working at AI/AN organizations and AI/AN communities want to engage in Indigenous knowledge-based approaches to evaluation (over Western science based evaluation) to evaluate their physical activity programs but couldn't because of the requirements placed by their funding agency, and that individuals would be able to recognize what Indigenous evaluation is and how it differs from what they currently may be doing. However, I thought that funding requirements and acculturation may impact if and how individuals recognized Indigenous evaluation.

**Study design.** An exploratory qualitative study grounded in a decolonizing approach to research was used to address the research aim outlined above. Using this approach, the study involved an iterative, culturally-based process, whereby knowledge was obtained by listening respectfully to interview participants and participants were then involved in the review and interpretation of data (Bartlett et al., 2007). Additionally, and aligned with a decolonizing approach to research, the purpose of the study was process-oriented and served to facilitate bi-directional learning and empowerment around decolonized evaluation practices (Bartlett et al., 2007). The University of Maryland's Institutional Review Board (IRB) approved the study, and informed consent was obtained for all participants.

**Participants and data collection.** In-depth interviews were conducted over the phone with staff of AI/AN organizations implementing externally funded physical activity programs (n=17). To ensure a variety of voices were heard, interview participants were purposefully sampled to reflect urban and reservation programs and organizations, different funding mechanisms (e.g., federal, non-profit, state), and various regional locations. I conducted all of the in-depth interviews, which were audio recorded and led by a semi-structured interview protocol guided by the following research questions: *(1) how do AI/AN organizations define and describe Indigenous knowledge-based evaluation in the context of physical activity programs; (2) how interested are AI/AN organizations in using Indigenous knowledge-based evaluation to evaluate their AI/AN physical activity programs; (3) what organizational capacity is necessary for conducting evaluation grounded in Indigenous knowledge; and (4) what barriers do AI/AN organizations face in implementing Indigenous knowledge-based evaluation to evaluate their physical activity programs?* Interviews continued until the point that saturation was reached (Trotter, 2012). All participants were compensated with a \$20 Amazon gift card for their time and wisdom.

**Analytic processes.** A graduate research assistant transcribed all interview recordings verbatim, and I then reviewed the transcriptions for quality assurance by listening to the recorded interviews and comparing the written transcripts, and making edits when necessary. During this process I also removed any identifiable information (including personal and tribal information). As a form of member checking each transcript was sent to the appropriate participant for their voluntary review and approval. Member checking is a technique used to enhance the credibility of qualitative research

and a method applied in decolonizing research during which participants (or “informants”) are asked to review an aspect of the research data, analysis, and/or interpretation (Bartlett et al., 2007; Krefting, 1999). Nine of the 17 participants confirmed review of their transcript and of those, seven approved the transcript as it was and two participants provided edits. One participant requested a minor edit (e.g., the changing of a word that was misunderstood), while another participant requested a number of edits, as they viewed this as an opportunity to re-respond to the interview questions and re-write their responses. After multiple exchanges discussing the intent of the member check process, a version of the transcript was agreed upon that was close to the original transcription and only included edits where the participant felt that their response was an incomplete thought or didn’t make sense.

Qualitative data were analyzed using thematic analysis and as a first step, I created a codebook based on the exploratory research questions and themes that emerged through the interviews (Braun & Clarke, 2006; DeCuir-Gunby, Marshall, & McCulloch, 2010). Using a group-consensus approach (without quantification) to test the reliability of the codebook, myself and a graduate research assistant coded two interview transcripts and met with a faculty researcher to review and discuss the application of the codebook and any inconsistencies in coding (DeCuir-Gunby et al., 2010). Based on decisions made during the codebook testing process, I revised the codebook, and we (me and graduate research assistant) coded two additional transcripts, met to review discrepancies in coding, and jointly finalized the codebook. At that point, I coded all interview transcripts, and to assess the accuracy of the coding, the graduate research assistant coded a random sample of 30% of the transcripts (n=5). The coding was reviewed, and the codebook was

finalized and then used to guide a primarily deductive analysis but allowed for inductive analysis to occur to identify emergent codes (Braun & Clarke, 2006).

Concepts were created through an examination of the coded text within and across the interview transcripts, and based on the concepts, I wrote a narrative. The narrative was written in the form of a journal entry from the perspective of an individual evaluating an AI/AN physical activity program and represented the preliminary findings of the qualitative analysis. As the second member check, the narrative was sent to all of the interview participants for their review and approval (n=17). Seven of the 17 confirmed that they read the narrative, stated that they approved its content, and felt that it represented the views expressed during their interview. The remaining 10 did not provide confirmation or feedback.

As a form of peer examination, a summary of the preliminary findings was also sent to an expert panel, comprised of professionals experienced in AI/AN public health (Krefting, 1999). Two expert panelists and one faculty researcher, who served as a mentor on the study, provided feedback to the preliminary findings, noting areas for further analysis.

## **Findings**

While recruited based on their employment at an AI/AN organization, the results presented reflect the ideas and understandings of the interview participants (individuals working on the evaluation of an externally funded AI/AN physical activity program) not their organizations.

**Participant characteristics.** Approximately half of participants self-identified as American Indian, Alaska Native, or Native Hawaiian (47.1%), and all worked for an

organization that was led by AI/ANs and existed to serve the AI/AN population. Most participants were either Program/Project Directors (52.9%) or Program Coordinators (35.3%), and nearly all had at least some training in evaluation (88.2%) (see Table 3.1). Additionally, interview participants identified being trained in a variety of disciplines including development, exercise science, nursing, fitness training, accounting, and physical therapy.

**Program characteristics.** Interview participants reported their physical activity programs as geographically located in nine of the 12 Indian Health Service (IHS) areas, including the Alaska Area, Albuquerque Area, Bemidji Area, California Area, Great Plains Area, Nashville Area, Navajo Area, Oklahoma City Area, and Phoenix Area. The majority of the programs were reportedly implemented in reservation communities (64.7%), and the remaining were located in rural non-reservation communities (23.5%), urban areas (5.9%), or implemented in both reservation and urban areas (5.9%). Six of the programs were funded by multiple funding sources. Of those funding sources, most programs were funded by federal agencies (82.4%), some programs were funded by non-profit organizations (35.3%), and a few were funded by state grants (17.6%). The physical activity programs being implemented ranged in their level of focus from environmental/policy change, to community-wide initiatives/events, to individual behavior change (see Table 3.2).

When exploring barriers to evaluation in the context of AI/AN physical activity programs, the following themes emerged: (1) Measuring desired physical activity related constructs in ways that are scientifically and culturally sound is a challenge; (2) a lack of resources and support prevents AI/AN organizations from evaluating their physical



activity programs; (3) collecting evaluation data is challenging due to the unique culture and experiences of AI/ANs and the context of physical activity programs; and (4) the lack of alignment between the evaluation requirements set by the external funding source and the evaluation desired by the AI/AN organization and community being served creates a barrier to meaningful evaluation. These themes will be examined further in the sections that follow.

**Theme 1: Measuring desired physical activity related constructs in ways that are scientifically and culturally sound is a challenge.** Overall when asked about their barriers to evaluation, participants shared a variety of struggles in evaluating their program, including what to measure and how to measure it. Six participants reported their challenges with measuring AI/AN physical activity program related outcomes, including such things as how to capture small changes in behavioral outcomes. Four participants mentioned specific constructs that they wanted to measure but did not know how to, including the empathy and/or “with-it-ness” of physical activity instructors (explained below), exercise motivation, how the community’s culture of physical activity impacts mind, body, spirit, and comfort in a fitness facility. One evaluator specifically described an interest in evaluating their physical activity instructors and identified the constructs of “empathy” and “with-it-ness” as factors they would want to assess. The participant explained these concepts saying:

“Are they free with their praise when somebody’s doing something right or is it all about them and how well they’re doing when they’re demonstrating an activity? I would call that ‘instructor empathy.’ Did they empathize with the

individual? And the second way is something that I refer to as ‘with-it-ness.’ Are they with it? In other words, does the instructor have an awareness of each participant in his or her circumstances *and* of the entire class as a whole? In other words, can the instructor develop a sense of the mood of individuals *and* the entire class?”

However, this participant was not aware of any existing scales specific to measuring these constructs among physical activity instructors.

Participants also shared challenges to measurement due to the funding requirements. For example, one participant wanted to measure how comfortable community members felt in fitness facilities and/or engaging in exercise, but found it difficult to capture this using the “SMART” [Specific, Measurable, Achievable, Realistic, Time-phased] objectives format (Centers for Disease Control and Prevention, 2009) that is required by their funding agency:

“And that’s something that I think we all struggle with...you know we get funding for these things, and we’re supposed to measure them but I don’t know how to. Through our grants, you know, we’re supposed to have SMART goals and objectives that are measurable and some of that is just so subjective that it’s hard to know what would be you know considered a best practice in measuring something like comfort, comfortable...But, I honestly don’t know a scientific way to measure that.”

In addition to the challenge of scientifically measuring outcomes, one participant also reported the challenge of measuring and evaluating in culturally sensitive ways. This participant, with an interest in capturing culture and physical activity, also reported not knowing how to evaluate in a culturally sensitive way, saying:

“One of the traditions here in [our community] is we have a lot of our youth and children keeping our running tradition alive. Kids start running at a very young age as part of their school’s physical education or extra-curricular activities by joining [the] cross-country team. Running, or being physically active has been part of our culture for hundreds of years. We have had Elders tell their stories of how they work in the gardens and go running afterwards to keep their mind, body, and spirit free from living a sedentary lifestyle. [I] don’t know how this can be measured or evaluated. I can’t think of any other ways of evaluating our programs that are culturally sensitive to our program.”

Other participants reported barriers to measurement due to a lack of AI/AN specific evidence-based practices (n=1), not knowing how to evaluate the impact of physical activity programs (n=1), and not having the capacity to measure small behavior change (n=1).

**Theme 2: A lack of resources and support prevents AI/AN organizations from evaluating their physical activity programs.** More broadly than issues of measurement, most participants (n=15) identified barriers to conducting evaluation that,

despite being externally funded, were related to a lack of resources (e.g., staff, funding, equipment, training) and support (e.g., from the community or staff). Seven participants reported that their lack of staff was a challenge to their physical activity program evaluation. One participant explained this issue in the context of their small agency size, saying:

“It’s very difficult just...cause we are a small agency, and so many of us wear multiple different hats...and so the capacity that we all have, we’re almost bursting at the seams.”

Another participant described an interest in growing their evaluation capacity, but they are faced with the barrier of limited staff:

“Well, we’d love to have our social media be more interactive other than people going on the site and liking it. You know, through Twitter or through Facebook. I’d love to have like an interactive evaluation on there. But, we don’t have the staff necessary to keep that up.”

Four participants reported their lack of funds as a significant barrier to their program evaluation, describing how they’ve had to make budgeting decisions with grant funding that sometimes does not allow enough dollars for effective evaluation. For example, one participant said:

“And when we have two big buildings, you know it’s like I said to everybody, by the time that we pay enough salary out to people and pay the propane bills and the electric bills...our money is gone pretty quick.”

Another participant also expressed their limited funding as a challenge to even taking the time to think about their evaluation, reporting:

“Well, we don’t have a ton of money for evaluation, so first we have to do what we’re getting money to do. And, so because those things take priority, I think that we don’t feel like we’ve spent the time even figuring out exactly what [our ideal evaluation] would mean.”

One participant explained his frustration with the grant funders’ request for rigorous evaluation without providing the necessary support:

“I think it’s just that the evaluation on the level that large grant givers are looking for, you know, sort of like you know multi-year tracking and looking for sort of how you’re creating a paradigm shift in communities is a huge investment that needs to be made. And I think that I’ve heard more and more over the last few years those sort of funders ask for those sort of things, but not necessarily offered up a whole lot of funds or resources to help people put those evaluation methods into practice.”

Participants also reported their lack of efficient or appropriate equipment (n=3), trained staff (n=2), and effective communication between health providers serving the physical activity program clients (n=2) as barriers to the implementation of their evaluations.

In addition to limited monetary resources, participants identified the lack of support for their evaluation activities as another barrier (n=6). Five participants reported difficulty in getting their community members to understand the importance of their participation in the physical activity program evaluation. For example, one participant said:

“the challenge is that some people are willing to take that time and give you that feedback. Where there [are] others that just want to get it done. And so, you know, they’re circling yes no, or they’re just saying ‘it was good.’ And really there’s no feedback. I think that’s one of the challenges that we have because we want that feedback. And we always encourage them, you know, be honest with us, let us know you know what you felt was good and bad or whatever, but a lot of [them] you know there’s times when they just want to get it done and turn it in.”

Participants also reported feeling a lack of support for their evaluations from their administration (n=1), their program staff (n=1), and their Tribal Council (n=1). When describing their challenge with the organization’s administration not agreeing with their evaluation decisions, one participant said:

“And then we did a push-up test, we did a sprint test, and I tried to keep the same format with all the sports, cause usually the players re-enroll in sports, so I could’ve had three or four seasons of sports and follow them the whole year. But, my superiors didn’t really think that it would work like that- they wanted to change it up, so I kind of was butting heads right here (laughs)...and so they kept changing it on me even though it was my job title. And of course being that they’re my superior (laughs), I couldn’t really argue with them.”

Despite the diversity in position titles (e.g., Program Director, Program Coordinator, Health Educator), interestingly, most participants reported receiving at least some evaluation training (88.2%) and no participants mentioned their lack of training in evaluation as a barrier.

**Theme 3: Collecting evaluation data is challenging due to the unique culture and experiences of AI/ANs and the context of physical activity programs.** Adding to general challenges for implementing program evaluation, participants expressed difficulty in *collecting* evaluation data due to the contextual factors of their programs. Specifically, participants noted the culture and history of their AI/AN communities and the nature and logistics of their physical activity programs (n=6) as contextual factors that impacted data collection.

Participants identified aspects of their AI/AN communities’ culture that can make data collection challenging (n=3). Specifically, participants noted that some community members are introverted, some communities are small and close knit so individuals do

not want to share their personal information publicly, and for some communities, boasting about success was against cultural beliefs. For example, one participant said:

“I think we do have patients that do have really good success with the program, and with the services that we offer, but it’s I think one of the challenges, you know, trying to get them to share their story. But you know some are more reserved and you know especially with Native Americans, you know...It’s kind of one of those things...you know it happens, but you don’t really boast about it...In some cultures or beliefs you know they don’t boast about those things or you know share you know pictures or things like that...in the general public.”

In addition, some participants (n=3) identified the contentious history of research and evaluation in Indian Country as a barrier to collecting evaluation data in their communities. One participant described the negative perception of filling out evaluations in their community, saying:

“Well, I think that us as Native people, you know, have been so used to filling out forms and applying for this, and applying for that, and that check boxes somewhat feel like that and to them I think it’s a huge turn off.”

However, while another participant supported this sentiment explaining how the history of collecting data from AI/ANs and not giving anything back made evaluation difficult, they felt that this may not be such of an issue in the context of physical activity related



data. When asked to identify why they felt the use of narrative evaluation worked better than quantitative data in Indigenous communities, this participant said:

“Not so much in this setting for evaluations, but if you were probably looking at like health issues or other studies, other than physical activity, people would be more reluctant to release their information I think because of things that have happened in the past. With collections of data and not bringing it back to the tribe. You know, going out and writing papers and then we never get data back.”

Participants also identified aspects of physical activity programming that made evaluation data collection challenging (n=5), including: (1) the program participants’ desire to just workout and leave the gym making the evaluation feel invasive; (2) the diversity across fitness classes making universal evaluation difficult; (3) the ability for program participants to attend multiple fitness facilities making tracking challenging; (4) the regional interest of youth summer camps that attract participants from all over causing follow-up assessment to be an issue; and (5) the absence of a fitness evaluation template in the electronic health records systems used to collect data. When describing the imposition on the program participant, for example, one interviewee said:

“to do the assessments the way we have, it’s a commitment, you know, it’s an hour long process with an individual. And people don’t want to do that when they come in to work out. They want to get their work out in and then get on their way. So it’s sort of invasive, the way it is right now.”

**Theme 4: The lack of alignment between the evaluation requirements set by the external funding source and evaluation desired by the AI/AN organization and community being served creates a barrier to meaningful evaluation.** Lastly, and unique to externally funded AI/AN organizations, participants identified a lack of alignment between the evaluation requirements set by the funding agency and the evaluation desired by their organization and the community being served (n=9). This disconnect can reportedly pose a barrier to conducting evaluation that is meaningful to the organization and community because grantees have to adhere to and use their resources to attend to the requirements of their grant.

Four participants indicated that the programmatic goals outlined by the funder differed from their organization's goals for the program. When describing how they negotiate their funding requirements and their organizational interests, one participant said:

“Well diabetes prevention and intervention, managing diabetes, self-management is really important to us - so obviously obesity prevention, just being more active and physically fit is the ultimate goal. But, of course, our funding is for diabetes prevention and intervention.”

Another participant, when asked to how their physical activity program goals were established, described the difference between the funding agency goals and his programmatic goals:

“Yeah...I’m using language that comes from [the funding agency] with regard to the 150 minutes and the 7% body weight. But as far as the reduction of chronic disease, that’s more guidance that comes from [another funding agency]. I mean if you wanted my general goal for the program that doesn’t have anything to do with the funding agency - it’s that *exercise is strong medicine, and that it helps you handle the stressors of daily life*. There’s just a tremendous of number of evidence-based studies that support numerous other benefits...and then some interesting work that’s been done over the years on the behavioral side. This ‘feel better’ phenomenon that you get from working out. [The] release of natural endorphin and other types of bio-chemicals that give a person a sense of wellbeing. So that’s sort of where I’m coming from, but the more clinical approach those values of 150 minutes of activity per week and 7% body weight loss, and the reduction of chronic disease...those are more funding agency guidelines.”

Seven participants noted that the reporting (e.g., progress reports) required by their funding agency does not include the evaluation data of interest to them and/or their communities. Four participants were collecting (or interested in collecting) feedback on and/or satisfaction with the physical activity program from the program participants, and their success stories (e.g., how the program affected their lives). This information would most likely be collected qualitatively and participants noted that there was not always space in their required reporting documents for that information (except in sections for

additional information like “other”, “next steps”, or “tell us one success story”). When describing how their evaluation differs from the required evaluation, one participant said:

“I would say we go beyond what the grant reporting indicators are...I don’t think that there’s a space in either one of those grant reports that asks specifically for you know the feedback of individuals. I think it’s more ‘do you have an evaluation process?’ But I think we’ve developed [our evaluation] so that it’s robust.”

Another participant described how the required evaluation was not inclusive of their outcomes of interest, saying:

“Now there’s a big push for the outcome and actually having a record of that...And of course the numbers and all that is important, but for us you know it’s the prevention and getting people moving, and getting that I guess, like I was saying that qualitative data - which is now looking more towards the personal stories, you know, how our program has affected our participants. How, you know, it’s changing or helping them in the process of changing their life.”

Two other participants expressed interest in collecting outcomes beyond what they were required to capture (e.g., intermediate steps to behavior change, personal wellbeing). The participant interested in measuring the intermediate steps associated with

the behavior change of physical activity noted that the evaluation requirements set by the funding agency had to take priority:

“I think that [if money and resources were not an issue] we would be able to focus more on the intermediate steps that don’t necessarily again lead to improvement in physical activity or improvement in physical fitness. But that we would be able to focus a little bit more on making sense of how [the] behavior is changing. So, we do it now, but and I hate to use the phrase, but we don’t get credit for it... Well, we don’t have a ton of money for evaluation, so first we have to do what we’re getting money to do. And, so because those things take priority, I think that we don’t feel like we’ve spent the time even figuring out exactly what that would mean...to say that we see intermediate steps, and it would probably involve you know actually having some assistance in figuring out what makes sense in population-based physical activity... I think the frustration is again not being able to put how we would measure things in our own priority order.”

Lastly, one participant explicitly identified the disconnect, highlighting that the evaluation requirements set by the funder were not reflective of traditional (AI/AN) ways of evaluating:

“Whereas a traditional method for evaluating, it might also take into account, for example, more qualitative measures like spiritual health, or even you know patient happiness, satisfaction, those kind of things. So this could also of course

be measured by Western [methods], but you know [the funding agency] tends not to look so much at that.”

## **Implications**

The themes identified present unique challenges to implementing evaluations in the context of externally funded AI/AN physical activity programs, and add to the barriers to evaluation in Indigenous communities broadly described in the literature. Based on the experiences of the interview participants, there is a need for AI/AN organizations conducting physical activity programs to receive training on how to measure physical activity related outcomes relevant to AI/AN communities, using valid, scientifically rigorous and culturally appropriate measures. Specifically, participants were interested in measuring physical activity instructor empathy, exercise motivation, impact on holistic wellbeing, and comfort in a fitness facility. This finding adds to the work of Sallis (2010), which examined the various approaches for collecting physical activity data among AI/ANs; and, congruent with this study’s findings, Sallis notes that a comprehensive evaluation of AI/AN physical activity programs would also include an evaluation of the intervention process, and its intermediate and distal outcomes (i.e., beyond physical activity levels). Future research is needed to create and validate physical activity process and outcome measures among the AI/AN population, as this is absent from the literature.

In addition to the challenge of measurement, individuals working at AI/AN organizations identified a need for resources (e.g., staff, funding) to implement meaningful evaluations. This is a significant finding given that these participants were

staff on physical activity programs receiving external funding, thus suggesting that the funding provided was not sufficient or not properly allocated to meet the needs of the organization. In support of this finding scholars suggest that often, Western funding sources assume that evaluation resources and skills are present in AI/AN organizations, and underestimate the time necessary to build appropriate capacity (Chino & DeBruyn, 2006; Grover, 2010). Thus, it is recommended that funding agencies spend ample time examining the organization's evaluation capacity and resources needed prior to the implementation of the evaluation, and based on the needs identified by the community (not assumed by external entities).

Findings support the need for building relationships and support to assist in building capacity within AI/AN communities, specifically in relation to evaluation capacity (Chino & DeBruyn, 2006; Tribal Evaluation Workgroup, 2013). Chino and DeBruyn (2006) connect the lack of community support often apparent in tribal communities to the social, cultural, historical, and political realities that AI/ANs face and that influence their comfort with research and evaluation. Stressing the importance of community involvement and engagement, Chino and DeBruyn (2006) identify "building relationships" as the first step to building capacity in AI/AN communities, and note the importance of being open and transparent during this phase. In addition, the Roadmap to Collaborative and Effective Evaluation in Tribal Communities identifies "relationship building" as a key priority of the framework, stressing the importance of community involvement throughout the entire evaluation process (Tribal Evaluation Workgroup, 2013). To address the lack of evaluation support felt by the participants of this study, future physical activity program evaluations should seek to establish firm relationships,

focused on ensuring the community, administration, and Tribal Council understand and are supportive of the upcoming evaluation, prior to engaging in evaluation activities. This will help the community members, program staff, and Tribal Council to see the utility and benefit of the program evaluation to their community and to know that the evaluation is being conducted with cultural integrity and based on the community's priorities (Tribal Evaluation Workgroup, 2013).

While the contextual barriers to evaluation unique to the cultural characteristics of the AI/AN communities cannot be changed (e.g., introverted community members, close-knit communities, negative past experiences with evaluation), they must be understood and acknowledged throughout the evaluation design and implementation (Tribal Evaluation Workgroup, 2013). To address the contextual barriers to data collection stemming from the design of physical activity interventions (e.g., tracking, follow-up), evaluators should consider using physical activity monitoring devices (e.g., accelerometers) that have been validated with the target AI/AN population, and look to the research in this field for examples of their use in similar communities (Sallis, 2010); while the field of research continues to validate and culturally tailor existing physical activity instruments and monitoring devices with this population. Another way to collect data is to use mobile phones. Mobile phones, prevalent in Indian Country (Rushing & Stephens, 2011), can be used to schedule data collection sessions (in person) or to collect data directly through a phone call, via SMS messaging, or using an application on the mobile device (Dunton, Liao, Intille, Spruijt-Metz, & Pentz, 2011).

Lastly, the identified disconnect between what the funding agency requires in regards to physical activity program evaluation and what the AI/AN organizational staff



and community desire for their evaluation presents an important issue of tribal sovereignty and power dynamics. Privileging and imposing Western knowledge has been identified as a form of colonization, and is suggested to perpetuate imperialism, colonialism, and power differentials between Western and Indigenous populations (Smith, 2012). Additionally, when evaluation and reporting are tied to programmatic funding, colonization and issues of power are significantly at play, whereby the views of the entity supplying the monetary support for the program are viewed as superior and privileged, as compared to the views and values of the entity receiving and utilizing the funding. This not only forces the methodologies valued by the dominant group to be used but it may also evoke fear in the subordinate group, as they will likely worry about a loss of funding and suspension of their program if successful results (as defined by those in power) are not obtained (Chouinard, 2013; Wallerstein, 1999; Tribal Evaluation Workgroup, 2013).

Therefore, it is recommended that physical activity program evaluations in AI/AN communities be grounded in the values and interests of the AI/AN organizations and communities, not only because this approach is culturally appropriate and valid, but because it is an act of expressing tribal sovereignty by the AI/AN nations and an act of recognizing, respecting, and valuing tribal sovereignty by the funding agency (Cavino, 2013; Tribal Evaluation Workgroup, 2013). In addition, prior to evaluation implementation, funding agencies should support and encourage evaluability assessments among organizations conducting AI/AN physical activity programs to help build evaluation capacity, examine the appropriateness of evaluation requirements, assess

program logic and goals, and identify necessary resources (Leviton, Khan, Rog, Dawkins, & Cotton, 2010).

**Limitations.** While contributing to the literature on decolonizing evaluation and the practice of evaluating AI/AN physical activity programs, this study is not without its limitations. Given the exploratory nature of the study and the sample size, the findings may not represent all those conducting AI/AN physical activity programs. However, the findings provide a deep understanding of participants' experiences with evaluation and establish a platform for further exploration of this topic. In addition, the interviews took place over the phone and in many cases I never met with the participant in person, which may have impacted the participants' comfort in speaking freely with me. To address this limitation, I had professional contacts assist with recruitment in hopes that "acceptance" by the contact may help the prospective participant begin to trust the study and me. In addition, I disclosed personal information about my Indigenous background and the purpose of the study in the recruitment letter.

**Conclusion.** AI/AN organizations face unique challenges to evaluating their physical activity programs. Participants expressed a need for evaluation capacity building specific to culturally appropriate outcome measurement and data collection, and identified a need for additional resources (e.g., staff, funding) and community support. The lack of alignment between the funding agencies' evaluation expectations and the evaluation interests of the AI/AN organizations' staff and community also presented challenges to meaningfully and usefully evaluating physical activity programs. It is recommended that appropriate time and resources be allocated to building evaluation capacity, assessing evaluability, and understanding the context and value of evaluation

for the AI/AN organization and community being served – such that limited resources are used effectively to produce evaluations that are useful to the AI/AN community and the funding agency.

**Table 3.1. Participant Characteristics**

|   | <b>Number (17)<sup>a</sup></b> | <b>Percent (100%)</b> |
|---|--------------------------------|-----------------------|
| <b>SELF-IDENTIFIED RACE</b>                   |                                |                       |
| American Indian/Alaska Native/Native Hawaiian | 8                              | 47.1%                 |
| Non-Native <sup>b</sup>                       | 9                              | 52.9%                 |
|   |                                |                       |
| <b>ROLE/JOB TITLE<sup>c</sup></b>             |                                |                       |
| Program/Project Director                      | 9                              | 52.9%                 |
| Program Coordinator                           | 6                              | 35.3%                 |
| Health Educator                               | 3                              | 17.7%                 |
| Personal Trainer                              | 2                              | 11.8%                 |
|   |                                |                       |
| <b>EVALUATION TRAINING</b>                    |                                |                       |
| Yes (at least some)                           | 15                             | 88.2%                 |
| No  | 2                              | 11.8%                 |
|   |                                |                       |

<sup>a</sup> 18 individuals participated in the 17 interviews. Of those participants, 17 individuals provided demographic information.

<sup>b</sup> Non-Natives self-identified as White (n=7), Spanish and Asian (n=1), and one individual did not specify.

<sup>c</sup> 20 job title are identified for 17 participants because one participant held two job titles, and one participant held 3 job titles.

**Table 3.2. Program Characteristics**

|   | <b>Number (17)</b> | <b>Percent (100%)</b> |
|---|--------------------|-----------------------|
| <b>TYPE OF COMMUNITY SERVED</b>                 |                    |                       |
| AI/AN Reservation                               | 11                 | 64.7%                 |
| Rural non-reservation                           | 4                  | 23.5%                 |
| Urban   | 1                  | 5.9%                  |
| Both urban and reservation                      | 1                  | 5.9%                  |
|   |                    |                       |
| <b>FUNDING SOURCE<sup>a</sup></b>               |                    |                       |
| Federal agency                                  | 14                 | 82.4%                 |
| Non-profit organization                         | 6                  | 35.3%                 |
| State agency                                    | 3                  | 17.6%                 |
|   |                    |                       |
| <b>INTERVENTION TYPE<sup>b</sup></b>            |                    |                       |
| Community events                                | 12                 | 70.6%                 |
| Provides exercise space                         | 9                  | 53%                   |
| Facilitates youth physical activity programming | 7                  | 41.2%                 |
| Hosts group exercise classes                    | 5                  | 29.4%                 |
| Personal training/case management               | 5                  | 29.4%                 |

<sup>a</sup> Six participants identified more than one funding source, therefore the percentages do not add to 100%.

<sup>b</sup> Participants described their interventions have many of the identified components, therefore the percentages do not add to 100%.

## **Chapter 4: Identifying and Understanding Indigenous Ways of Evaluating Physical Activity Programs**

### **Abstract**

Indigenous evaluation frameworks have not been investigated in the context of American Indian/Alaska Native (AI/AN) physical activity programs, an important area given the relationship between effective physical activity programs and improved quality of life among this population. To address this gap, in-depth interviews were conducted with staff of AI/AN physical activity programs to explore their understandings of and experiences with evaluation. Findings suggest that Indigenous evaluation is perceived as narrative and holistic; Indigenous knowledge is used in program decision-making but sometimes is not acknowledged as evaluation; and there is not a universally desired way to evaluate AI/AN physical activity programs.

### **Introduction**

To increase and promote the use of culturally appropriate evaluation methods that recognize and value Indigenous ways of knowing and Western practice, and simultaneously empower American Indian and Alaska Native (AI/AN) communities to implement these methods in the evaluation of their programs, scholars have developed Indigenous and tribal evaluation models. At the core of these models, the evaluators must recognize the differences between Western science and Indigenous knowledge, and seek to conduct evaluation using rigorous methodology that respects the values, historical context, and ways of knowing for the AI/AN community (LaFrance, 2004; Tribal Evaluation Workgroup, 2013). This fundamental value is referred to in the Roadmap for

Collaborative and Effective Evaluation in Tribal Communities as the inclusion of cultural and scientific rigor (Tribal Evaluation Workgroup, 2013). In this framework, scientific rigor is supported and acknowledged as important for yielding reliable information, as long as scientific methods are grounded in “sound cultural methods” (Tribal Evaluation Workgroup, 2013). Cultural methods are local protocols that promote and respect learning the value of the program through the traditions practiced by that community (Tribal Evaluation Workgroup, 2013).

Important to sound cultural rigor is the inclusion of Indigenous knowledge. Indigenous knowledge reflects the unique cultural worldviews, history, values, and social position of those who create it, and as such, varies across the over 560 federally recognized AI/AN tribes (Bureau of Indian Affairs, 2015; Cochran et al., 2008). However, some aspects of Indigenous knowledge have been identified as transcending across many AI/AN knowledge and belief systems. For example, Indigenous knowledge is often identified as favoring holistic thinking and subjectivity, and contrasting Western practice that values linear and hierarchical thinking, and privileges objectivity (Cavino, 2013; LaFrance, 2004; LaFrance & Nichols, 2010; Tribal Evaluation Workgroup, 2013). Indigenous knowledge and culturally rigorous evaluation are also based in the values of the community, which for AI/AN public health programs are often social betterment and the “good of the whole” (e.g., sovereignty and well-being of the community) as opposed to Western values, which often focus on correcting deficits and the improvement of the individual participant (LaFrance et al., 2015). Given the history of exploitative, intrusive, and invasive evaluation imposed upon Native populations, there is a deep-seeded distrust among AI/AN communities of external researchers and evaluation processes (Cavino,

2013; Hodge, 2012; LaFrance & Nichols, 2010). Therefore, culturally rigorous evaluation acknowledges and addresses the Tribe-specific lived experiences and contexts (Tribal Evaluation Workgroup, 2013).

Another approach created to support and promote the implementation of sound evaluation in Indigenous communities is the Indigenous Evaluation Framework (IEF), which was developed as a culturally responsive evaluation approach for Indigenous communities in North America (LaFrance et al., 2015). It identifies four ‘core values’ integral to implementing evaluation with AI/ANs: being a people of place, recognizing gifts, honoring family and community, and respecting sovereignty (LaFrance & Nichols, 2010). Based on these values, the framework suggests that evaluation with AI/AN programs should: not focus on generalizability, as each evaluation and its associated program are designed to be contextually specific to each community; utilize a strengths-based approach to assess “achievement” that incorporates multiple measures; and include the community throughout the process, focusing on community growth not individual growth and allow for local control and ownership over the evaluation its results (LaFrance & Nichols, 2010). In addition, the IEF recommends including and respecting traditional, empirical, and revealed knowledge as types of Indigenous knowledge that transcend many AI/AN communities, with traditional knowledge being that which is passed down through generations and transmitted through stories, empirical knowledge including that which is gained through observations, and revealed knowledge, that is acquired through spiritual protocol/dreams (LaFrance & Nichols, 2010).

While these frameworks provide guidance on the concepts and components integral to conducting culturally sensitive and culturally driven evaluation with AI/ANs



(e.g., respecting historical context and values), they are not contextualized within any particular type of evaluation. Further, scholars have not explored what model components mean to the AI/AN organizations conducting the evaluation. Moreover, to date, these frameworks have not yet been explored in the context of physical activity – an important domain given that AI/ANs suffer disproportionately from higher rates of type 2 diabetes and obesity, as compared to the general U.S. population, and physical activity has been shown to lessen the severity of these conditions among this population (Cobb et al., 2014; Coble & Rhodes, 2006; Kriska et al., 2003; O'Connell et al., 2010; Schell & Gallo, 2012).

An analysis of the 2000-2010 Behavioral Risk Factor Surveillance System (BRFSS) data found that when compared to their White counterparts, AI/AN males reported higher rates of obesity (33.9% vs. 23.3%) and diabetes (15.1% vs. 7.3%); AI/AN females also reported higher rates of obesity (35.5% vs. 21%) and diabetes (14.3% vs. 5.8%) (Cobb et al., 2014). Physical activity has been found to protect against type 2 diabetes, reduce the prevalence of obesity and its associated indicators (e.g., BMI, percentage of body fat) and complications, and improve perceived quality of life among this population (Coble & Rhodes, 2006; Foulds et al., 2013; Kriska et al., 2003; Poltavaski, Holm, Vogeltanz-Holm, & McDonald, 2010).

To increase physical activity levels and address the rates of chronic disease among AI/ANs, there has been an increase in funding to support the design and implementation of interventions directed at promoting an active lifestyle (Teufel-Shone et al., 2009). Federal agencies such as the Indian Health Service, the Centers for Disease Control and Prevention, and the White House, Executive Office of the President have launched physical activity-promoting initiatives for AI/ANs including the Special

Diabetes Program for Indians, Healthy Weight for Life, and Let's Move in Indian Country ("Let's Move in Indian Country," 2015). Additionally, non-government and philanthropic organizations such as the Notah Begay III Foundation ("Notah Begay III Foundation," 2015) and the Nike N7 Fund ("N7," 2015) have supported the implementation of physical activity programs in Indian Country. However, despite the prevalence of physical activity initiatives, there lacks meaningful program evaluation occurring at the local level to inform program improvement and sustainment, measure program effectiveness, and communicate impact to the communities being served (Fleischhacker et al., in press; Foulds et al., 2013; Teufel-Shone et al., 2009).

Teufel-Shone and colleagues' (2009) systematic review of peer-reviewed articles and gray literature identified 64 physical activity programs being implemented across Indian Country, and found that only 42% of the interventions measured impact. A recent systematic review of the peer-reviewed literature focusing on physical activity interventions among AI/AN youth indicated that only eight out of 19 interventions described the use of formative assessment, and only eight interventions included process or outcome evaluation (Fleischhacker et al., in press). This lack of program evaluation is significant given that evaluation can not only lead to improvement in programming and greater health outcomes for AI/ANs, but it is also indistinguishably linked to sustaining services, as tribal organizations often need to demonstrate success to ensure continued funding and be competitive in an environment where funding mechanisms are limited (Teufel-Shone et al., 2009). Many granting mechanisms require evaluation and reporting during the funding period; however, researchers have identified a need for ensuring that what is required is also what is valued by the AI/AN community (Grover, 2010). Since

many evidence-based programs implemented within AI/AN communities have not been evaluated in this context, it cannot be assumed that they will be effective with this population (Sallis, 2010). Therefore, culturally responsive evaluation that identifies the success of the program based on the values of both the AI/AN community and the scientific community (or funding agency) is paramount to ensuring the true success and effectiveness of the program for improving health and wellbeing.

To explore how Indigenous evaluation models and Indigenous knowledge can be applied to and included in the evaluation of AI/AN physical activity programs, an exploratory qualitative study was conducted. This study presents the findings and focuses on the emergent themes related to understandings of Indigenous evaluation, interesting in using Indigenous evaluation, and the capacity needed to implement these approaches.

## **Methods**

Based on my experiences as an evaluator for AI/AN public health programs, I, self-identifying as a White and American Indian female doctoral candidate, set out to conduct this study as my dissertation research. In my role as an evaluator, I noticed the challenges faced in implementing meaningful and useful evaluation for tribal communities and, to begin to address this issue, wanted to contribute to the scholarship and practice of culturally responsive evaluation and Indigenous evaluation with and for AI/ANs. My assumptions going into this study were that individuals working on the evaluation of grant funded AI/AN physical activity programs desired to use Indigenous evaluation, could recognize Indigenous evaluation, and would chose Indigenous evaluation over Western science-based evaluation. I also felt that their funding agency

and the evaluation required by their grant might influence how individuals perceived or understood Indigenous and Western evaluation.

**Study design.** To explore Indigenous evaluation in the context of AI/AN physical activity programs, an exploratory qualitative study, framed by a decolonizing approach to research, was conducted. Through this lens, the study uses culturally-based, iterative, and process-oriented methods whereby knowledge was gathered through respectful listening, the study participants were involved in the review of data and interpretations, and bi-directional learning and empowerment occurred (Bartlett et al., 2007). The study was approved by the University of Maryland's Institutional Review Board (IRB), and informed consent was obtained for all participants.

**Participants and data collection.** In-depth interviews were conducted with individuals working at AI/AN organizations implementing externally funded physical activity programs (n=17). While not striving for generalizability, but ensuring that a variety of voices were heard, participants were purposefully sampled and reflected urban and reservation programs and organizations, various funding mechanisms, and nine out of the 12 Indian Health Service (IHS) areas. I conducted the interviews over the telephone using a semi-structured interview guide that was developed based on the following research questions: *(1) how do AI/AN organizations define and describe Indigenous knowledge-based evaluation in the context of physical activity programs; (2) how interested are AI/AN organizations in using Indigenous knowledge-based evaluation to evaluate their AI/AN physical activity programs; (3) what organizational capacity is necessary for conducting evaluation grounded in Indigenous knowledge; and (4) what barriers do AI/AN organizations face in implementing Indigenous knowledge-based*

*evaluation to evaluate their physical activity programs?* The interviews were recorded and once saturation was reached, no additional interviews were conducted (Trotter, 2012). Participants were given a \$20 Amazon gift card in appreciation for their time and insight.

**Data analysis.** A graduate research assistant transcribed all interviews verbatim, and I reviewed the transcriptions for quality assurance, which involved listening to the recordings and comparing them to the written transcriptions for accuracy and revising as needed. Identifiable information was removed from all of the transcripts (e.g., personal and tribal information) and, as a form of member checking, transcripts were sent to the associated interview participant for their voluntary review. Member checking is a method used in decolonizing research and a practice conducted to improve the credibility of qualitative research, and involves matching the researcher's data and analysis with the interpretations from the study participants (Bartlett et al., 2007; Krefting, 1999). Of the 17 participants, nine confirmed that they reviewed their transcripts, and of those, seven approved the transcript as it was and two provided edits. One participant's edits were minor and involved changing a word that was misunderstood on the recording. The second participant's requested edits were more involved as they perceived the member check to be an opportunity to revisit their responses and make changes to what they said, which I felt altered the authenticity of their initial response. After discussions with the participant about the purpose of the member check, we agreed on a version of the transcript that was mostly true to the original version but included some edits where the participant completed a thought or comment that was not completed during the interview, and where the participant's first response did not make sense.

As a first step of the thematic analysis, I created a codebook based on the research questions and themes that emerged during the interviews (Braun & Clarke, 2006; DeCuir-Gunby et al., 2010). To assess the reliability of the codebook through a group-consensus approach (without quantification), the graduate research assistant and I: coded two transcripts (selected based on their medium length), met with a faculty researcher experienced in qualitative research to review and discuss the codebook and its application, reviewed and discussed any inconsistencies in coding, and decided together on appropriate revisions (DeCuir-Gunby et al., 2010). The codebook was revised, and we coded two new transcripts, met to discuss discrepancies, and collaboratively finalized the codebook. From there, I coded all 17 transcripts, and the graduate research assistant coded a random sample of 30% of the transcripts (n=5) to assess the validity of my coding. All coding was agreed upon, and the codebook was used to guide a deductive approach to data analysis, but also, allowing for inductive analysis to take place as codes emerged (Braun & Clarke, 2006).

Through an examination of the coded text, concepts were generated to represent the various dimensions of each theme, recognizing the continuity and variability of each theme within and across the interviews (Daly, 2007). Based on these concepts, a narrative was created representing the preliminary findings and written as a journal entry from an individual evaluating an AI/AN physical activity program. This narrative was sent to all interview participants (n=17), as the second member check, and seven individuals provided confirmation that they read the narrative, approved its content, and reported that it well-represented their interview. The remaining 10 participants did not provide a confirmation or feedback on the narrative.

In addition to the creation of the narrative, the preliminary findings were summarized for dissemination to an expert panel, as a form of peer examination (Krefting, 1999). Individuals were asked to serve as members of the expert panel based on their professional expertise in AI/AN public health research. Two expert panelists and one academic mentor experienced in qualitative research with minority populations reviewed the preliminary findings and provided feedback, identifying areas for further deconstruction of findings.

## **Results**

Although the participants were recruited based on their employment at an AI/AN organization, they were not speaking on behalf of their organization and thus, the results reflect *their* perceptions and not necessarily the views of their organization.

**Program characteristics.** All interview participants were staff at 17 different AI/AN organizations. The participants identified their physical activity programs as being located in the following IHS areas: the Alaska Area, Albuquerque Area, Bemidji Area, California Area, Great Plains Area, Nashville Area, Navajo Area, Oklahoma City Area, and Phoenix Area. Most programs were implemented in reservation communities (64.7%), with the remaining in rural non-reservation (23.5%), urban (5.9%), or delivered in both reservation and urban communities (5.9%). Some programs (n=6) were funded by multiple funding sources. The majority reported the source of their physical activity grants as federal agencies (82.4%), and other grants came from non-profit organizations (35.3%), and/or the state (17.6%). Interview participants identified a wide range of physical activity interventions implemented through their programming, reaching both AI/AN youths and adults and spanning from environmental/policy change to community-

wide health promotion to individual behavior change. These interventions included: community events (e.g., hosting 5k run/walks, health fairs) (70.6%), providing or partnering with a fitness center/gym (53%), facilitating youth after-school programs, in-school physical education, summer camps, and/or sports leagues (41.2%), providing group exercise classes (29.4%), and offering personal training or individual case management (29.4%) (see Table 4.1).

**Participant characteristics.** The 17 interviews included 18 individuals (as two individuals participated in an interview together). Of those 18 participants, 17 provided additional demographic information after the interview was completed (see Table 4.2). These participants identified holding many (often multiple) roles and/or job titles within their organization, including Program/Project Director (52.9%), Program Coordinator (35.3%), Health Educator (17.7%), and Personal Trainer (11.8%). Approximately half of participants reported working at their organization for less than five years, and most participants reported at least some training in evaluation (88.2%). Nearly half of participants self-identified as American Indian, Alaska Native, or Native Hawaiian (47.1%). In addition, interview participants reported coming from a variety of backgrounds/training, including development, exercise science, nursing, fitness training, accounting, and physical therapy.

Through the discussions with staff of AI/AN organizations conducting externally-funded physical activity programs in Indian Country, three themes arose regarding perceptions of Indigenous evaluation, evaluation experiences, and desired ways of evaluating: (1) Indigenous approaches to evaluating AI/AN physical activity programs are perceived as narrative and holistic; (2) Indigenous knowledge is used in AI/AN



physical activity program decision-making but sometimes is not acknowledged as evaluation; and, (3) there is not a universally desired way to evaluate AI/AN physical activity programs.

**Theme 1: Indigenous approaches to evaluating AI/AN physical activity programs are perceived as narrative and holistic.** When participants described how they broadly understood “Indigenous evaluation” or “Indigenous approaches to evaluation,” the most common perception was that these approaches are holistic and narrative in nature. Four described Indigenous evaluation as holistic (i.e., focused on the impact of the program to the person or community as a whole). Language such as “the whole gestalt of the experience” and “how it made them feel” was used to convey their understandings of this approach to evaluation. Participants supported these understandings by saying:

“[Indigenous knowledge-based evaluation includes] more qualitative measures like spiritual health, or...patient happiness, satisfaction...”

“[Indigenous knowledge-based evaluation is] being able to tell their story. So it’s not a hard physical, ‘Oh we saw somebody’s nutrition knowledge improve.’ So much as, ‘We hear there’s someone [that told] a story about something that they did or something that improved in their life’.”

Six individuals identified Indigenous knowledge as being narrative and/or oral in nature, which to them generally meant the use storytelling. Those that conceptualized

Indigenous evaluation to be narrative and/or oral used language like “their voices,” “their stories about that work,” “subjective,” and “telling you how they felt during the time they were there” to explain how they understood the process and components of Indigenous evaluation.

Participants felt that given the ways of knowing and oral traditions of AI/AN peoples and the experiences of evaluation in Indian Country, approaches to evaluation that included narrative/oral methods were perceived as being culturally appropriate and well received by AI/ANs (n=10); and they included these methods when describing their understanding of “Indigenous evaluation.” For example, one participant was explaining their perception of Indigenous evaluation and how narrative methodology fit the AI/AN culture and context, by saying:

“I feel like the diversity in Indian Country is so much that you can’t really...like things are so different from community to community that you need that sort of human voice, and those sort of unique stories to kind of get a grasp of the character and the difficulties associated with like a particular community in Indian Country. And that storytelling sort of helps you capture that uniqueness or not capture it but at least get a feel for it. And, in a lot of ways inspire you to work with it rather than to sort of just implement a curriculum or a program that you feel like you know works and for some reason it may not work with that particular community. So storytelling allows you to sort of discern what those differences may be and take them into account when you actually implement a plan.”

Additionally, when explaining why narrative-based evaluations may be better received a participant said:

“Well, I think that us as Native people, you know, have been so used to filling out forms and applying for this, and applying for that, and that check boxes somewhat feel like that and to them I think it’s a huge turn off. And I even think that maybe, you know, not asking people to write but to document what they say is gonna be a better approach.”

To capture how participants experienced Indigenous evaluation in the context of their physical activity programs, I coded instances when the participant identified using a method of evaluation that they felt was Indigenous and/or shared the qualities of Indigenous evaluation. The evaluation approaches used by participants to evaluate physical activity programs included focus groups (n=3), talking circles (n=3), interviews (n=3), storytelling (n=1), digital storytelling (n=1), and a pictorial survey (n=1). Two additional participants noted the use of talking circles in their organization but to evaluate their behavioral health initiatives, not their physical activity programs. Participants described the use of these methods for all levels of evaluation (e.g., formative, process, outcome), identifying how they have used focus groups, interviews, and talking circles to capture information about the needs of the community, how the existing program could be improved, and how the program has impacted lives in their community. Additionally, digital storytelling was described as a way to disseminate information about

programmatic success to the community members. One participant described hosting their talking circle during their group bike rides, saying:

“Usually on our bike rides we’ll talk. When I get a big group, a big group will talk about you know a lot of things. ‘Okay, what is it you wanna do?’”

Another participant described their use of storytelling, reporting:

“Yes we have [used storytelling to look at how well our program is doing]. I got a nice letter from like a lady who lost 150 pounds over, and you know, really praised the trainers and the facility in making her feel comfortable. Actually I’ve gotten a couple of those real success stories, and I’ve asked if we can share them, and I’ve done that.”

**Theme 2: Indigenous knowledge is used in AI/AN physical activity program decision-making but sometimes is not acknowledged as evaluation.** Within the Indigenous evaluation framework, scholars recommend including traditional as well as empirical knowledge as data in AI/AN evaluation (LaFrance & Nichols, 2010). In line with this framework, the majority of participants (n=14) discussed the inclusion of Indigenous knowledge (e.g., traditional, empirical) in their evaluation. Participants identified instances where knowledge collection occurred naturally (i.e., through the protocols or ways of knowing for the community) due to the dynamic of the culture (e.g., close-knit, oral), during which program attendees shared success stories, positive

program outcomes, or program feedback (n=12). Participants also noted that the knowledge held by program staff, also due to the context of the communities being small and close-knit, allowed them to evaluate their programs through observation (n=10). These naturally occurring approaches to knowledge (or data) gathering, grounded in Indigenous ways of knowing, were used for formative, process, and outcome evaluation. One participant explained how they captured personal stories, saying:

“Our community is you know, we pretty much know (laughs) one another. So it’s a little easier for us to know who’s been in our programs and who hasn’t. And you know we’re so tight together that we know, I shouldn’t say ‘know’, but we see kinda what the behaviors are. So, in that way we’re able to kind of give ideas of who we feel would, you know, we could possibly interview. And then just community members that are just, you know, they’re always sharing their stories already with us.”

However, when asked how they evaluated their program five of the 14 that referenced the inclusion of traditional and empirical knowledge did not explicitly identify these processes of knowledge collection as methods of evaluation. Rather, the mention of these methods arose informally during their interview discussion as the ways in which they knew how to improve their program. This suggests that given the cultural practices and context of AI/AN communities, Indigenous methods of evaluation are likely occurring naturally (as described above) but are not viewed as “evaluation” because their perception of and training in evaluation may be framed in the Western science

perspective. For example, one participant stated that their organization has not done a lot of evaluation for their exercise classes, but then noted a way in which they collect feedback about the classes – suggesting that the participant does not view this community practice of obtaining knowledge as “evaluation”:

“We haven’t really done a whole lot of evaluation for our exercise classes. I know it tends to be like a lot of people that are attending - they like to tell us you know what times might work for them, or this class might be good for them... Um, that’s just mainly word of mouth...more just a conversation piece...”

Another participant described how they used traditional and empirical knowledge about their community to make a modification to their program, but did not identify this process as a form of evaluation when asked to explain how they evaluate their program:

“We’ve opened [our program] up to have a buddy system, because for example, maybe one of our Indian Health Service beneficiaries lives alone and doesn’t have transportation, but her non-Native neighbor is her support person. Well, we’ve invited those buddies to come in and participate so that we can continue to support the health choices of our beneficiary participants. [Interviewer: How did you come up with that?] It was just knowing who our people were, that we were serving, and trying to reduce the barriers to their access.”

These instances of Indigenous knowledge were identified through the coding process. To capture when participants noted the use of traditional knowledge as information to help evaluate their physical activity programs, I coded instances when participants identified gathering information through relationships, experiences, interpretations, Native teachings and community learning. To identify when participants used empirical knowledge as information to help evaluate their programs, I coded instances when participants identified collecting information and/or obtaining knowledge through their observations of the program participants that occurred over time.

**Theme 3: There is not a universally desired way to evaluate AI/AN physical activity programs.** Participants provided a variety of responses when describing their ideal or desired way to assess the success of their physical activity program. In regards to the methods with which they would collect evaluation data, participants reported interest in collecting success stories (n=3), using systems to track physical activity levels such as apps (n=2), collecting baseline data on measures of health status (n=2), conducting audits of their electronic health record data (n=2), collecting digital stories (n=1), measuring health indicators (n=1), using a tool like the Fitness Gram to assess physical fitness (n=1), using social media to evaluate (n=1), conducting a self-assessment survey or survey to track physical activity over time (n=2), using a “checkout process” for evaluating program activities (n=1), and using evidence-based practices that are culturally relevant (n=1). For example, one participant said the following when explaining their ideal method of evaluation:

“I think we would, if money and resources weren’t an issue, we would have a very well-established and engineered infrastructure for basically creating profiles for each one of our participants, that sort of tracked their physical activity throughout the year.”

Participants also identified a wide range of outcomes that they would ideally measure to assess the success of their physical activity program. These outcomes included program satisfaction (n=3), physical activity levels of program participants (n=3), body mass index (n=3), hemoglobin A1C (n=2), blood pressure (n=2), cholesterol (n=2), program attendance (n=2), feedback on the program in general (n=2), program reach (n=1), program retention (n=1), blood sugar (n=1), connectivity with other AI/ANs (n=1), the participants’ perceived impact of the program (n=1), intermediate steps of behavior change related to physical activity and health outcomes (n=1), engagement in AI/AN traditional types of physical activity (n=1), exercise capacity (n=1), physical fitness levels (n=1), and wellness (n=1). Based on the perception of Indigenous evaluation being focused on holistic outcomes (described above), the desired outcomes identified by the participants include both Western science-based outcomes (e.g., BMI, exercise capacity) and Indigenous knowledge-based outcomes (e.g., connectivity with AI/ANs, wellness). As an example, participants reported the following when identifying the information they wish to collect to evaluate their programs:

“When we established the leagues themselves, it was more to provide two different things- one, physical activity for the youth, that was number one. And



number two, provide that connectivity with other Native youth in the area. What we found is that the Native youth especially like in some of our more remote reservations- the only thing that they know is, you know, experience and exposure on those reservations. So when we actually do games and activities, those kids have to come to other reservations and get exposure to what reservation life is like for the ones [in] that the location they're going to. So that's kind of what we would hope to do. Now, have we done any type of an assessment and know whether or not we're actually, you know, connecting with those two points- the answer unfortunately is no at this point"

## **Discussion**

This study's findings contribute to the recent focus on enhancing Indigenous and culturally responsive evaluation (Bledsoe & Donaldson, 2015; LaFrance & Nichols, 2010; Tribal Evaluation Workgroup, 2013). Findings highlight how evaluation interests vary across individuals working at AI/AN organizations implementing physical activity programs, and stress the importance of attending to these unique local interests when establishing evaluation plans and/or requirements.

This study found that AI/AN physical activity program evaluation staff, felt that narrative and/or oral evaluation methods were culturally appropriate given the ways of knowing and understanding the world for Indigenous peoples, and the negative history of research and evaluation among AI/ANs. These findings support the Roadmap for Collaborative and Effective Evaluation in Tribal Communities, which stresses the importance of valuing oral tradition and respecting historical context when evaluating

programs in Indian Country (Tribal Evaluation Workgroup, 2013). These findings also support the Indigenous Evaluation Framework (LaFrance & Nichols, 2010), which identifies the traditional AI/AN core value of community and how that may lead programs to focus their impacts beyond individual achievement, to more holistic outcomes of community health and well-being. However, the Roadmap was created in the context of tribal child welfare programs and the Indigenous Evaluation Framework was developed with a focus on educational evaluation (LaFrance & Nichols, 2010; Tribal Evaluation Workgroup, 2013). Therefore, this study extends to AI/AN evaluation of physical activity programming.

In congruence with the cultural traditions of AI/ANs, participants used a variety of narrative and oral methods (e.g., talking circles, interviews, digital storytelling) to evaluate their physical activity programs. While other studies have noted the deficit of scientifically rigorous evaluation for AI/AN physical activity programs (Teufel-Shone et al., 2009), this study is the first to identify the use of culturally appropriate evaluation methods for capturing physical activity program impact. Future research is needed to assess the prevalence of these methods amongst the broader population of AI/AN organizations conducting physical activity programs and provide a more in-depth understanding of how each method is effectively used in AI/AN communities to systematically measure program impact.

Additionally, this study highlights that knowledge gathered through Indigenous ways of knowing (e.g., traditional, empirical knowledge) informs decision-making and the evaluation for their physical activity programs, but often these ways of knowing are not recognized or defined as evaluation. This may be due to the evaluation training of the

study's participants, which was likely grounded in Western science and influenced perception of evaluation as a practice that does not include knowledge collection outside of what is considered scientifically rigorous. Also, participants may not identify these “informal” processes as evaluation because they do not fit within the evaluation standards set by the funding agency. It is important that these ways of knowing are not dismissed by those in power, as they may lend themselves to discovering important programmatic information that is not detectable through Western science-based approaches to knowledge gathering. For example, Cochran et al. (2008) describe an instance when Inuit whalers identified the presence of whales by “listening for the sound of their breathing”, which was distinctly different from the counting method used by the International Whaling Commission. The Inuit's method was criticized and said to be inaccurate because their estimates did not match those of the commissions; however, they were later “verified by successive aerial surveys” (Cochran et al., 2008, p. 24).

Therefore it is recommended that funding agencies seek to understand the traditional ways of knowing within the AI/AN communities and acknowledge, include, encourage, and accept these processes of inquiry and data in evaluation requirements for physical activity programming. In addition, evaluation training provided to AI/AN individuals should include Indigenous knowledge as forms of data and Indigenous ways of knowing as methods of data collection.

This study's identification of traditional and empirical data gathering, which may or may not be systematically collected, creates a need for defining when “evaluation” occurs. The Roadmap identifies the “evaluative” culture of AI/ANs, describing this population as one that has always used traditional ways of knowing to determine what is

and is not working, and one that shares these decisions using oral traditions (Tribal Evaluation Workgroup, 2013). The Roadmap recommends that evaluators acknowledge these ways of knowing and include them in their rigorous evaluation designs – suggesting that if this were to occur, these ways of obtaining knowledge would then be considered “evaluation” (Tribal Evaluation Workgroup, 2013). Thus, the traditional data gathered informally by participants would not be considered evaluation until it was systematically included in their evaluation protocols. Further research is needed to explore whether systematically collecting traditional knowledge, in the context of physical activity programming, would weaken the cultural appropriateness of the evaluation, through the perspectives of the AI/AN community members and evaluators.

Finally, while this study sought to identify a best practice for evaluating AI/AN physical activity programs, rather it found that there is not a universally desired approach. When asked to describe their ideal way to evaluate their physical activity program, participants identified more than ten different methods for collecting evaluation data, and nearly twenty different physical activity-related outcomes. This finding speaks to the diversity of AI/AN communities, and consequently their programs, programmatic goals, and ways of knowing. The Indigenous Evaluation Framework supports this finding, recognizing that AI/ANs are “people of a place” and as such, what occurs or what is appropriate in one community may not be easily translated to another community (LaFrance & Nichols, 2010). It is recommended that evaluators and funding agencies seek to understand the cultural differences between AI/AN communities, recognize the contextual differences of their physical activity programs and evaluation capacity, and attend to these differences in evaluation designs and requirements (Chouinard & Cousins,

2007; LaFrance & Nichols, 2010). In addition, using the physical activity related outcomes and evaluation methods of interest to study participants, future research should seek to examine the use of these evaluation approaches in Indian Country and validate these measures and methods among this population when appropriate.

**Limitations.** This study is unique in its exploration of culturally responsive evaluation in the context of AI/AN physical activity programs, and contributes to the growing dialogue about the inclusion of cultural context in evaluation practice (Bledsoe & Donaldson, 2015). However, it is not without limitations. The findings presented represent information captured in 17 interviews, which is a small sample, compared to the number of physical activity initiatives being conducted in Indian Country. To address this limitation, diligent efforts were made to recruit a diverse sample of participants from a variety of regions, tribal communities, and granting mechanisms and reach saturation. Additionally, the in-depth interviews were conducted by telephone, which, without being able to meet in person, may have impacted the participants' feelings of comfort and willingness to share. To address this limitation I recruited participants through my professional network with the hope that if the contact "approved" of me and the study, that the prospective participant would feel more comfortable participating. Face-to-face interviews in future research could address this limitation.

**Conclusion.** Building off of and contributing to the research on AI/AN evaluation, this study identifies perceptions of Indigenous evaluation, use of Indigenous evaluation for evaluating physical activity programs, and the approaches to evaluating AI/AN physical activity programs desired by program staff. Aligned with the recommendations of the Roadmap for Collaborative and Effective Evaluation in Tribal

Communities, the findings suggest that bi-directional learning occur in the context of AI/AN physical activity program evaluation whereby AI/AN program and organizational staff receive training on systematic approaches to evaluation that are culturally appropriate and validated among AI/ANs, and outside entities (e.g., universities, funding agencies) learn about the cultural protocol and values, Indigenous knowledge, and Indigenous ways of conducting local evaluation specific to their community (Tribal Evaluation Workgroup, 2013). When designing funding-related evaluation requirements, the findings from this study suggest that universal (i.e., one size fits all) approaches to evaluating AI/AN physical activity programs may not be appropriate, as desired ways of capturing programmatic success varied across participants. The guidance of AI/AN evaluation experts Joan LaFrance (LaFrance & Nichols, 2010), Nicky Bowman (Bowman et al., 2015), and the Tribal Evaluation Workgroup (Tribal Evaluation Workgroup, 2013) should be used to inform physical activity program evaluation conducted in AI/AN communities. Future research should seek to assess the prevalence of these findings across the broader population of AI/AN communities conducting physical activity programs, and should continue to examine culturally responsive methods for evaluating AI/AN physical activity programs that are rigorous, systematic, and incorporate Indigenous ways of knowing.

**Table 4.1. Program Characteristics**

|   | <b>Number<br/>(17)</b> | <b>Percent (100%)</b> |
|---|------------------------|-----------------------|
| <b>PROGRAM LOCALE</b>                           |                        |                       |
| AI/AN Reservation                               | 11                     | 64.7%                 |
| Rural non-reservation                           | 4                      | 23.5%                 |
| Urban   | 1                      | 5.9%                  |
| Both urban and reservation                      | 1                      | 5.9%                  |
|   |                        |                       |
| <b>GRANT MECHANISM<sup>a</sup></b>              |                        |                       |
| Federal agency                                  | 14                     | 82.4%                 |
| Non-profit organization                         | 6                      | 35.3%                 |
| State agency                                    | 3                      | 17.6%                 |
|   |                        |                       |
| <b>INTERVENTION TYPE<sup>b</sup></b>            |                        |                       |
| Hosts community events                          | 12                     | 70.6%                 |
| Provides fitness/gym space                      | 9                      | 53%                   |
| Coordinates youth physical activity programming | 7                      | 41.2%                 |
| Provides group exercise classes                 | 5                      | 29.4%                 |
| Personal training/case management               | 5                      | 29.4%                 |

<sup>a</sup> Six participants identified more than one funding source, therefore the percentages do not add to 100%.

<sup>b</sup> Participants described their interventions have many of the identified components, therefore the percentages do not add to 100%.

**Table 4.2. Participant Characteristics**

|   | <b>Number (17)<sup>a</sup></b> | <b>Percent (100%)</b> |
|---|--------------------------------|-----------------------|
| <b>ROLE/JOB TITLE<sup>b</sup></b>             |                                |                       |
| Program/Project Director                      | 9                              | 52.9%                 |
| Program Coordinator                           | 6                              | 35.3%                 |
| Health Educator                               | 3                              | 17.7%                 |
| Personal Trainer                              | 2                              | 11.8%                 |
|   |                                |                       |
| <b>EVALUATION TRAINING</b>                    |                                |                       |
| Yes   | 15                             | 88.2%                 |
| No  | 2                              | 11.8%                 |
|   |                                |                       |
| <b>YEARS AT ORGANIZATION</b>                  |                                |                       |
| 1-5 years                                     | 8                              | 47.1%                 |
| 6-10 years                                    | 4                              | 23.5%                 |
| 11+ years                                     | 5                              | 29.4%                 |
|   |                                |                       |
| <b>SELF-IDENTIFIED RACE</b>                   |                                |                       |
| American Indian/Alaska Native/Native Hawaiian | 8                              | 47.1%                 |
| Non-Native <sup>c</sup>                       | 9                              | 52.9%                 |

<sup>a</sup> 18 individuals participated in the 17 interviews. Of those, 17 provided demographic information.

<sup>b</sup> 20 job title are identified for 17 participants because one participant held two job titles, and one participant held 3 job titles.

<sup>c</sup> Non-Natives self-identified as White (n=7), Spanish and Asian (n=1), and one individual did not specify.



## Chapter 5: Summary

### 5.1. Overview of Findings

This dissertation sought to build off of the Indigenous Evaluation Framework and the Road Map for Collaborative and Effective Evaluation in Tribal Communities to explore the evaluation experiences and perceptions of Indigenous evaluation among staff evaluating AI/AN physical activity programs and the barriers to conducting evaluation. The Road Map served as the conceptual model for the study – guiding both inquiry and implementation. Using an exploratory sequential mixed methods design, with emphasis on exploration through qualitative inquiry, this study aimed to *explore, through in-depth interviews, Indigenous knowledge-based approaches to evaluating AI/AN physical activity programs, the interest in using these methods, and the organizational capacity and barriers associated with these approaches*. Using a connected analysis, the study aimed to *create and disseminate a survey designed to assess the prevalence of the qualitative findings on Indigenous-knowledge based approaches to evaluating AI/AN physical activity programs among AI/AN organizations*.

**Aim 1.** Through a thematic analysis of 17 in-depth interviews with staff at AI/AN organizations conducting externally funded physical activity programs, the following four themes emerged around the barriers to conducting evaluation in this context: (1) measuring desired physical activity related constructs in ways that are scientifically and culturally sound is a challenge; (2) a lack of resources and support prevents AI/AN organizations from evaluating their physical activity programs; (3) collecting evaluation data is challenging due to the unique culture and experiences of AI/ANs and the context

of physical activity programs; and (4) the lack of alignment between the evaluation requirements set by the external funding source and the evaluation desired by the AI/AN organization and community being served creates a barrier to meaningful evaluation. The following three themes emerged regarding Indigenous evaluation: (1) Indigenous approaches to evaluating AI/AN physical activity programs are perceived as narrative and holistic; (2) Indigenous knowledge is used in AI/AN physical activity program decision-making but sometimes is not acknowledged as evaluation; and (3) there is not a universally desired way to evaluate AI/AN physical activity programs.

Based on the viewpoints of the participants, there is a need for the development of scientific and culturally rigorous, and evidence-based evaluation practices that have been validated among AI/ANs, are grounded in the values and interests of the communities being served, acknowledge Indigenous knowledge as a source of information, are feasible to conduct within the target population and given the type of program being assessed, and are supported by the funding agency. In the context of physical activity programs, this may mean identifying ways to accurately measure population-level behavior change (e.g., engagement in physical activity outside of the program), while also systematically capturing whether participation in the physical activity program led to increased personal connection with AI/AN culture and tradition. Funding agencies need to be inclusive and respectful of the knowledge collection and evaluation methods appropriate for and desired by the AI/AN communities, and be cognizant of and attentive to the history of research and evaluation experienced by AI/ANs. In the context of physical activity programs, this means that early in the funding cycle funding agencies should seek to understand whether evaluation approaches that involve the personal sharing of success

stories in a public space are uncomfortable or inappropriate for participating AI/ANs, and/or whether the release of personal health information to researchers/evaluators is opposed by the AI/AN communities involved. Lastly, the findings suggest that funding agencies and AI/AN organizations assess how they perceive the purpose and goals of their physical activity program evaluation, and compare those with that of the other entity – with the goal being to align, or at the very least be aware of and consider, the evaluation goals and purpose of both groups. Thus, to create a new narrative around physical activity program evaluation, there needs to be bi-directional learning whereby the evaluators/program staff are well trained in scientifically rigorous evaluation (that respects the values and traditions of their community), and the funding agencies are well aware and respectful of the history and context of evaluation, Indigenous ways of knowing, the meaning of “program success”, and the unique barriers to evaluating physical activity programs specific to each AI/AN community.

**Aim 2.** The quantitative instrument was pilot tested with the target population of staff at AI/AN organizations conducting externally funded physical activity programs in AI/AN communities. The process of survey dissemination and implementation was analyzed and the following were identified as lessons learned: (1) allocate sufficient time for obtaining the necessary approvals (e.g., Tribal IRB, Tribal Council); (2) ensure ample time and resources for collecting contact information for prospective participants in the target population, building relationships with these individuals, and transparently discussing the study and its implications for their work; and (3) rigorously test screening questions to ensure that eligible participants are not excluded from participation based on their misunderstanding of the question(s).

Based on the findings from the pilot testing of the survey designed to assess the prevalence of the interview findings across the target population, further research is needed to revise the survey and retest it using the recruitment and dissemination strategies identified. Given the ability for a preliminary comparison to occur between the qualitative and quantitative findings and based on the rigorous development of the survey through the connected analysis process, it is likely that the new survey is an effective instrument to capture the understandings and use of Indigenous evaluation for evaluating AI/AN physical activity programs. In addition, this process provides a model for future studies to build off of in the interest of qualitatively exploring experiences with Indigenous evaluation in other contexts (e.g., mental health initiatives, substance use interventions) and testing the representativeness of those findings across a larger sample. The expansion and replication of this study in other contexts could broadly inform policy around evaluation and reporting for AI/AN grant recipients, and could contribute to the bi-directional learning for both AI/AN grantees and funding agencies with regards to conducting scientifically and culturally rigorous evaluation in Indian Country.

## **5.2. Implications for the Field**

This dissertation explores Indigenous evaluation in a context that it had not yet been examined in – AI/AN physical activity programs. Given the importance of physical activity in the prevention and management of chronic disease and general well being, the findings from this study can be directly applied to improving the evaluation of physical activity programs and, in turn, improving the effectiveness and sustainability of these programs. In addition to confirming and supporting what scholars have recommendation in regards to conducting evaluation with AI/ANs (LaFrance & Nichols, 2010; Tribal

Evaluation Workgroup, 2013), this study specifically identifies *how* Indigenous evaluation can be used to evaluate physical activity programs and how capacity can be built at the local level to ensure that scientifically and culturally rigorous evaluation is implemented. In addition, this study identified ways to improve the evaluation and reporting required by funding agencies, to ensure that the evaluation is culturally responsive, culturally appropriate, and valid. This study recognizes that time and resources are an issue for all parties involved in evaluation and that the interest of all parties is collecting useful, meaningful, and valid information to be used for program improvement and progress. Thus, in an effort to build a new narrative on evaluation and support bi-directional learning for the AI/AN physical activity program staff and the funding agencies, it is my hope that the findings from this dissertation are used by both entities such that limited resources are spent in the most efficient and valuable ways possible – recognizing what “value” means to all those involved.

### **5.3. Strengths and Limitations**

This study examined the evaluation of physical activity programming in a way that has not yet been explored but is important to the success and sustainability of these programs among AI/AN communities. The findings from this study contribute to both the field of research on Indigenous evaluation and the practice of evaluation in AI/AN communities. Given that this topic has not yet been rigorously examined, this study used an exploratory mixed methods design to maximize on the strengths of both qualitative and quantitative approaches - using qualitative research methods to explore an understudied topic and creating a quantitative instrument to be used to assess the typicality of qualitative findings across a larger sample. Another strength of this study

was my connection with prospective participants and expert mentors throughout Indian Country, as this benefited interview recruitment, the opportunity for peer examination, the cultural appropriateness of the study, and the overall success of the research. Despite these strengths, the study is not without its limitations.

As a qualitative phase of the study, the findings from the in-depth interviews are not intended to be generalizable beyond the seventeen participants. However, to support a representation of diverse viewpoints, interviews were conducted until the point of saturation in an effort to gather all perspectives that were present, and provide a rich understanding of the topics explored. This limitation was also addressed by seeking to enhance the rigor of the qualitative research through the inclusion of peer examination, member checking, and the use of a second coder. Another limitation of the study was that the in-depth interviews were conducted over the phone and I did not have the opportunity to meet the participants in person prior to their phone conversation. This may have impacted the participants' comfort in speaking with me and being honest about their experiences in grant-funded (grant-driven) evaluation. Lastly, likely given the mistrust of research and researchers by many AI/ANs, the inability for me to personally reach out to all prospective participants, and the resulting increase in the creation of tribal IRBs, recruitment challenges for the survey occurred, resulting in a small sample size. Despite the small sample size, the lessons learned from the recruitment and dissemination process contribute to the research on the practice of conducting studies with AI/ANs and the creation of a survey instrument that is feasible and appropriate for the target population.

## **Appendices**

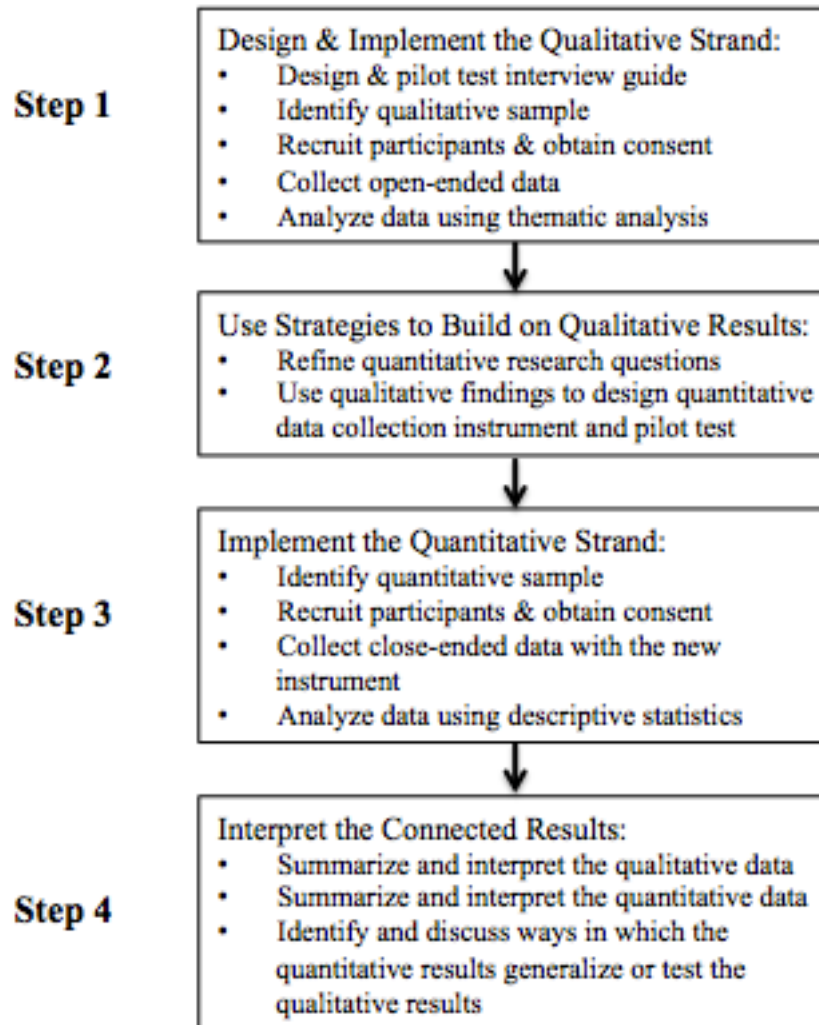
### **Appendix A: Methods**

This study used an exploratory sequential mixed methods design, emphasizing the qualitative phase, to address the study aims. An exploratory sequential mixed methods design is a four-phase approach where the researcher starts with qualitative data collection, develops an instrument based on the qualitative results, uses that instrument in subsequent quantitative data collection, and connects the qualitative and quantitative results to expand and assess the representativeness of the qualitative findings (Creswell & Plano Clark, 2011). Traditionally this design is employed when exploration is needed because “measures or instruments are not available, the variables are unknown, or there is no guiding framework or theory” (Creswell & Plano Clark, 2011, p. 86). As the purpose of this study was to understand and explore Indigenous knowledge-based approaches to evaluating physical activity programs, and currently there are not existing guiding frameworks or theories specific to Indigenous physical activity program evaluation - the use of an exploratory sequential mixed methods design was most appropriate and the qualitative phase was given priority (Creswell & Plano Clark, 2011). To contribute to research on this topic and develop an instrument that could be used to capture perceptions of Indigenous evaluation across Indian Country, the first three steps of the exploratory sequential mixed methods design (see Figure A1) were employed with a focus on conducting exploratory in-depth interviews and using the qualitative findings to create a survey instrument, to be rigorously pilot tested.

In the context of AI/ANs this approach was appropriate, as decolonizing research allows for the use of both quantitative and qualitative methods in research focusing on Indigenous epistemology (Lavallee, 2009). To address the gap in the literature regarding Indigenous approaches to evaluating physical activity programs, the exploratory sequential mixed methods design was applied as diagramed in Figure A1, with the modification of Step 3 being implemented as a pilot and Step 4 recommended as a next step.

To address Aim 1 of this study, exploring the approaches and organizational capacity associated with evaluating AI/AN physical activity programs grounded in Indigenous knowledge, in-depth interviews were conducted with staff working on the evaluation of physical activity programs being implemented by AI/AN organizations (Step 1 in Figure A1). To address Aim 2, the creation and dissemination of a survey designed to assess the prevalence of the qualitative results among AI/AN organizations, findings from the qualitative data were used to design and pilot test a quantitative data collection instrument (Steps 2 and 3 in Figure A1).





*Figure A1.* Flowchart of Procedures in Exploratory Mixed-Methods Study (adapted from Creswell & Plano Clark, 2011, p. 88)

### **Reflexivity and Positioning**

Reflexivity is a strategy used in qualitative research to “legitimize, validate, and question research practices and representations” and has been described as an on-going process of self-awareness in which the researcher identifies who they are, who they have been, who they think they are, and how their identity impacts data collection and analysis

(Pillow, 2003). Because researchers in qualitative data collection are part of the research process, rather than separate from it, scholars have recognized the importance of the researcher analyzing their position within the context of the study (Krefting, 1999). In this process it is important that the researcher be not only self-aware but also aware of their position amongst others (Pillow, 2003).

To engage in on-going reflexivity, scholars have recommended that qualitative researchers keep a journal (or field notes) documenting three types of information: logistics, methods, and personal reflections (Krefting, 1999). Personal reflections include the researchers' thoughts, feelings, questions, hypotheses, and frustrations that occur throughout the research process; and it is suggested that once researchers become aware of these feelings, biases, and assumptions, they may modify data collection or analyses in ways that improve the credibility of the study (Krefting, 1999).

Thus, as a first step in reflexivity, and modeling after Indigenous scholars that engaged in reflexivity during decolonizing research (Lavalley, 2009), I will explain how the creation of this study came to be. Prior to starting the doctoral program at the University of Maryland I worked as an evaluator on a nationwide Indian Health Service grant, and it was through this position that I saw the need for evaluation approaches grounded in Indigenous knowledge. As an evaluator, I was responsible for aggregating the data from local evaluators and providing technical assistance to the AI/AN grantees, and I found that there was a significant lack of capacity for grantees to conduct the type of evaluation that the funding agency wanted, and more importantly, I found that the grantees did not see value in the type of data they were collecting. Often, it seemed that grantees only collected data for reporting purposes and not for the improvement of their

community programs. While this professional experience helped me to understand the stories and information shared during the in-depth interviews, it also influenced my assumptions and biases related to AI/AN program evaluation. In addition, my position as a young, female American Indian (but from an urban/suburban environment and state-recognized tribe), doctoral candidate who held a position as a national evaluator may have influenced how participants interacted with and viewed me. I was cognizant of these issues throughout the research process and reflected on them in my field notes of personal reflections.

### **In-depth Interviews**

**In-depth interview instrument design.** To provide initial focus to the in-depth interviews but allow for change as the interviews progress, a semi-structured format was used (see Appendix D). This format includes a list of questions, framed by the research questions, which can be modified, discarded, or added to as the interview process unfolds and emerging concepts arise or questions are not well-received/ understood (Daly, 2007). In line with suggested decolonizing research methods, the initial questions in the in-depth interview guide did not mention the Western terms of “evaluation”, “reporting”, or “data”; with the notion that the use of the terms may elicit responses aligned with Western culture rather than based on Indigenous knowledge (Bartlett et al., 2007). For example, one question asks participants how they would ideally determine if their program achieved its outcomes or goals.

The first set of questions aimed to build rapport with the participant as well as gather background information about their physical activity program and their demographic information. To answer the first research questions of Aim 1 (*How do*

*AI/AN organizations define and describe Indigenous knowledge-based evaluation in the context of physical activity programs?*), the second and last set of interview questions sought to identify and understand Indigenous evaluation methods and perceptions of these approaches to evaluation. Due to the need to specifically use the words “evaluation” to understand perceptions of that term and concept, the questions specific to the perception of Indigenous evaluation were discussed towards the end of the interview. The second set of interview questions was created to also address the second research question of Aim 1 (*How interested are AI/AN organizations in using Indigenous knowledge-based evaluation to evaluate their AI/AN physical activity programs?*). For example, one question asked what would be the best way for you and your community to figure out if your program achieved its goals or intended outcomes. To address the third (*What organizational capacity is necessary for conducting evaluation grounded in Indigenous knowledge?*) and forth (*What barriers do AI/AN organizations face in implementing Indigenous knowledge-based evaluation to evaluate their physical activity programs?*) research questions of Aim 1, the interview questions in the forth section of the guide aimed to identify and understand the types of resources (capacity) necessary for implementing Indigenous evaluation methods and barriers faced in using these evaluation approaches. In addition, to provide further context around their experiences with evaluation, the fifth set of questions sought to explore their current approach to evaluation and how that may differ from their ideal approach (or Indigenous method) (see Appendix D).

***Expert review and pilot testing.*** In October 2014 an expert panel of both AI/AN researchers and researchers working with AI/ANs (n=5) was established to review

documents and findings associated with this study. Two expert panelists reviewed the proposed semi-structured in-depth interview guide for cultural appropriateness and understandability. Recommended edits were made to the guide, including adding additional information to the introductory paragraph to introduce myself and discuss the consent and audio recording process, providing a clear definition of a “funded physical activity program” in the introduction, adding additional probes under the interview questions, and modifying the order of the questions to allow for a more natural flow of the conversation.

The revised interview guide was then pilot tested in October 2014 with three AI/ANs identified through my professional network. Pilot participants provided oral consent and received a \$20 Amazon gift card for their time and knowledge. The pilot interviews were audio recorded and transcribed verbatim. After the interview, participants were asked to provide feedback on the appropriateness, intrusiveness, completeness, understandability, and burden of the in-depth interview guide. All pilot participants reported feeling comfortable answering the questions and found the length of the interview appropriate. Based on feedback from the pilot participants revisions were made to the interview guide, including the addition of language in the introduction that emphasized University of Maryland’s Institutional Review Board (IRB) approval of the study and discussed the consent process, the inclusion of language at the start of the interview that asked the participant which terminology they preferred (e.g., American Indian, Native American), additional modifications to the ordering of the questions to ensure a flow of the conversation, and one new response option and one new interview question that arose during the piloting process. After this editing process, the final

version of the interview guide was reviewed and approved by the University of Maryland's IRB.

**In-depth interview sampling.** While not striving for generalizability, but ensuring that a variety of voices are heard, a diverse sample of 33 AI/AN organizations were identified based on their funding source, geographic location, and type of community, and contacted. Organizations were selected to include those funded by federal grants (e.g. Special Diabetes Program for Indians), state, and non-profit grants (e.g. Notah Begay III Foundation) to conduct physical activity programs for AI/AN communities, those residing in reservation and urban areas, and those in all 12 of the Indian Health Service regions (Bartlett et al., 2007). In addition to considering those factors, these organizations were also selected based on my existing relationships and the organizations' established interest and willingness to participate. For example, prior to recruitment I had already spoken with a number of organizations that were supportive of the study and had provided Letters of Support. Researchers have identified a sample size of 15 participants as appropriate and sufficient for qualitative research in the field of public health using expert sampling designs (Trotter, 2012), and qualitative decolonizing research with Indigenous peoples have been conducted with 16 participants (Lavalley, 2009); thus, recruiting from a sample of 33 prospective participants was sufficient.

From these organizations, I identified the individuals working within the organization and those most closely involved in the evaluation of the physical activity program (e.g. Program Coordinators, Program Managers, Internal Evaluators) as targeted participants for the in-depth interviews. Individuals were eligible to participate in an in-depth interview if they were over the age of 18, their organization was conducting a

funded physical activity intervention, activity, or program that aimed to increase the activity levels of adults or youth in an AI/AN community, and they contributed to the evaluation of the physical activity intervention/program.

**Recruitment for in-depth interviews.** In October/November an initial formal recruitment letter was sent via email to the Program Coordinators, Program Managers or Internal Evaluators of the 33 organizations identified the sampling frame for the in-depth interviews. Follow-up emails were sent up to three times (a maximum of once a week), as appropriate. In addition to direct contact, the recruitment letter was shared by five professional contacts that worked with AI/AN organizations conducting physical activity programs, disseminated through at least two listservs, and posted on three AI/AN-specific Facebook group pages.

The letter served as a formal introduction, explaining the purpose of the research, and cited obtainment of University of Maryland Institutional Review Board (IRB) approval (see Appendix B). Given the negative history between researchers and AI/AN communities and the resulting mistrust, the letter also identified my tribal affiliation and my interest in the study (Buchwald et al., 2006; Novins et al., 2012). More importantly, the letter outlined compensation to communicate reciprocity and emphasized the utility of their participation in informing a report of Indigenously-grounded evaluation strategies to be disseminated across tribal communities for the betterment of physical activity programming (Buchwald et al., 2006). The letter stressed that data collected would not be used as a tool for judging program evaluation or the organization, the study would not collect outcome information about physical activity program effectiveness or program participants, and the responses would not be discussed with funding agencies. The letter

also noted that only one adult per organization will be permitted to participate in an in-depth interview; preferably the internal staff member working most closely with the evaluation. If individuals needed Tribal IRB or Council approval to participate, necessary documentation was submitted if possible within the timeline of the study.

Prospective participants were asked to respond to an online poll to schedule a date and time for their in-depth interview, and I followed-up via email to confirm the scheduled appointment. Interviews took place during the months of November 2014, December 2014, and January 2015. In-depth interviews were conducted with 18 individuals. This was the point at which saturation was reached. As a standard for identifying a sufficient qualitative sample size, saturation is defined as “the point at which all questions have been thoroughly explored in detail and no new concepts or themes emerge in subsequent interviews” (Trotter, 2012). Participants reflected urban and reservation organizational and physical activity program locale, various funding mechanisms (e.g., federal, state, non-profit), and nine out of the 12 Indian Health Service areas.

**In-depth interview data collection.** Semi-structured in-depth interviews (n=18) were conducted over the phone during November 2014, December 2014, and January 2015 with the AI/AN organizational staff working most closely with the evaluation of their externally funded physical activity program (e.g. Program Coordinators, Program Managers, Internal Evaluators). Participants provided oral consent before participating (see Appendix C), and each in-depth interview lasted between 30-60 minutes and was audio recorded using Google Voice for the purposes of transcription. To ensure all interview questions were answered thoroughly, the thank you email served as a point of



follow-up. After each interview, field notes and the recording were reviewed for areas where the participants could have been probed for more information/explanation. Using this information, the thank you email also asked the participant for more information on certain topics (as needed), and asked if they had anything more to add to their initial responses. It became apparent during one interview that the participant was not affiliated with one single physical activity program nor was the participant involved in the evaluation of any physical activity program, and therefore, that participant was removed from the analysis yielding a total number of 17 interview participants.

The semi-structured in-depth interview guide includes 13 questions, with 2 questions exploring the physical activity program, 3 questions seeking to understand the desired goals and evaluation of the program, 1 question focused on experiences with evaluation, 3 questions inquiring about capacity associated with Indigenous evaluation as well as challenges faced implementing Indigenous evaluation, 3 questions exploring perceptions of Indigenous evaluation, and 1 closing question (see Appendix D).

As an exploratory study, the method of interviewing has been included as a necessary first step to thoroughly understanding and identifying evaluation methods grounded in Indigenous knowledge, as well to use a method most appreciated by AI/ANs, to respect the voices of those with these lived experiences, and to create an environment that decolonizes evaluation to promote Indigenous ways of knowing (Bartlett et al., 2007; Johnston, 2010). Methods of reflexivity, member checking, and peer examination were used throughout the qualitative data collection process to ensure trustworthiness and credibility in the data. As identified by Guba's 1981 model of trustworthiness in qualitative research, these processes contribute to the credibility of the research (Krefting,

1999). As mentioned previously, I practiced reflexivity throughout the study by completing reflexive memos after each interview, and during the qualitative analysis and interpretation phase. In these memos, I discussed how my perceptions, background, and experiences have potentially influenced the research process (Krefting, 1999).

In addition, member checking occurred after the interviews were completed. Member checking, the strategy of discussing the data, interpretation and conclusions with informants from the population of the participants, supported the production of a non-bias qualitative study (Krefting, 1999). As the first form of member checking, all interview transcripts were sent to the respective participant for their review. A letter was created to accompany the transcript, requesting their feedback in two weeks and asking that they identify any segments of the conversation that were not captured correctly and/or to identify anything they said that they did not feel comfortable including in the analysis. Of the participants (n=17), nine reviewed and approved their transcripts and two provided edits. One participant's edit was very minimal involving a correction to a word that was misunderstood in transcription. The second participant's edit were more involved, including revising places where the participant felt they did not complete a thought or it didn't make sense.

## **Surveys**

**Survey design.** Based on the findings of the qualitative analysis, the research questions for Aim 2 were revisited and revised as appropriate. The second proposed research question for Aim 2 was divided into two research questions to be inclusive of "Indigenous knowledge-based outcomes" in addition to Indigenous knowledge-based methods. This edit came from an emergent finding around the understanding of

Indigenous evaluation in terms of both methodology and outcomes/measures. Based on additional emergent findings, three new research questions were identified that focused on how the evaluation requirements set by funding agencies impacted evaluation among AI/AN organizations, the areas of disconnect between grant driven evaluation and evaluation desired by the AI/AN organization, and the perceptions of using Indigenous knowledge-based approaches to evaluate physical activity programs. The revisions to the research questions under Aim 2 were reviewed and approved by the dissertation Chair and two committee members.

To create the survey questions to best address these research questions, a chart was developed that, for each research question, outlined the related qualitative data and associated codes/concepts. From there, a reflective indicator (survey question) and its response options were created to best answer the research question given the qualitative findings (see Appendix F). The response options represented the interview participants' views within that code or theme. For example, for the survey question asking which Indigenous knowledge-based evaluation methods respondents would be interested in using, response options included the methods of evaluation identified by the interview participants (e.g., talking circles, focus groups). Using this chart, a draft survey comprised of 29 questions was developed, and 16 additional questions were added to capture participant demographics and program/organizational information.

***Expert review and initial pilot testing.*** In April 2015 the draft survey was sent to the expert panel for review of face validity and four researchers provided feedback. Expert panelists' main feedback was in support of including Western methods of evaluation and Western measures/outcomes as response options, if they were identified

by the interview participants, with the argument that including only Indigenous knowledge-based approaches and outcomes presents a biased view of evaluation. This feedback was discussed with two dissertation committee members and it was decided to include all methods and outcomes identified in the interviews (Western and Indigenous) as response options. A revised version of the survey was then initially pilot tested in May 2015 with a small group of AI/ANs (n=4) identified through my contacts and not eligible to participate in the survey. Participants provided voluntary consent, and after completion of the online pilot survey, participants scheduled a brief phone interview to provide feedback on understandability and burden of completion. Overall, these pilot participants felt that the length of the survey was not burdensome, it easy to navigate, no questions or topics were left out, and the flow of questioning made logical sense. They provided feedback on highlighting important words and identified places where the online features did not work properly. Participants received a \$10 Amazon gift card for their time and knowledge. The survey was revised based on this feedback and the final version was reviewed and approved by the University of Maryland's IRB.

**Sampling for surveys.** The sampling frame for the surveys included AI/AN organizations conducting funded physical activity programs. In this context, AI/AN organizations included the recognized governing body of an AI/AN tribe, and established organizations of AI/ANs that are controlled, sanctioned or chartered by a governing body elected by members of the tribe, and that includes maximum participation of AI/ANs in all phases of activities (Indian Self Determination and Education Assistance Act of 1975). Funded physical activity programs included any programs, events, or activities designed to promote or support the opportunity for engaging in bodily movement that

results in caloric expenditure, and are monetarily supported by an external funding source (e.g. federal or non-profit grants). Through a preliminary scan for AI/AN organizations conducting funded physical activity programs, 384 programs funded through the Indian Health Services' Special Diabetes Program for Indians (DHHS, 2012a; DDHS, 2012b; DHHS, 2012c), 20 programs funded through the Notah Begay III Foundation (Notah Begay III Foundation, 2014), and approximately 11 programs funded through the Centers for Disease Control and Prevention to conduct obesity-related (including physical activity) interventions/community programming (Centers for Disease Control and Prevention, 2013) were identified; thus, there was a population (at minimum) of 405 organizations conducting externally funded physical activity programs. Within those organizations, individuals who were over the age of 18, were employees of the organization, and worked closely on the evaluation of the physical activity program were eligible to participate.

**Recruitment for surveys.** In May 2015, a link to the online survey, created based on the findings from the in-depth interviews, was widely disseminated via email to AI/AN organizations. With the link, a formal letter was enclosed that, similar to the letter used for the in-depth interview recruitment, introduced me and the study, noted the obtainment of University of Maryland IRB approval (see Appendix B), outlined compensation, and highlighted the implications of the study findings to the promotion of Indigenous evaluation. In addition, the letter emphasized that the survey would not be used to judge the organization or its program evaluation methods, nor would it collect information about the physical activity program's effectiveness or program participants, and the responses would not be discussed with funding agencies. The letter requested that

the staff member mostly closely involved in the evaluation of the program complete the survey. If individuals needed Tribal IRB or Council approval to participate, necessary protocol was followed if it was within the timeline of the study.

The survey recruitment letter was disseminated to a list of identified eligible participants (n=36), and was shared through professional contacts (n=10), urban Indian health organizations (n=2), and Tribal Epidemiology Center contacts (n=2) that agreed to send the recruitment information to AI/AN programs that they work with. The recruitment letter was also disseminated through the following AI/AN-specific listservs and/or newsletters (n=6): Notah Begay III Foundation newsletter, National Congress of American Indians' Research Update, National Council of Urban Indian Health Technical Assistance and Research Center newsletter, Just Move It newsletter, National Children's Research Exchange's listserv, and the Johns Hopkins University Center for American Indian Health's listserv. Lastly, the survey recruitment information was shared through social media on three AI/AN Facebook groups and via Twitter using Native specific handles and hash tags. Follow-up emails were sent at most three times (once a week) during the months of June and July 2015. The survey closed on July 27, 2015 and 36 of the 66 individuals that started the online survey were eligible to participate. While this represents a small portion of the potential population of AI/AN organizations conducting physical activity programs, it did provide a sufficient sample to pilot test the newly created survey questions developed based on the findings from the exploratory interviews, and to pilot test the process of recruiting and implementing a survey to the target population.

**Survey data collection.** As discussed previously, the online survey link and recruitment letter was disseminated widely through listservs, professional contacts, social media, and directly through the identification of AI/AN organizations conducting externally funded physical activity programs, starting in June 2015 and with continued follow-up until mid-July 2015. The online survey (see Appendix E) was developed and maintained through Qualtrics (2015), included an online informed consent form (see Appendix C) and 48 questions, and took approximately 20-40 minutes to complete. In an effort to capture the typicality of the qualitative findings across a larger sample of participants, survey questions were most often multiple-choice questions with the option to “select all that apply” (n=24), to allow for survey participants to select which aspects of the qualitative findings they agreed with. In addition, the survey included: four screening questions, seven questions with Likert-scale response options, three questions with open-ended responses, and 10 questions with binary (yes/no, agree/disagree) response options. To reduce the potential for missing data, notifications were set up within the online survey to alert participants of questions they have not answered. Attending to the burden of completing surveys, participants were given the option to stop, save, and revisit the survey at their convenience. While it was not formally tracked, it was strongly encouraged, during dissemination/outreach, that one only survey be completed at each organization.

### **Incentives**

Individuals that participated in the in-depth interviews or the pilot testing of the in-depth interview guide received an electronic thank you note and a \$20 Amazon gift card. Individuals that participated in the survey or the initial pilot testing of the survey

instrument received an electronic thank you note and a \$10 Amazon gift card. All gift cards were sent via email using the participants' email address. At the end of the online survey, participants were re-directed to another online survey where they were asked to enter their email address for compensation. Their email address and their survey responses were not linked together. At the end of each week during survey data collection (May-July 2015), new responses were identified and compensation was emailed out.

### **Data Analysis**

To analyze the data collected through the exploratory sequential mixed methods design, the first two phases of a connected mixed methods data analysis was conducted: (1) analysis of the qualitative data for Aim 1 and (2) analysis of the quantitative data for Aim 2 (Creswell & Plano Clark, 2011). QSR International's NVivo for Mac software (2014) was used to facilitate the analysis for the qualitative data collected to address Aim 1, and SPSS v.23 software (IBM Corp, 2015) was used to analyze the quantitative survey data collected to address Aim 2. Since the focus of the second phase of the study was on the rigorous pilot testing of the survey instrument with the target population, the process of disseminating the survey instrument, recruiting survey participants, and implementing the survey instrument using an online system was also analyzed. Therefore, the focus of the analysis was to address the exploratory research questions of Aim 1 and assess the survey instrument developed to answer the research questions of Aim 2.

**Aim 1. To explore, through in-depth interviews, Indigenous knowledge-based approaches to evaluating AI/AN physical activity programs, the interest in using these methods, and the organizational capacity and barriers associated with these approaches.**



Thematic analysis of the interview data was conducted to answer the following research questions: *1) how do AI/AN organizations define and describe Indigenous knowledge-based evaluation in the context of physical activity programs; 2) how interested are AI/AN organizations in using Indigenous knowledge-based evaluation to evaluate their AI/AN physical activity programs; 3) what organizational capacity is necessary for conducting evaluation grounded in Indigenous knowledge; and 4) what barriers do AI/AN organizations face in implementing Indigenous knowledge-based evaluation to evaluate their physical activity programs?*

As a first step to analysis, a trained, research assistant transcribed each interview as soon as possible after conducted. I then reviewed each transcription in comparison to the audio recording for quality assurance and made edits when necessary. At this time, identifiable information (personal and tribal) was removed from the transcript. In addition, follow-up emails were sent to participants, as necessary, to clarify information captured in the interview. While a more formal analysis (described below) was conducted, informal analysis was also ongoing, and through such, I made both analytic and reflexive memos during the transcription review that informed future interviews and overall analysis (Braun & Clarke, 2006). At the end of the interview process, a member check was conducted during which all participants were emailed a copy of their interview transcript and asked to review it for accuracy and completeness. As discussed in previously, two participants provided feedback on their transcripts and edits were made as appropriate.

After the interviews and initial informal analyses were completed, a codebook was created using a “structural design” (see Appendix G). In this framework, the codes

are theory-driven (i.e., based on research questions) as well as data-driven (i.e., based on emerging themes from the interviews) (Braun & Clarke, 2006; DeCuir-Gunby et al., 2010). To assess the reliability of the codebook, the graduate research assistant and myself coded two interviews using the codebook and met, with a dissertation committee member, to discuss our application of the codes and any discrepancies in coding using a group-consensus approach (without quantification) (DeCuir-Gunby et al., 2010). The codebook was then revised and using this version, two new interview transcripts were coded by the graduate research assistant and myself, and we met to review our coding and discuss differences in application of the codebook. From this meeting, the codebook was finalized, I coded all 17 interview transcripts, and the graduate research assistant reviewed a random sample ( $n=5$ , 30%) of the coded transcripts. We met a final time to discuss questions regarding coding decisions and the coding of the transcripts was revised based on this discussion.

Next, a spreadsheet was created to visually display the quotes for each code, as they corresponded with the participant. Within the excel book, separate sheets were created for each research question, and the codes for each research question were identified and served as columns on each sheet. A query was run in NVivo for each code and the text was transferred into the excel sheet within the corresponding cell (i.e., aligned with the code and participant). For each code, all text was reviewed within and across individual participants to recognize the various dimensions of the code as well as the internal continuity and variability (Daly, 2007). From there, concepts were created to represent prominent single quotes or significant groupings of related quotes for each code, and the relationship between the concepts and the research questions and existing

literature was examined. In addition, concepts were compared across subgroups of the sample (e.g. type of funding source, type of populations served) to examine variability. During the interpretation process, reflexive memos were completed speaking to the process, my assumptions, and my interpretation of the data.

At this stage, a narrative was created that described the preliminary findings from the research questions of Aim 1 (see Appendix H). The narrative was designed to represent a journal entry from an individual evaluating an AI/AN physical activity program, and was intended to reflect the input of all 17 interview participants. As a member check, the narrative was sent to all interview participants for their review and feedback. Seven of the 17 participants provided confirmation that they read the narrative and approved the content, and all felt that it represented their interview well. One individual felt that the conversational format of the journal entry was difficult to read.

A write up of the preliminary findings was also created that described the concepts identified and the themes that arose based on the relationship between the concepts and the associated research questions. As a form of peer examination, this document was sent to the expert panel for their review. Two expert panelists and one dissertation committee member reviewed the preliminary findings, providing minimal feedback only to suggest where further examination should be focused.

**Aim 2. To create and disseminate a survey designed to assess the prevalence of the qualitative findings on Indigenous knowledge-based approaches to evaluating AI/AN physical activity programs among AI/AN organizations.**

To address Aim 2 and based on the qualitative findings, I sought to use a connected analysis to create a survey instrument designed to answer the following

research questions: 1) *what methods of Indigenous knowledge-based evaluation are AI/AN organizations using to evaluate their physical activity programs;* 2) *what Indigenous knowledge-based outcomes are AI/AN organizations interested in collecting to evaluate physical activity programs;* 3) *which methods of Indigenous knowledge-based evaluation are AI/AN organizations interested in using;* 4) *what resources do AI/AN organizations need to evaluate physical activity programs using Indigenous knowledge-based approaches and/or to capture Indigenous-knowledge based outcomes;* 5) *what barriers do AI/AN organizations commonly face in conducting Indigenous knowledge-based evaluation when evaluating physical activity programs and collecting Indigenous knowledge-based outcomes;* 6) *how does the funding agency/grant impact the perception, delivery, and utility of evaluation among AI/AN organizations;* 7) *what are the areas of disconnect between funding agency/grant-driven evaluation and the evaluation desired by the AI/AN organization;* and 8) *what are the staff's perceptions of the use of Indigenous knowledge-based evaluation to evaluate their physical activity programs?*

As a necessary first step in connecting the qualitative findings to the creation of a quantitative instrument, themes, codes, and associated quoted interview text were put into a table from which survey items and response options were developed (Creswell & Plano Clark, 2011). For example, to answer research question 1 of Aim 2 (focused on identifying Indigenous evaluation approaches being used by AI/AN organizations) qualitative data that was coded under the code “Indigenous approaches to evaluation used” was included in the section of the chart specific to this research question. From there, through a review of the quotes and based on the thematic findings from Aim 1 pertaining to this research question, it became evident that participants used Indigenous

evaluation approaches during the various stages of their evaluation (e.g., formative, process, outcome). Using that information the following survey item was developed: “Before your program start, which of the following did your organization use to inform the development of your physical activity program”; and lastly, response options were created using the types of evaluations described in the quotes included in this section of the chart (see Appendix F).

After the survey instrument was developed it was reviewed through peer examination by the members of the expert panel and then by members of the dissertation committee. Based on their feedback, the survey was revised and then pilot tested with professional contacts (n=4). After which the survey instrument was revised again based on the feedback from the initial pilot testing, approved by the University of Maryland’s IRB, and uploaded to the online survey system, Qualtrics (2015).

The dissemination of the survey at this stage was considered a second pilot test, through which the feasibility of implementing the survey with the target audience and the quality of the survey instrument was assessed. After the survey was closed, the effectiveness of the recruitment and dissemination efforts was analyzed using the field notes I took on this process. In addition, the quality of the survey instrument was analyzed by examining the survey data. All data was cleaned and all variables were examined for missing data, outliers, and variability. Descriptive analyses were used, specifically frequencies, to determine the prevalence of qualitative results amongst survey participants (see Appendix I).

## **Human Subjects**

This study involved human subjects during four portions of the study: interview guide pilot testing, in-depth interviews, initial survey pilot testing, and survey completion. There was minimal risk to participating in this study, as neither the in-depth interview nor the survey collected sensitive information from the participant. However, participants may have felt anxious participating in an interview or completing the survey if this task competed with their other daily obligations. Potential benefits included: becoming aware of evaluation processes, feeling empowered by contributing to meaningful research, and receiving the final report that will be provided to all participants detailing the findings of the study.

Participants for all portions of the study were recruited through personal outreach (email). Depending on what portion they were recruited for, participants were asked to voluntarily participate in that element of the study (either the pilot tests, the in-depth interview, or the survey), and completed the associated informed consent prior to participation. Those that participated in either the pilot testing of the in-depth interviews or the in-depth interviews were asked to provide oral consent before participating. Those that completed the initial pilot of the survey or the survey were asked to provide electronic consent before participating.

No identifiable information was collected during either data collection process. In-depth interviews were audio recorded for the purposes of transcription, and these recordings are stored electronically in a password-protected file only I can access. In the transcriptions of the recordings, participants were identified by a unique code and all personal and tribal information mentioned during the interview discussion was removed. All identifiable information is kept in a separate password protected file. Transcriptions

and associated analyses are also being electronically stored in files only I can access. Survey data was collected through Qualtrics (2015), and was password protected, accessibly only by me. After the survey closed, survey data was exported from Qualtrics into SPSS, any additional data was entered into the SPSS dataset, and the dataset is electronically stored in password-protected file only I can access.

## Appendix B: IRB Approval Letter



1204 Marie Mount Hall  
College Park, MD 20742-5125  
TEL 301.405.4212  
FAX 301.314.1475  
irb@umd.edu  
www.umresearch.umd.edu/IRB

DATE: August 8, 2014

TO: Erica Roberts, MHS  
FROM: University of Maryland College Park (UMCP) IRB

PROJECT TITLE: [640437-1] Identifying and Understanding the Current State of Physical Activity Program Evaluation Conducted by American Indian/Alaska Native Organizations

REFERENCE #:  
SUBMISSION TYPE: New Project

ACTION: APPROVED  
APPROVAL DATE: August 8, 2014  
EXPIRATION DATE: August 7, 2015  
REVIEW TYPE: Expedited Review

REVIEW CATEGORY: Expedited review category # 6 & 7

Thank you for your submission of New Project materials for this project. The University of Maryland College Park (UMCP) IRB has APPROVED your submission. This approval is based on an appropriate risk/benefit ratio and a project design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission.

This submission has received Expedited Review based on the applicable federal regulation.

Please remember that informed consent is a process beginning with a description of the project and insurance of participant understanding followed by a signed consent form. Informed consent must continue throughout the project via a dialogue between the researcher and research participant. Federal regulations require each participant receive a copy of the signed consent document.

Please note that any revision to previously approved materials must be approved by this committee prior to initiation. Please use the appropriate revision forms for this procedure which are found on the IRBNet Forms and Templates Page.

All UNANTICIPATED PROBLEMS involving risks to subjects or others (UPIRSOs) and SERIOUS and UNEXPECTED adverse events must be reported promptly to this office. Please use the appropriate reporting forms for this procedure. All FDA and sponsor reporting requirements should also be followed.

All NON-COMPLIANCE issues or COMPLAINTS regarding this project must be reported promptly to this office.

This project has been determined to be a Minimal Risk project. Based on the risks, this project requires continuing review by this committee on an annual basis. Please use the appropriate forms for this procedure. Your documentation for continuing review must be received with sufficient time for review and continued approval before the expiration date of August 7, 2015.

Please note that all research records must be retained for a minimum of three years after the completion of the project.



## Appendix C: Consent Forms

### Interview Consent Form

|  |  |
|--|--|
| <b>Project Title</b>                   | <i>A Mixed Methods Approach to Identifying and Understanding Indigenous Ways of Evaluating Physical Activity Programs</i>  |
| <b>Purpose of the Study</b>            | <p>This research is being conducted by Erica Roberts at the University of Maryland, College Park. We are inviting you to participate in this research project because you are the Program Coordinator or Internal Evaluator of a funded physical activity program. <i>The purpose of this research project is to explore and understand AI/AN ways of evaluating physical activity programs, as well as the type of organizational capacity necessary to conduct these methods of evaluation. The results of this study will inform how local capacity for conducting program evaluation that is meaningful to AI/AN communities can be built, and advocated for amongst funding agencies.</i></p> |
| <b>Procedures</b>                      | <p><i>The procedures include participating in 1 in-depth interview over the phone. During the interview you may be asked questions such as:</i></p> <ol style="list-style-type: none"><li><i>1. How would you determine if your program fulfilled its purpose or mission?</i></li><li><i>2. What types of things would you need to use a more appropriate approach to gathering information?</i></li></ol> <p><i>The interview is expected to take approximately one hour to complete and will be recorded. Do you agree to be recoded?</i><br/>___ Yes<br/>___ No</p> <p><i>After your participation, you will be emailed a \$20 Amazon gift card for your time.</i></p>                          |
| <b>Potential Risks and Discomforts</b> | <p><i>There are no known risks associated with participating in this research project. There is the potential for participants to feel anxious participating in the interview if this task competes with other daily obligations. To attempt to address this risk, Ms. Roberts will strive to schedule the interview at a time that is convenient for the participant and has pilot tested the interview guide to assess length and burden. There is also the potential for loss/breach of confidentiality. To attempt to mitigate this risk, all interview information will be stored in a password-protected file accessible only by Ms. Roberts.</i></p>  |

|  |  |
|--|--|
| <b>Potential Benefits</b>              | <p>There are no direct benefits from participation in this research. However, possible benefits include becoming aware of evaluation processes, feeling empowered through participating in meaningful research, and <i>receiving the final report detailing the findings of the study and best practices for evaluating physical activity programs</i>. We hope that, in the future, other people might benefit from this study through improved understanding of Indigenous evaluation.</p>   |
| <b>Confidentiality</b>                 | <p><i>Any potential loss of confidentiality will be minimized by storing all recordings and transcriptions of the interview in a password-protected file accessible only by Ms. Roberts. Your personal information will not be collected during the interview. A code for your organization will be linked to the transcription of the interview and only Ms. Roberts will have access to the file linking the codes with the organization.</i></p> <p>If we write a report or article about this research project, your identity will be protected to the maximum extent possible. Your information may be shared with representatives of the University of Maryland, College Park or governmental authorities if you or someone else is in danger or if we are required to do so by law.</p> |
| <b>Compensation</b>                    | <p><i>You will receive an Amazon gift card for \$20. You will be responsible for any taxes assessed on the compensation.</i></p> <p><input type="checkbox"/> <i>Check here if you expect to earn \$600 or more as a research participant in UMCP studies in this calendar year. You must provide your name, address and SSN to receive compensation.</i></p> <p><input type="checkbox"/> <i>Check here if you do not expect to earn \$600 or more as a research participant in UMCP studies in this calendar year. Your name, address, and SSN will not be collected to receive compensation.</i></p>  |
| <b>Right to Withdraw and Questions</b> | <p>Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized or lose any benefits to which you otherwise qualify.</p> <p>If you decide to stop taking part in the study, if you have questions, concerns, or complaints, or if you need to report an injury related to the research, please contact the investigator:</p> <p style="text-align: right;"> <b>Erica Blue Roberts, MHS</b><br/> Email: eblueroberts@gmail.com<br/> Phone: 410-236-7016 </p>  |

|                             |   |
|-----------------------------|---|
| <b>Participant Rights</b>   | <p>If you have questions about your rights as a research participant or wish to report a research-related injury, please contact:</p> <p style="text-align: center;"><b>University of Maryland College Park<br/>Institutional Review Board Office<br/>1204 Marie Mount Hall<br/>College Park, Maryland, 20742<br/>E-mail: <a href="mailto:irb@umd.edu">irb@umd.edu</a><br/>Telephone: 301-405-0678</b></p> <p>This research has been reviewed according to the University of Maryland, College Park IRB procedures for research involving human subjects.</p> |
| <b>Statement of Consent</b> | <p>By stating “I agree” you are indicating that you are at least 18 years of age; you have read this consent form or have had it read to you; your questions have been answered to your satisfaction and you voluntarily agree to participate in this research study. You will receive a copy of this signed consent form.</p> <p>If you agree to participate, please say: “I agree”.</p>   |

## Survey Consent Form

|  |   |
|--|---|
| <b>Project Title</b>                   | <i>A Mixed Methods Approach to Identifying and Understanding Indigenous Ways of Evaluating Physical Activity Programs</i>   |
| <b>Purpose of the Study</b>            | This research is being conducted by Erica Roberts at the University of Maryland, College Park. We are inviting you to participate in this research project because you work on the evaluation of a funded physical activity program in a American Indian/Alaska Native (AI/AN) community. <i>The purpose of this research project is to explore AI/AN ways of knowing if a physical activity program was effective and/or successful. The results of this study will identify what meaningful evaluation for AI/AN physical activity programs is, and will inform how local capacity for conducting meaningful program evaluation can be built.</i> |
| <b>Procedures</b>                      | <p><i>The procedures include completing 1 online survey. Survey questions may include:</i></p> <ol style="list-style-type: none"> <li><i>1. Which of the following did your organization use to inform the development of your physical activity program?</i></li> <li><i>2. Which of the following resources would you need to conduct qualitative evaluation?</i></li> </ol> <p><i>The survey is expected to take 20 - 40 minutes to complete. You will be contacted the Friday after you've completed the survey to receive a \$10 Amazon gift card for your time.</i></p>   |
| <b>Potential Risks and Discomforts</b> | <i>There are no known risks associated with participating in this research project. There is the potential for participants to feel anxious completing the survey if this task competes with other daily obligations. To attempt to address this risk, Ms. Roberts has assessed the burden of completion, and is allowing for the survey to be completed at the convenience of the participant. There is also the potential for loss/breach of confidentiality. To attempt to mitigate this risk, all survey information will be stored in a password-protected file accessible only by Ms. Roberts.</i>  |
| <b>Potential Benefits</b>              | <i>There are no direct benefits from participation in this research. However, possible benefits include becoming aware of evaluation processes, feeling empowered through participating in meaningful research, and receiving the final report detailing the findings of the study and best practices for evaluating physical activity programs. We hope that, in the future, other people might benefit from this study through improved understanding of Indigenous evaluation.</i>   |

|  |  |
|--|--|
| <b>Confidentiality</b>                 | <p><i>Any potential loss of confidentiality will be minimized by storing all electronic data in a password-protected file and all hard copy data in a locked file cabinet, accessible only by Ms. Roberts. The survey is anonymous and will not contain information that may personally identify you. The information provided to receive the incentive will be kept in a file separate from the data, and will only accessible by Ms. Roberts.</i></p> <p>If we write a report or article about this research project, your identity will be protected to the maximum extent possible. Your information may be shared with representatives of the University of Maryland, College Park or governmental authorities if you or someone else is in danger or if we are required to do so by law.</p> |
| <b>Compensation</b>                    | <p><i>You will receive a \$10 Amazon gift card. You will be responsible for any taxes assessed on the compensation.</i></p> <p><input type="checkbox"/> <i>Check here if you expect to earn \$600 or more as a research participant in UMCP studies in this calendar year. You must provide your name, address and SSN to receive compensation.</i></p> <p><input type="checkbox"/> <i>Check here if you do not expect to earn \$600 or more as a research participant in UMCP studies in this calendar year. Your name, address, and SSN will not be collected to receive compensation.</i></p>   |
| <b>Right to Withdraw and Questions</b> | <p>Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized or lose any benefits to which you otherwise qualify.</p> <p>If you decide to stop taking part in the study, if you have questions, concerns, or complaints, or if you need to report an injury related to the research, please contact the investigator:</p> <p style="text-align: right;"><b>Erica Blue Roberts, MHS</b><br/>Email: eblue@umd.edu<br/>Phone: 410-236-7016</p>   |
| <b>Participant Rights</b>              | <p>If you have questions about your rights as a research participant or wish to report a research-related injury, please contact:</p> <p style="text-align: center;"><b>University of Maryland College Park<br/>Institutional Review Board Office<br/>1204 Marie Mount Hall<br/>College Park, Maryland, 20742</b></p>  |

|                             |  |
|-----------------------------|--|
|                             | <p><b>E-mail:</b> <a href="mailto:irb@umd.edu">irb@umd.edu</a><br/> <b>Telephone:</b> 301-405-0678</p> <p>This research has been reviewed according to the University of Maryland, College Park IRB procedures for research involving human subjects.</p>  |
| <b>Statement of Consent</b> | <p>By checking “I agree” below you are indicating that you are at least 18 years of age; you have read this consent form or have had it read to you; your questions have been answered to your satisfaction and you voluntarily agree to participate in this research study. You can download a copy of this consent form.</p> <p>If you agree to participate, please check the box below.</p> |
| <b>Consent and Date</b>     | <p><b>I agree to participate.</b> <input type="checkbox"/></p>   |
|                             | <p><b>DATE:</b></p>  |

## Appendix D: Interview Guide

Thank you for taking the time to speak with me about your physical activity program. As you may know I am a doctoral student at the University of Maryland and as part of my dissertation research I am doing interviews with staff members like you to understand your process for conducting and improving physical activity programs for Native American communities. And I am hopeful that by learning from you and others, that I can identify culturally responsive and culturally driven ways of monitoring and sustaining physical activity programs in Native communities.

At this time, I would like to read you the consent form and at the end I will ask you to provide oral consent. The study and the consent form have been reviewed and approved by the University of Maryland Institutional Review Board. And after our interview, I will email you a copy of the consent form. Okay? [*READ CONSENT FORM*]

You should feel free to make any sort of comments – positive or negative – about what we are talking about today. There are no right or wrong answers – this is an opportunity for me to learn from you. And while we are going to talk about a grant-funded physical activity program, funding agencies will not have access to this conversation and what you tell me will not impact the funding of your program. The information that will be accessible to funding agencies will be aggregated and will not have identifiable information in it.

And before we get started, this interview is going to discuss Native ways of knowing and I just want to ask if you prefer the term Native American, American Indian, or Indigenous?

Okay, thanks! And do you have any questions before we start?

Okay, wonderful. Now, if it is okay with you, I am going to start recording now. Okay? [*Launch recording app*]. Great, now one more time – can you please state “I agree” if you agree to voluntarily participate in this interview?

Okay, great! First I would like to understand more about the physical activity program that you work on. For this project, I am defining a physical activity program as any program, event or activity designed to provide, promote or support the opportunity for engaging in bodily movement, and that is monetarily supported by an external funding source (e.g. federal or non-profit grant).

## **Program Information**

1. Tell me about your physical activity program.
  - a. Probes:
    - i. What type of physical activity? (e.g. running, gym built)
    - ii. When does it happen (e.g. once a week after school)?
    - iii. How long is the PA (e.g. one hour a session)?
    - iv. How long does the program last (e.g. 6 months)?
    - v. Who does it serve (e.g. youth, families, communities)?
      1. What type of population would you say that your program mostly serves (members of federally-recognized tribes, state-recognized tribes, urban Indians)?
    - vi. What type of grant is your physical activity program funded by (e.g. federal, state, non-profit)?
2. What is your role on the program (e.g. Program Director)?
  - a. What are your responsibilities with that role?
  - b. What is your background/training (e.g., nurse, personal trainer)?
  - c. What other staff work on the program (e.g. volunteers, teachers)?

## **Identifying Success & Indigenous Evaluation Methods**

3. What are the desired outcomes and/or goals of your program?
  - a. Are there multiple outcomes?
4. Now I'd like you to brainstorm - if money and resources were not an issue, ideally, how would you determine if your program achieved its outcomes [*state their outcome/goal*]
  - a. *BE SURE to clarify what is IDEAL method and what they are DOING – if those are the same things? Continue to emphasize IDEAL*
  - b. Probes:
    - i. What would be the best way for you (and your community) to figure out if your program did [*state their goal*]?
    - ii. What kind of information or data would you need to assess the impact of your program?
5. And why would you use those methods?



## Evaluation Experiences

6. Is this something that you have done before or is this what you are currently doing?

**i. If yes:**

1. Can you please tell me about it? How did it work?
2. Who collected the information?
3. Why was that the most appropriate for your community?
4. **What did you do with the information once it was collected?**

**a. Have you used it to make decisions about the program?**

5. **[Barriers]** What challenges do you face in using this approach?

**ii. If no: [Barriers]**

1. Why not? What is keeping you from using that approach?
2. What are you currently doing? Can you tell me about that?

a. Why are you using this method?

b. Who does this for you?

**c. What do you do with the information once it's collected?**

**i. Have you used it to make decisions about the program?**

d. How is this method different from the one you described before? Why do you think they are different?

## Capacity

7. *[For each approach]* What types of things would you need to do *[insert the approach they discuss]*?

a. Probes:

i. Think of the resources that you need to do *[state their method]*

ii. And why that resource?

8. **[Barriers]** Would it be hard to get those resources?

9. How have you shared your methods with other programs like yours? Or how have you learned methods from other similar PA programs?

### **Indigenous Methods continued**

10. When I say “methods evaluation” what do you think of?
  - a. What does that mean to you?
11. And now when I add “Indigenous” or “American Indian” – so “Indigenous methods of evaluation” – how does that change?
  - a. What does that mean to you?
12. [*If participants provide a Western method, then ask the following*] Other researchers [*or other participants*] have identified Indigenous methods of evaluation or assessing the success of a program – like talking circles, healing circles, narratives or story telling, looking at the impact to the broader community, using multiple methods (qualitative and quantitative).
  - a. What do you think of those methods?
  - b. Are those something you may consider using in your community?

### **Closing**

13. Thank you so much for your thoughtful answers! Before we wrap up, is there anything else you would like to add? Is there anything that I didn’t ask that I should of?

## Appendix E: Survey Instrument

### Evaluating Physical Activity Programs in American Indian/Alaska Native Communities

*[Text in italics is not included on the online survey but as information for the researcher]*

#### *[Introduction]*

Thank you for taking the time to participate in this survey! My name is Erica Roberts (Lumbee Tribe of North Carolina) and I am a doctoral candidate at the University of Maryland in the School of Public Health; and this survey is a part of my dissertation research project. The purpose of the project is to explore American Indian/Alaska Native ways of knowing if a physical activity program was effective and/or successful. While there are many ways to measure the success of a physical activity program, this survey will mainly focus on a few specific methods and outcomes.

The questions will focus on your organization's experiences with and feelings towards assessing the success of your grant-funded physical activity program. Therefore, I kindly request that **only one person from an organization complete the survey** (preferably the person most familiar with the evaluation of your program).

This study is **not** interested in the data you've collected about the success of your program (i.e., I will not ask you for participant data). The information you provide will not be used to judge your program, nor will it be discussed with your funding agency. Your input will be anonymous and will not be connected to your program or organization.

Before starting the survey, you will be asked to read an online consent form and agree to participate. All of your survey responses will be anonymous. At the end of the survey you will be taken to a separate website (not linked to your survey responses) where you will be asked to provide your email address. I will email a \$10 Amazon gift card to this email address as a thank you for participating in this survey.

Please click the link below to read the consent form. After reading – please select whether you agree or disagree to participate. You may save a copy of the consent form.

*[Show consent form]*

- ☐ I agree  
☐ I do not agree

*[If disagree, skip to exit screen that reads Thank you for your interest, but unfortunately you are not eligible to participate.]*

Thank you! As you read in the consent form, if you expect to earn \$600 or more as a research participant in University of Maryland, College Park studies this calendar year (2015), you must email eblue@umd.edu to provide the required information.

*[Screening questions]*

1. Are you over the age of 18?

☐ Yes  
☐ No

*[If no, skip to exit screen that reads Thank you for your interest in this survey, but unfortunately you are not eligible to participate.]*

2. Do you work on a physical activity program for Native Americans?

☐ Yes  
☐ No

*[If no, skip to exit screen that reads Thank you for your interest in this survey, but unfortunately you are not eligible to participate.]*

3. Do you work on the evaluation of this physical activity program for Native Americans?

☐ Yes  
☐ No

*[If no, skip to exit screen that reads Thank you for your interest in this survey, but unfortunately you are not eligible to participate.]*

4. Is your physical activity program funded by a grant?

☐ Yes  
☐ No

*[If no, skip to exit screen that reads Thank you for your interest in this survey, but unfortunately you are not eligible to participate.]*

*[Organization & Program Information]*

First, I would like to know a bit about your organization.

5. How would you describe your organization? (Check all that apply)

☐ Non-profit 501(c)3  
☐ State or Federal organization  
☐ Tribal government organization  
☐ Health services provider (e.g., hospital, clinic)  
☐ Other: \_\_\_\_\_

6. How many paid, full-time employees does your organization have?

7. Which state(s) is your organization located in?

[Drop down list]

Please tell me a bit about your physical activity program!

8. Which of the following best describes your physical activity program?
- ☐ Community/group program (e.g., camps, fitness classes)
  - ☐ Case management / individual program (e.g., personal training)
  - ☐ Includes both community and individual components
9. What types of community members participate in your physical activity program? (Check all that apply)
- ☐ Youth/Adolescents
  - ☐ Adults
  - ☐ Elders
10. Which of the following are included in your physical activity program? (Check all that apply)
- ☐ Health promotion / health behavior intervention (e.g., a walking program, fitness classes)
  - ☐ Environmental change (e.g., building a playground or a fitness center)
  - ☐ Policy change (e.g., changing recess policies at school)
  - ☐ Other: \_\_\_\_\_
11. Which IHS area is your physical activity program located in? (Check all that apply)
- ☐ Alaska
  - ☐ Albuquerque
  - ☐ Bemidji
  - ☐ Billings
  - ☐ California
  - ☐ Great Plains
  - ☐ Navajo
  - ☐ Nashville
  - ☐ Oklahoma City
  - ☐ Phoenix
  - ☐ Portland
  - ☐ Tucson

12. Please select which type of funding your physical activity program receives:

(Check all that apply)

- ☐ Federal grant (e.g., SDPI, CDC)
- ☐ State grant
- ☐ Non-profit/foundation grant (e.g., Notah Begay III Foundation)
- ☐ Tribe
- ☐ Other: \_\_\_\_\_

*[RQ1 – Indigenous approaches to evaluation used]*

The next section focuses on how your organization collects (or has collected) information about your physical activity program.

13. Before your program started, which of the following did your organization use to inform the development of your physical activity program? (Check all that apply)

- ☐ Focus groups
- ☐ Taking Circles
- ☐ Storytelling/success stories
- ☐ Qualitative interviews
- ☐ Digital stories
- ☐ Quantitative surveys
- ☐ Secondary data analysis
- ☐ Relationships/interactions with the community
- ☐ Observations of the community
- ☐ Staff knowledge of community preferences and interests
- ☐ Other: \_\_\_\_\_
- ☐ Don't know
- ☐ None of the above

14. Which of the following did your organization use to monitor or assess the progress/implementation of your physical activity program? (Check all that apply)

- ☐ Focus groups
- ☐ Taking Circles
- ☐ Storytelling/success stories
- ☐ Qualitative interviews
- ☐ Digital stories
- ☐ Attendance records
- ☐ Satisfaction/feedback survey from participants
- ☐ Satisfaction/feedback survey from program facilitators
- ☐ Relationships/interactions with the community
- ☐ Observations of the community
- ☐ Other: \_\_\_\_\_
- ☐ Don't know
- ☐ None of the above

15. At the end of your program, which of the following did your organization use to assess the impact of your physical activity program? (Check all that apply)
- ☐ Focus groups
  - ☐ Taking Circles
  - ☐ Storytelling/success stories
  - ☐ Qualitative interviews
  - ☐ Digital stories
  - ☐ Attendance records
  - ☐ Satisfaction/feedback survey with participants
  - ☐ Satisfaction/feedback survey with program facilitators
  - ☐ Participant physical fitness assessment (e.g., Fitness Gram, pacer test, sit and reach)
  - ☐ Participant health measures (e.g., electronic health record data, BMI)
  - ☐ Participant self-reported physical activity levels (e.g., activity logs)
  - ☐ Relationships/interactions with the community
  - ☐ Observations of the community
  - ☐ Other: \_\_\_\_\_
  - ☐ Don't know
  - ☐ None of the above
16. Are you required to report the progress of your physical activity program to your funding agency?
- ☐ Yes
  - ☐ No (If no, skip to Q18)
17. Which of the following has your organization used to collect information about your physical activity program to include in the progress report to the funding agency? (Check all that apply)
- ☐ Focus groups
  - ☐ Taking Circles
  - ☐ Storytelling/success stories
  - ☐ Qualitative interviews
  - ☐ Digital stories
  - ☐ Attendance records
  - ☐ Satisfaction/feedback survey with participants
  - ☐ Satisfaction/feedback survey with program facilitators
  - ☐ Participant physical fitness assessment (e.g., Fitness Gram, pacer test, sit and reach)
  - ☐ Participant health measures (e.g., electronic health record data, BMI)
  - ☐ Participant self-reported physical activity levels (e.g., activity logs)
  - ☐ Relationships/interactions with the community
  - ☐ Observations of the community
  - ☐ Other: \_\_\_\_\_
  - ☐ Don't know
  - ☐ None of the above

[RQ2 – Indigenous knowledge-based outcomes of interest]

The next section focuses on what your organization *would like to* do to evaluate your physical activity program (if money and resources were not an issue).

18. Which of the following information would you be **interested** in collecting (or continuing to collect) to evaluate your physical activity program (if money and resources were not an issue)? (Check all that apply)
- ☐ Needs of the community members
  - ☐ Success stories
  - ☐ Information about participants' feelings towards the program
  - ☐ Information about how the program connected participants with their culture/tradition
  - ☐ Information about how the program holistically affected the participants (e.g., emotionally, spiritually, mentally, socially)
  - ☐ Information about how the participants' felt towards the program instructors/facilitators
  - ☐ Level of participants' engagement in traditional forms of physical activity
  - ☐ Participants' health measures (e.g., BMI, height/weight)
  - ☐ Participants' physical activity levels over time and/or outside of the program (e.g., tracking participants for a year)
  - ☐ Participants' physical fitness (e.g., sit and reach)
  - ☐ Intermediate indicators of behavior change among participants (e.g., confidence about being physically active)
  - ☐ Reach of the program (i.e., did it reach the target population)
  - ☐ Participants' engagement with the program and with other participants outside of the program (i.e., how well participants stay connected)
  - ☐ Other: \_\_\_\_\_
  - ☐ None of the above

[RQ3 – Indigenous knowledge-based evaluation methods of interest]

19. Which of the following methods would you be **interested** in doing (or continuing to do) to evaluate your physical activity program (if money and resources were not an issue)? (Check all that apply)
- ☐ Conduct focus groups
  - ☐ Host talking circles
  - ☐ Collect digital stories
  - ☐ Collect stories/narratives (not digitally)
  - ☐ Track attendance
  - ☐ Collect baseline physical activity and health data
  - ☐ Assess participants' health measures on-site (e.g., body composition, BMI)
  - ☐ Collect participants' health measures from clinic
  - ☐ Assess participants' physical fitness on-site (e.g., Fitness Gram)
  - ☐ Track participants' health behavior throughout the year and/or outside of the program (e.g., app, website)



- ☐ Use social media
- ☐ Compile all evaluation data into one database
- ☐ Other: \_\_\_\_\_
- ☐ None of the above

[RQ8 – Staff’s perceptions of the use of Indigenous approaches to evaluate physical activity programs]

Some individuals have identified the use of qualitative methods (like talking circles, collecting success stories or digital stories) as ways of evaluating programs in tribal communities. The next few questions are interested in capturing if **you** think these methods are appropriate for evaluating a physical activity program with your community. Please be honest in your response.

20. Which of the following do you think **focus groups** are useful for? (Check all that apply)
  - ☐ Developing a physical activity program
  - ☐ Improving a physical activity program
  - ☐ Evaluating the impact of a physical activity program
  - ☐ I do not think focus groups are useful for evaluation
21. Which of the following do you think **talking circles** are useful for? (Check all that apply)
  - ☐ Developing a physical activity program
  - ☐ Improving a physical activity program
  - ☐ Evaluating the impact of a physical activity program
  - ☐ I do not think talking circles are useful for evaluation
22. Which of the following do you think **digital stories** are useful for? (Check all that apply)
  - ☐ Developing a physical activity program
  - ☐ Improving a physical activity program
  - ☐ Evaluating the impact of a physical activity program
  - ☐ I do not think digital stories are useful for evaluation
23. Which of the following do you think **storytelling** is useful for? (Check all that apply)
  - ☐ Developing a physical activity program
  - ☐ Improving a physical activity program
  - ☐ Evaluating the impact of a physical activity program
  - ☐ I do not think storytelling is useful for evaluation

Please state how much you agree or disagree with the following statements.

24. If I were asked to describe the term “Indigenous method of evaluation”, I would say it was a method of evaluation that included narrative or qualitative data.

|                |       |                            |          |                   |
|----------------|-------|----------------------------|----------|-------------------|
| Strongly Agree | Agree | Neither agree nor disagree | Disagree | Strongly Disagree |
|----------------|-------|----------------------------|----------|-------------------|

25. If I were asked to describe the term “Indigenous method of evaluation”, I would say it was a method of evaluation that assessed how the program impacted the participant as a whole (i.e., the holistic impact).

|                |       |                            |          |                   |
|----------------|-------|----------------------------|----------|-------------------|
| Strongly Agree | Agree | Neither agree nor disagree | Disagree | Strongly Disagree |
|----------------|-------|----------------------------|----------|-------------------|

26. What does “Indigenous method of evaluation” or an “Indigenous approach to evaluation” mean to you?

*[RQ4 – Resources needed for Indigenous knowledge-based evaluation & RQ 5 – Barriers to conducting Indigenous knowledge-based evaluation]*

The next set of questions focuses on what would help or hinder your organization in conducting an evaluation for your physical activity program.

27. If your organization was interested in doing (or continuing to do) qualitative evaluation (e.g., focus groups, collecting success stories), which of the following **resources would you need?** (Check all that apply)

- ☐ Trained staff
- ☐ Equipment (e.g., video camera, software)
- ☐ A way to bring participants together
- ☐ Partnerships with external resources (e.g., universities, Tribal Epidemiology Centers)
- ☐ Ideas of how to systematically capture stories
- ☐ Ideas of how to do culturally-sensitive, evidence-based evaluation
- ☐ Support from the funding agency
- ☐ Other: \_\_\_\_\_
- ☐ Don't know
- ☐ None of the above

28. If your organization was interested in doing (or continuing to do) qualitative evaluation (e.g., focus groups, collecting success stories), which of the following would be a **barrier** to you? (Check all that apply)

- ☐ Time
- ☐ Getting participants all together at the end of a program

- ☐ Evaluation requirements from the funding agency
- ☐ Lack of community participation in evaluation
- ☐ Community members not wanting to share their information with others
- ☐ Lack of staff trained in qualitative evaluation
- ☐ The negative history of research and evaluation in Indian Country
- ☐ Other: \_\_\_\_\_
- ☐ Don't know
- ☐ None of the above

[RQ6 – Funding agencies impact on evaluation & RQ7 – Disconnect between funding agency driven evaluation and evaluation desired by AI/AN organizations]

The following section of questions is focused on **your** experience with evaluation and reporting requirements from your funding agency. Please select the response that best represents how much you agree or disagree with the statement.

29. The funding agency provides opportunities for gathering with similar programs and sharing ideas

|                |       |                            |          |                   |
|----------------|-------|----------------------------|----------|-------------------|
| Strongly Agree | Agree | Neither agree nor disagree | Disagree | Strongly Disagree |
|----------------|-------|----------------------------|----------|-------------------|

30. The funding agency provides resources for doing evaluation.

(Note: “resources” = any type of support, such as money, staff, equipment, or trainings)

|                |       |                            |          |                   |
|----------------|-------|----------------------------|----------|-------------------|
| Strongly Agree | Agree | Neither agree nor disagree | Disagree | Strongly Disagree |
|----------------|-------|----------------------------|----------|-------------------|

31. The funding agency provides sufficient resources for us to meet their evaluation expectations.

|                |       |                            |          |                   |
|----------------|-------|----------------------------|----------|-------------------|
| Strongly Agree | Agree | Neither agree nor disagree | Disagree | Strongly Disagree |
|----------------|-------|----------------------------|----------|-------------------|

32. The evaluation methods we are required to use by our funding agency are culturally sensitive to our community.

(Note: “methods” = the ways in which you gather information to evaluate your program, such as surveys or sign-in sheets)

|                |       |                            |          |                   |  |
|----------------|-------|----------------------------|----------|-------------------|--|
| Strongly Agree | Agree | Neither agree nor disagree | Disagree | Strongly Disagree | N/A – The funding agency does not require a specific method. |
|----------------|-------|----------------------------|----------|-------------------|--|

33. The outcomes we are required to measure by our funding agency are culturally sensitive to our community.

(Note: “outcomes” = the indicators or data you gather to evaluate your program, such as BMI or attendance)

|                |       |                            |          |                   |  |
|----------------|-------|----------------------------|----------|-------------------|--|
| Strongly Agree | Agree | Neither agree nor disagree | Disagree | Strongly Disagree | N/A – The funding agency does not require specific data. |
|----------------|-------|----------------------------|----------|-------------------|--|

34. The funding agency dictates the goals of our physical activity program.  
(Note: “dictates” = the funding agency states the goals of the physical activity program)  
☐ Agree  
☐ Disagree (If disagree, skip to Q36)
35. The goals that we want for our program are different from the goals set by the funding agency.  
☐ Agree  
☐ Disagree
36. How we evaluate our physical activity program is dictated by the funding agency.  
(Note: “dictates” = the funding agency states which methods your organization has to use to evaluate the physical activity program)  
☐ Agree  
☐ Disagree (If disagree, skip to Q38)
37. How we want to evaluate our program is different from the evaluation methods required by the funding agency.  
☐ Agree  
☐ Disagree
38. The data/information that we collect to evaluate our physical activity program is dictated by the funding agency.  
(Note: “dictates” = the funding agency states which data or what information your organization has to collect to evaluate or report on the physical activity program)  
☐ Agree  
☐ Disagree (If disagree, skip to Q40)
39. The data/information that we want to collect is different from the data/information we are required to collect.  
☐ Agree  
☐ Disagree
40. Which of the following do you think is the purpose of evaluation? (You can select more than one)  
☐ To provide funders with data/reports about our physical activity program  
☐ To demonstrate progress so we can sustain funding or receive new/additional funding  
☐ To identify ways to improve the program to meet the needs of the community members  
☐ To tell the story about the program’s impact  
☐ Other: \_\_\_\_\_

41. Which of the following (if any) are preventing **your organization** from evaluating your physical activity program in the way that you want to? (Check all that apply)
- ☐ Time
  - ☐ Resources (e.g., money, staff, equipment)
  - ☐ Community participation
  - ☐ Reporting requirements / funding agency requirements
  - ☐ Other: \_\_\_\_\_
  - ☐ None of the above – We are doing the evaluation that we want to do.

*[Demographics & Wrap up questions]*

42. How do you self-identify? (Check all that apply)
- ☐ American Indian
  - ☐ Alaska Native
  - ☐ Native Hawaiian
  - ☐ Caucasian
  - ☐ African American
  - ☐ Hispanic / Latino
  - ☐ Asian
  - ☐ Other: \_\_\_\_\_
43. What is your role(s) on the physical activity program? (Check all that apply)
- ☐ Program Director
  - ☐ Program Coordinator
  - ☐ Evaluator
  - ☐ Administrative Assistant
  - ☐ Health educator
  - ☐ Fitness trainer
  - ☐ Other: \_\_\_\_\_
44. What is your level of education?
- ☐ Some high school (not a graduate)
  - ☐ High school graduate / GED
  - ☐ Some college, no degree
  - ☐ Associate degree
  - ☐ Bachelor's degree
  - ☐ Master's degree
  - ☐ Doctoral degree
  - ☐ Professional school
  - ☐ Other: \_\_\_\_\_
  - ☐ Prefer not to answer

45. Have you ever participated in a training/workshop on program evaluation?

- ☐ Yes  
☐ No

46. Do you think your program is effective and why/why not?

- ☐ Yes [Text box for explanation]  
☐ No [Text box for explanation]

47. Would you be willing to share your data collection instruments with other physical activity programs?

- ☐ Yes  
☐ No

*[If yes, show the following text]* Please email eblue@umd.com for more information about sharing your data collection instruments with other physical activity programs.

48. If you could provide one recommendation to someone evaluating a physical activity program in a Native American community, what would you tell them?

Thank you for taking the time to complete this survey! The information you've provided will be used to identify and support meaningful and effective ways of evaluating physical activity programs in Indian Country!

To receive the \$10 Amazon gift card as a thank you for participating, you will be asked to enter the password "**evaluation**". Please write this password down now.

49. Did you write down the password evaluation? *[Forced response]*

- ☐ Yes  
☐ No

Thank you! Please click the arrow to end the survey. You will then be taken to a separate website where you will be asked if you want to provide your email address to receive a \$10 Amazon gift card as a thank you for participating!

## Appendix F: Connected Analysis Chart

### RQ1: What methods of Indigenous knowledge-based evaluation are AI/AN organizations using to evaluate their physical activity programs?

| <i>Qualitative Data (examples)</i>   | <i>Code/Concept/Theme</i>  | <i>Survey Item</i>  | <i>Response Options</i>   |
|--|--|---|---|
| <p>“But we do have <b>sessions</b>. And we try to do them at least every quarter where we invite people to come and give us their opinion and...evaluate us.” (1171)</p> <p>“We would in fact be having a <b>talking circle</b>. And primarily we would be listening.” (1216)</p> <p>“Yea, usually on our bike rides we’ll talk... A big group will talk about you know a lot of things. ‘Okay, what is it you wanna do?’” (1225)</p> <p>“...I got a nice letter from like a lady who lost 150 pounds over, and you know, really praised the trainers and the facility in making her feel comfortable. Actually I’ve gotten a couple of those real <b>success stories</b> and I’ve asked if we can share them and I’ve done that.” (1151)</p> <p>“we have used...one of our <b>digital stories</b>...you know the way we presented our case was through a digital story.” (1223)</p> <p>[Traditional knowledge data collection] “... And most of these people that</p> | <p>Indigenous approaches to evaluation used</p> <p>Type of evaluation being done</p> <p>Evaluation methods used but not identified</p> <p>Traditional knowledge</p> <p>Empirical knowledge</p> | <p>(Q13) Before your program started, which of the following did your organization use to inform the development of your physical activity program?</p> <p>(Q14) While your program was happening, which of the following did your organization use to improve or change your physical activity program?</p> <p>(Q15) At the end of your program, which of the following did your organization use to assess the impact of your physical activity program?</p> <p>(Q17) Which of the following has your organization used to collect information about your physical activity program to include on the report to the funding agency?</p> | <p>All response options provided from interview findings – respondents asked to select all that apply</p> <p>(Measure of frequency)</p> |

|  |  |  |  |
|--|--|--|--|
| <p>come in, these Natives, they all they've been coming here for years because this clinic's, you know, 15 years old, so they're very familiar... So it's almost like family, so...they'll usually just tell you, I just don't feel comfortable in the gym..." (1171)</p> <p>[<i>Empirical knowledge data collection</i>] "... when [DI] first started the Zumba class, it was quite popular, but over the last year it really started to see fewer and fewer people. Um so now we're... not offering Zumba and we're trying to figure out a difference class..." (1121)</p> |  |  |  |
|--|--|--|--|

**RQ2: What Indigenous knowledge-based outcomes are AI/AN organizations interested in collecting to evaluate physical activity programs?**

| <i><b>Qualitative Data (examples)</b></i>   | <i><b>Code/Concept/Theme</b></i>   | <i><b>Survey Item</b></i>   | <i><b>Response Options</b></i>   |
|---|--|---|--|
| <p>"Can we please use more...<b>success stories</b>? ...I think that's where we're lacking, and I think that's something we need." (1151)</p> <p>"But it's more like the subjective sitting down and talking about it...<b>how they feel</b> about things" (1217)</p> <p>"<b>connectivity</b> with other Native youth in the area" (1211)</p> <p>"To better serve our</p> | <p>Interest in using Indigenous evaluation</p> <p>PAP outcomes desired</p> <p>Type of evaluation desired</p> <p>Ideal evaluation</p> | <p>(Q18) Which of the following information would you be <b>interested</b> in collecting to evaluate your physical activity program (if money and resources were not an issue)?</p> | <p>All response options provided from interview findings – respondents asked to select all that apply</p> <p>(<i>Measure of frequency</i>)</p> |



|  |  |  |  |
|--|--|--|--|
| community, we are looking at ways to conduct assessments and evaluations by creating surveys or questionnaires to take to the community and our local schools. We would like to see what the <b>needs</b> are.” (1122) |  |  |  |
| “looking at more quantitative Western metrics to look at things like <b>METs</b> , exercise capacity...” (1224)  |  |  |  |

**RQ3: Which methods of Indigenous knowledge-based evaluation are AI/AN organizations interested in using?**

| <i><b>Qualitative Data (examples)</b></i>  | <i><b>Code/Concept/Theme</b></i>   | <i><b>Survey Item</b></i>   | <i><b>Response Options</b></i>  |
|--|--|---|---|
| <p>“I had not thought about having a <b>focus group or a talking circle</b> regarding exercise specifically. It’s kind of like... I should’ve had a V8...” (1121)</p> <p>“Someday I want to be able to change how we document the work we do, we will create more <b>digital stories</b>...” (1122)</p> <p>“one thing that would be nice would be able to actually figure out how to <b>follow individuals over time</b> as well” (1223)</p> <p>“I would <b>match up</b></p> | <p>Interest in using Indigenous evaluation</p> <p>Type of evaluation desired</p> <p>Ideal evaluation</p> | <p>(Q19) Which of the following methods would you be <b>interested</b> in doing to evaluate your physical activity program (if money and resources were not an issue)? (Check all that apply)</p> | <p>All response options provided from interview findings – respondents asked to select all that apply</p> <p>(Measure of frequency)</p> |

|   |  |  |  |
|---|--|--|--|
| each person who comes in with a trainer or a staff person who could monitor blood sugar and body mass and find out if people are meeting their personal goals” (1151) |  |  |  |
|---|--|--|--|

**RQ4: What resources do AI/AN organizations need to evaluate physical activity programs using Indigenous knowledge-based approaches and/or to capture Indigenous knowledge-based outcomes?**

| <i>Qualitative Data (examples)</i>   | <i>Code/Concept/Theme</i>       | <i>Survey Item</i>   | <i>Response Options</i>   |
|--|---------------------------------|--|---|
| <p>“what we are looking at doing is...getting some of our <b>staff trained</b> in how to do digital stories so I’m not really the only one.” (1122)</p> <p>“<b>Evidence-based practices</b> that are culturally relevant for Natives” (1151)</p> <p>“technology capabilities to you know get these onto the community website, and get some things done you know, possibly through Facebook.” (1223)</p> | Needs for Indigenous evaluation | (Q27) If your organization was interested in doing (or continuing to do) qualitative evaluation (e.g., focus groups, collecting success stories), which of the following <b>resources would you need?</b> (Check all that apply) | <p>All response options provided from interview findings – respondents asked to select all that apply</p> <p>(Measure of frequency)</p> |

**RQ5: What barriers do AI/AN organizations commonly face in conducting Indigenous knowledge-based evaluation when evaluating physical activity programs and collecting Indigenous knowledge-based outcomes?**

| <i>Qualitative Data</i> | <i>Code/Concept/Theme</i> | <i>Survey Item</i> | <i>Response</i> |
|-------------------------|---------------------------|--------------------|-----------------|
|-------------------------|---------------------------|--------------------|-----------------|

| <i>(examples)</i>  |  |  | <i>Options</i>   |
|--|--|--|--|
| <p>“Ideally yes but there’s really not enough like...in practice there’s not a whole lot of <b>time</b>...” (1124)</p> <p>“those kids are never all back in the same place again together...” (1124)</p> <p>“We have a <b>lack of participation</b> down here.” (1152)</p> <p>“There’s a strong <b>sentiment against the word research</b> in Indian Country...and so when you start doing formal kinds of evaluation, there may be individuals that say look I just want to exercise”. (1153)</p> | <p>Barriers to conducting Indigenous evaluation</p> <p>Cultural barriers to evaluation</p> | <p>(Q28) If your organization was interested in doing (or continuing to do) qualitative evaluation (e.g., focus groups, collecting success stories), which of the following would be a <b>barrier</b> to you? (Check all that apply)</p> | <p>All response options provided from interview findings – respondents asked to select all that apply</p> <p><i>(Measure of frequency)</i></p> |

**RQ6: How does the funding agency/grant impact the perception, delivery, and utility of evaluation among AI/AN organizations?**

| <i>Qualitative Data</i>   | <i>Code/Concept/Theme</i>   | <i>Survey Item</i>  | <i>Response Options</i>  |
|---|-----------------------------|---|--|
| <p>“When the Diabetes Prevention Initiative was being formulated...the grantees from all [over] the nation got together and worked on ways to evaluate the program.” (1121)</p> | <p>Impact of the funder</p> | <p>(Q29) The funding agency provides opportunities for gathering with similar programs and sharing ideas.</p> | <p>Strongly disagree / Disagree / Neither agree nor disagree / Agree / Strongly agree</p> <p><i>(Measure of agreement)</i></p> |
| <p>“Through this particular grant with the NB3 Foundation, we worked with California State University at San</p>  | <p>Impact of the funder</p> | <p>(Q30) The funding agency provides resources for doing evaluation.</p>                                      | <p>Strongly disagree / Disagree / Neither agree nor disagree / Agree /</p>   |

|   |                                     |  |   |
|---|-------------------------------------|--|---|
| Marcos...that assisted us in producing this particular report..." (1211)  |                                     |  | Strongly agree<br><br>( <i>Measure of agreement</i> )   |
| "I've heard more and more over the last few years those sort of funders ask for those sort of things, but not necessarily offered up a whole lot of funds or resources to help people put those evaluation methods into practice." (1124) | Impact of the funder/<br>Disconnect | (Q31) The funding agency provides sufficient resources for us to meet their evaluation expectations. | Strongly disagree /<br>Disagree /<br>Neither agree nor disagree /<br>Agree /<br>Strongly agree<br><br>( <i>Measure of agreement</i> ) |

**RQ7: What are the areas of disconnect between funding agency/grant-driven evaluation and the evaluation desired by the AI/AN organizations?**

| <i>Qualitative Data</i>  | <i>Code/Concept/Theme</i> | <i>Survey Item</i>  | <i>Response Options</i>                                 |
|--|---------------------------|---|---|
| "As far as measuring goals, they are grant-driven. We certainly do other things over there, and we'd love to do more things, but we have to stay within our grant parameters, because that's how we get our funding." (1152)   | Impact of the funder      | (Q34) The funding agency dictates the goals of our physical activity program.<br><br>[If agree]<br><br>(Q35) The goals we want for our program are different from the goals set by the funding agency.  | Agree / Disagree<br><br>( <i>Measure of agreement</i> ) |
| "Our grant is what most of our funding comes from – requires us to do that audit..." (1171)<br><br>"and so there's such, grant funding, and so there's such things as needing to assess and document levels of physical activity, on as many participants as possible." (1223) | Impact of the funder      | (Q36) How we evaluate our physical activity program is dictated by the funding agency.<br><br>[If agree]<br><br>(Q37) How we want to evaluate our program is different from the evaluation methods required by the funding agency.<br><br>(Q38) The | Agree / Disagree<br><br>( <i>Measure of agreement</i> ) |

|   |                                     |   |   |
|---|-------------------------------------|---|---|
|   |                                     | <p>data/information that we collect to evaluate our physical activity program is dictated by the funding agency.</p> <p>[If agree]</p> <p>(Q39) The data/information that we want to collect is different from the data/information we are required to collect.</p> |   |
| <p>“I think...mostly [evaluation] is used as a tool for just showing our funders that we’re keeping track of those things.” (1124)</p> <p>“and if we are going to continue to be funded by agencies, we’ve gotta do a better job of measuring and evaluating and making progress.” (1151)</p> <p>“that [evaluation survey] just allows us to be able to improve the leagues themselves over the year kind of thing.” (1211)</p> | Impact of the funder/<br>Disconnect | <p>(Q40) Which of the following do you think is the purpose of evaluation? (You can select more than one)</p>   | <ul style="list-style-type: none"> <li>- To provide funders w/ data/reports about our PA program</li> <li>- To demonstrate progress so we can sustain funding or receive new/additional funding</li> <li>- To identify ways to improve the program to meet the needs of the community</li> </ul> <p><i>(Measure of frequency)</i></p> |
| <p>“our evaluation is dictated by our SDPI grant...some of the best practices or evidence-based practices that we’re asked to use, aren’t culturally specific...” (1151)</p>  | Impact of the funder/<br>Disconnect | <p>(Q32) The evaluation methods we are required to use by our funding agency are culturally sensitive to our community.</p>   | <p>Strongly disagree / Disagree / Neither agree nor disagree / Agree / Strongly agree / N/A (not required)</p> <p><i>(Measure of agreement)</i></p>   |
| <p>“I would say we go beyond ...what the</p>  | Disconnect                          | <p>(Q33) The outcomes we are required to measure</p>  | <p>Strongly disagree / Disagree /</p>   |

|   |  |  |  |
|---|--|--|--|
| grant reporting indicators are...I don't think that there's a space in either one of those grant reports that asks specifically for you know the feedback of individuals." (1216) |  | by our funding agency are culturally sensitive to our community. | Neither agree nor disagree / Agree / Strongly agree / N/A (not required)<br><br>(Measure of agreement) |
|---|--|--|--|

**RQ8: What are the staff's perceptions of the use of Indigenous knowledge-based evaluation to evaluate their physical activity programs?**

| <i>Qualitative Data</i>   | <i>Code/Concept/Theme</i>  | <i>Survey Item</i>   | <i>Response Options</i>  |
|---|--|--|--|
| <p>"what digital story is and how <b>effective it is as a medium to funders</b> and to our community and tribal leaders." (1122)</p> <p>"the talking circle actually works quite well, you know in certain circumstances whether it was used as an evaluation tool for a physical activity program or not, I've never tried it..." (1153)</p> <p>"and they can share aspects of the program that we may not have thought of" (1211)</p> | <p>Interest in using Indigenous approaches to evaluate PAP</p> <p>Disinterest in using Indigenous approaches to evaluate PAP</p> | <p>(Q20) Which of the following do you think focus groups are useful for? (Check all that apply)</p> <p>(Q21) Which of the following do you think talking circles are useful for? (Check all that apply)</p> <p>(Q22) Which of the following do you think digital stories are useful for? (Check all that apply)</p> <p>(Q23) Which of the following do you think storytelling is useful for? (Check all that apply)</p> | <p>- Developing a PA program - Improving a PA program - Evaluating the impact of a PA program - I do not think focus groups/talking circles/digital stories/storytelling are useful for evaluation</p> <p>(Measure of frequency)</p> |
| <p>"the individual actually coming up to you and thanking you and <b>telling you how they felt</b> during the time that they were there." (1222)</p>  | <p>Indigenous approaches to evaluation</p> <p>Perceptions of Indigenous evaluation</p>   | <p>(Q24) If I were asked to describe the term "Indigenous method of evaluation", I would say it was a</p>  | <p>Strongly disagree / Disagree / Neither agree nor disagree / Agree / Strongly agree / N/A (not required)</p> <p>(Measure of</p>  |

|  |  |   |   |
|--|--|---|---|
|  |  | method of evaluation that included narrative or qualitative data.   | <i>agreement)</i>   |
| <p>“I really feel that the Native American, Indigenous, Indian people that if you ask them to evaluate an experience...they would probably use terms like, how it made them feel... Rather than what the percent body fat they’d lost...It’s more of...the <b>whole gestalt of the experience</b> rather than any individual health outcome.” (1153)</p> | <p>Indigenous approaches to evaluation</p> <p>Perceptions of Indigenous evaluation</p> | <p>(Q25) If I were asked to describe the term “Indigenous method of evaluation”, I would say it was a method of evaluation that assessed how the program impacted the participant as a whole (i.e., the holistic impact).</p> | <p>Strongly disagree / Disagree / Neither agree nor disagree / Agree / Strongly agree / N/A (not required)</p> <p><i>(Measure of agreement)</i></p> |
|  |  | <p>(Q26) What does “Indigenous method of evaluation” or an “Indigenous approach to evaluation” mean to you?</p>   | Open-ended  |

## Appendix G. Codebook

### Evaluating Physical Activity Programs in Native Communities: Codebook

| <i>Code Label</i>  | <i>Definition</i>  | <i>Inclusion/Exclusion Criteria</i>   | <i>Example</i>  |
|--|--|---|---|
| <b>Type of PA</b>  | Use to code types of physical activity that the program includes (e.g., running, weight lifting, dance)  | This code will be used only to identify the different <i>types of physical activity</i> that Native programs are including.   | “Water aerobics. Um, we did offer Zumba, we offer hip-hop classes”  |
| <b>Type of PA program (PAP)</b>  | Use to code the type of program (e.g., community-based, school-based, environmental change – building a weight room)                                     | This code will be used only to identify the <i>types of programs</i> that are being implemented to increase PA among Natives. Include descriptions like “youth” or “adult” programs.            | “We do like annually a 2K/5K walk/run.” “We have three community centers...and the main one has like a pool...” |
| <b>Type of PAP desired</b>   | Code when participant identifies a PA program that they would like to implement or plan to implement in the future.                                      |   | “We’re in the very early development stages of...local traditional games”                                       |
| <b>PAP goals</b><br><br>(Sub-nodes: Present, not present, present not identified)        | Code when participant identifies goals and/or objectives related to their physical activity program, or an absence of goals/objectives.                  | Use this code to capture when the participant states that they have goals, they don’t have goals, or when they discuss goals during the conversation but don’t label them as goals.             | “Getting people to come (laughs)”<br>“And ways to make it catch on”   |
| <b>PAP outcomes</b><br><br>(Sub-nodes: Present, not present, present but not identified) | Code when participant identifies the outcomes (or lack of outcomes) that their program staff measure to evaluate their PAP (e.g., attendance, BMI, A1C). | Use this code to capture when the participant states that they have outcomes, they don’t have outcomes, or when they discuss outcomes during the conversation but don’t label them as outcomes. | “Attendance”  |
| <b>PAP outcomes desired</b>  | Code when participant identifies outcomes that they <i>wish</i> their program staff could  | Use this code only when participants identify outcomes that   | “Physical activity throughout the year” “Progress as a  |



|  |   |  |   |
|--|---|--|---|
|  | measure (e.g., community reach, PA maintenance)   | their program is not currently measuring but they wish they could measure if they had resources/time/etc.  | runner or athlete throughout the year”  |
| <b>Type of evaluation being done</b>               | Code when participant identifies or describes the method of evaluation they <i>are using or have used</i> (e.g., pre/post test, surveys, data from a health clinic)           |  | “We track attendance at each class...because we do have to report monthly how many people, how many classes”  |
| <b>Type of evaluation desired</b>                  | Code when participant identifies or describes the methods of evaluation they <i>wish</i> they could use for their PAP.  | Use code for any mention of desired (but not used) evaluation method – this can include Western & Indigenous methods.  | “Electronic app...or like a GPS watch or something like that”   |
| <b>Ideal evaluation</b>                            | Code when participant identifies their ideal method of evaluation (in response to question).  | This code can include both desired method or what they are currently doing (if they are doing what they would ideally do)  |   |
| <b>Barriers to general PA evaluation</b>           | Code when participant identifies barriers to conducting evaluation of their physical activity program (in general). (i.e., things that hinder their ability to do evaluation) | This code should be not be used for discussion of barriers to Indigenous evaluation – but rather, for any other ways of evaluating/evaluation in general.                  | “We have given surveys and we’ve noticed that a lot of them come back blank”  |
| <b>Needs associated with general PA evaluation</b> | Code when participant identifies things that they need to do evaluation (in general).   | This code should be not be used for discussion of needs associated with Indigenous evaluation – but rather, for any other ways of evaluating/evaluation in general.        | “If we can get those [grants]...we can say that we are actually having an impact”   |
| <b>Impact of the funder</b>                        | Code when participant identifies if and how the funding agency has or has not impacted the evaluation of their PAP.   | Use this code for any discussion of impact by the funding agency on evaluation and/or goals/objectives (i.e., even if the participant says that the funder had no impact). | “We do have to report monthly how many people, how many classes...and that’s part of our yearly grant, well both a 6 months report and yearly progress reports” |
| <b>Use of</b>                                      | Code when participant   |  | “Mostly it’s used as  |

|  |  |   |  |
|--|--|---|--|
| <b>evaluation findings</b>                           | identifies how they used or did not use their evaluation findings to impact the program (e.g., used to make changes to the program)  |   | a tool for just showing our funders that we're keeping track of those things."                           |
| <b>Perceptions of general evaluation</b>             | Code when participant describes their perceptions of evaluation (e.g., what evaluation means to them)  | Do not use this code when participant discusses perceptions of Indigenous evaluation.   | "Methods makes me think of you know (laughs) of almost a research thing. So ways of collecting data."    |
| <b>Evaluation methods used but not identified</b>    | Code when participant mentions a type of evaluative method that they are using/have used, but does not identify it as their evaluation method                                    | This includes mention of (what the participant considers to be) informal evaluation (e.g., talking to members about the program) but the participant does not include this method when asked how they evaluate their program. | "So that's more of a conversation piece that um, I've had with the people, participants that are coming" |
| <b>How "Native" changes "evaluation" meaning</b>     | Code when participant says that the inclusion of "Indigenous" or "Native American" or "American Indian" changes or doesn't change the meaning of the term "evaluation" for them. | Include explanations even if they are unrelated to evaluation. Code only when they explicitly are discussing how the inclusion of the term "Native" changes the meaning for them.   | "In some ways it's also making me think of um, you know, traditional um, exercises and games"            |
| <b>Indigenous approaches to evaluation</b>           | Code when participant identifies, defines or describes <i>Indigenous</i> evaluation or an Indigenous-based method of evaluation  | Include entire description. Do not code when participant explains how they have done Indigenous evaluation.   | "Include some form of storytelling"  |
| <b>How Indigenous evaluation fits Native culture</b> | Code when participant explains <i>why</i> Indigenous approaches to evaluation are appropriate to Native programs/communities (in a broad sense)                                  | Code when participant explicitly discusses why/how Indigenous methods work well for Native Americans. (more narrow than "perceptions")  | "Things are so different from community to community that you need that sort of human voice..."          |
| <b>Perceptions of Indigenous approaches to</b>       | Code when participant describes or identifies their feelings towards Indigenous  | This code should be used for their "take" on these methods in   | "I think that's an interesting twist to it"  |

|  |  |  |  |
|--|--|--|--|
| <b>evaluation</b>  | approaches to evaluation in a general sense  | general (not when describing their interest in using Indigenous methods). Broader than “how Indigenous eval fits culture” because it includes any general feelings towards these methods.              | “Um, I think they’re probably good”  |
| <b>Indigenous approaches to evaluation used</b>                | Code when participant describes/explains how they have done <i>Indigenous</i> evaluation   | Only include descriptions of approaches that they have used. Only include descriptions of approaches that they identify as being Indigenous. Can include evaluating any type of program (not just PA). | “Kind of like our focus groups. We have had some focus groups that we get a lot of information from”                                       |
| <b>Community and evaluation</b>                                | Code when participant describes the perception of evaluation in their community, how they have to approach evaluation to make it acceptable to the community, or how the community is/is not involved in evaluation. |  | “We use digital stories to share the program successes with the community”<br><br>“The Board is supportive of our evaluation”              |
| <b>Traditional knowledge collection</b>                        | Code when participant describes evaluating their program based on obtaining knowledge through relationships, experiences, interpretations, Native teachings and community learning.                                  |  | “Um we have both accepted and ask people’s permission to use comments and stories about their improvement. Just not an organized approach” |
| <b>Empirical knowledge collection</b>                          | Code when participant describes evaluating their program based on obtaining knowledge from observations that occur over time (subjective).   |  | “In our community we know each other, so it’s a little easier for us to know who’s been to our programs and who hasn’t”                    |
| <b>Interest in using Indigenous approaches to evaluate PAP</b> | Code when participant expresses an interest in using an <i>Indigenous</i> approach to evaluate their PAP. Include rationale/explanation and  |  | “I had not thought of having a focus group...regarding exercise specifically and I want to say   |

|   |   |   |   |
|---|---|---|---|
|   | include the <i>type</i> of Indigenous approach they would like to use.  |   | that whole ‘I should’ve had a V8’ you know”   |
| <b>Disinterest in using Indigenous approaches to evaluate PAP</b> | Code when participant explains why they would not want to use an <i>Indigenous</i> approach to evaluate their PAP. Include rationale/explanation and include the <i>type</i> of Indigenous approach they would like to use.   |   | “We are such a tight community that if someone sees another person in a talking circle that they are having a feud with they might be reluctant to respond” |
| <b>Needs associated with Indigenous evaluation</b>                | Code when participant identifies things that they would need to conduct an <i>Indigenous</i> approach to evaluation (e.g., money)   | Code only when they are referring to needs associated explicitly with Indigenous methods.               | “Time...you have to listen to a story to get an answer to one question”   |
| <b>Barriers to conducting Indigenous evaluation of PAP</b>        | Code when participant identifies why they have not been able to use an <i>Indigenous</i> approach to evaluation. This is different from disinterest in that this code should only be applied when a participant would <i>like to</i> use an Indigenous approach to evaluate their PAP but cannot. | Code only when they are referring to barriers associated explicitly with conducting Indigenous methods. | “There’s never an opportunity for everyone to reflect about sort of what their experience was.”   |
| <b>Disconnect</b>   | Code any time that the participant describes a difference between what the funding agency/ mainstream society wants for goals/evaluation and what they (or their community) wants for goals/evaluation.   |   | “Funder requires pre and post fitness measures...and that’s not always the whole story. Sometimes we feel like the baby steps are important.”               |
| <b>Existing Strengths</b>   | Code any time that the participant mentions a positive characteristic/quality/feature of their community or organization that facilitates their ability to do evaluation.   |   |   |
| <b>Cultural barriers to evaluation</b>                            | Code any time participant mentions how the Indigenous culture of their community negatively impacted the ability to do evaluation.  | Include barriers to both general and/or Indigenous evaluation.  |   |

## Appendix H: Narrative

### Reflections on Evaluating Our Physical Activity Program

I heard another grantee speak at our national conference about their physical activity program, and they mentioned that they were using “Indigenous knowledge-based approaches” to measure the success of their program. When I heard this term I immediately thought of things like:

- Storytelling (or the use of success stories),
- Using qualitative measures and methods,
- Looking at the impact of the program holistically and focusing on how it made the community members feel (for example - how did it impact their mental, physical, emotional, spiritual wellbeing), and
- Identifying what the community members want and need from the physical activity program.

I feel like these Indigenous knowledge-based approaches fit our culture well because they are grounded in our traditional ways of understanding the world (e.g., holistically, through oral narrative) and they recognize the negative history of research and evaluation in Indian Country. Frequently things are decided *for* Native people rather than *by* Native people, and these methods give an opportunity for the community and us, as program staff, to decide what we want and how we define success.

You know, when the presenter first mentioned the use of these approaches I thought, “Wow.” I hadn’t really considered using them to evaluate our physical activity programs! The use of narratives/storytelling seems like an effective way to communicate with funders and the community, and it seems like a great way to capture the uniqueness of Indian Country (and the diversity within our programs). These methods would also probably provide a more in-depth knowledge of the program and a more holistic representation of the participants’ experience. They also provide a more culturally-appropriate way to evaluate (compared to checking boxes and filling out forms – which our Native people are sometimes turned off by), so we might get a better response and more feedback. I know my colleagues have formally used a few Indigenous knowledge-based approaches in the evaluation of their behavioral health initiatives (like digital storytelling, focus groups, talking circles, and interviews). And actually...I think we have also informally collected information (using Indigenous knowledge-based approaches) from our community members as well.

Because of our oral traditions and the importance of relationships in our communities, many community members feel comfortable telling me what types of physical activity programs they want to have and when they want to have them, and they also feel comfortable sharing success stories and feedback on the programs, classes, and events. Additionally, I think that because of our oral traditions, community members are more willing to provide feedback if they are asked to. And because of our close-knit communities and my staff’s relationships with our community, we are able to make a lot

of changes to our programs just based on observation and knowing our community well. We've used these informal methods to inform the creation of our programs, to make modifications to our programs, and to assess the success of our programs.

However, even though I am interested in using Indigenous knowledge-based approaches to evaluation (more formally) because they fit with the dynamic of our community and culture, and we have been using them informally – there are still some real challenges to using them to evaluate our physical activity program. And, actually, they may not be my ideal approach for evaluating our programs. For one, our evaluation method and what we measure is usually dictated by our grant. But if we did have the flexibility to use these approaches - they take a lot of time, I don't have any staff trained in evidence-based culturally appropriate ways (do these exist?), and it has been tough to get our community members to participate in evaluation. Using group-based methods (like talking circles) may be even tougher because it is hard to get our participants to the gym facility at the same time, and we have a hard time connecting with our youth once they've left summer camp. I also think sometimes people just don't want to be bothered with this kind of stuff when they come in to workout. I believe that some of our community members are introverted and/or may not want to share their personal feelings in a public space because the community is pretty small and close-knit, and for some communities it is traditionally not appropriate to boast about success. But actually – this may be less of an issue for the topic of physical activity. But you know, now that I'm thinking about it, using something traditional like a talking circle on the topic of physical activity may lessen the value of the method (because talking circles are often great at getting people to talk about things that they might not say one-on-one, but there may not be that type of sensitive information when talking about physical activity). Hmm. I guess that traditionally we don't really view programs as having an end, so the use of these methods may be good for making changes to a program as it continues on, but not necessarily to assess its impact.

To use an Indigenous knowledge-based approach to evaluation I would probably need proper equipment (if I wanted to do digital storytelling), time, trained staff, space, and a way to bring participants back together again (maybe a website or forum). But another important thing I need is knowledge on how to do it! What are the ways to evaluate a physical activity program that are culturally sensitive to the program, culturally relevant to Natives, and evidence-based? And how can I systematically capture success stories?

My ideal approach to evaluating our physical activity program would probably include:

- Tracking attendance
- Monitoring health indicators (e.g., BMI) over time
- Tracking physical activity and fitness levels over time
- Assessing the factors that lead to being physically active
- Measuring how well our program reached the target population
- Measuring physical activity at a community level
- Gathering community feedback and success stories
- Capturing how the program led to connectivity with culture/tradition

As I look at that list – those include both Western and traditional approaches to data collection, and (mostly) outcomes (indicators of success) that are grounded in Indigenous ways of knowing (e.g., holistic view of impact, impact on the community rather than just the individual). I think this speaks to the bridging of scientifically and culturally rigorous ways of evaluating our programs – with a foundation of respecting the history of data collection and evaluation in Indian Country, and respecting the values of the community members and our organizational staff in how we determine the “success” of a program.

But – even though this may be my ideal way of doing evaluation – I am often constrained by the priorities and requirements of my funding agency.

We have to submit yearly progress reports, and the outcomes required by the funder often do not align with our Indigenous ways of assessing success, nor is there really space for us to include our success stories or other evaluation findings. That is probably a result of the funding agency requiring program goals and objectives that don’t really match the goals and objectives that we desire for our program and our community members.

Unfortunately it seems like the funder wants a robust evaluation but they provide very little resources for us to do so (once we’ve paid our staff, program costs, and overhead).

And even when we have multiple funding sources (more money), the funders usually want different outcomes reported, which means multiple different ways of evaluating the same program (not a great use of our time). When I think about how we use our evaluation data – it seems like we use the required outcomes (often Western) for reporting and grant applications, and then we use our traditional findings (e.g., feedback from participants) to improve the program. There must be a way to address this disconnect! A way to use scientifically and culturally rigorous methods of evaluation to gather information that is appropriate to the community, meaningful to the organization, representative of the physical activity program, and useful to the funding agency. But who has time to figure that out?!

## Appendix I: Survey Pilot Findings

### Lessons Learned

**Dissemination and enrollment.** The most significant lessons learned from the implementation of this survey are specific to the recruitment and enrollment processes. For the initial pilot study, I was able to easily recruit AI/AN professional contacts that were knowledgeable in the content area and able to complete the survey but were not eligible to participate based on the eligibility criteria (as to not take away from the prospective participant population). I believe this was because I had met these individuals in person, they knew my work ethos and dedication to AI/AN public health. They were familiar with research methodology and trusted that the study was being conducted ethically. However, recruitment for survey participants through a broad dissemination strategy was significantly more challenging. Given the history of research and evaluation in Indian Country (Cavino, 2013), which underpinned the creation and purpose of this study, many AI/ANs are not inclined to participate in research for individuals and institutions with which they are not personally familiar. While I was aware of this, I was limited in the ways in which I could personally introduce myself to prospective participants. Most funding agencies will list the names of their grant recipients but will not provide contact information to the general public. Thus, for example, to obtain contact information for the over 350 Special Diabetes Program for Indians grant recipients I had to search the Internet for the grantees name and *if* they had a website, I had to then identify the department and/or individual who was leading the physical activity programming. This was a nearly impossible task for a single person to do, and often led me to the phone numbers for hospitals that had diabetes programs, and



potentially a physical activity program but not a contact person that would return a phone call; which is completely understandable given the many hats that most AI/AN public health staff wear. As a more attainable recruitment and dissemination strategy, the recruitment letter was sent to my professional contacts and they shared this letter and their support of the project with individuals they knew might be eligible to participate. The study information was also shared during any in-person events with individuals working in AI/AN public health (e.g., AI/AN specific conferences, conference calls). However, despite their interactions and work with the local staff conducting the physical activity interventions, in most instances the individuals I was interacting with were often the researchers leading studies in Indian Country. Which, in hindsight and depending on how well their work is perceived by the communities they engage with, may not always be the individuals that you want to promote your study. For example, if the researcher was viewed by the AI/AN community as an individual in power who frequently took information (i.e., data) from community members without giving back, then the community may be less inclined to participate in another effort of data collection that the researcher endorses.

In addition to challenges with dissemination, I faced barriers with having the time needed to apply for and receive Tribal Institutional Review Board (IRB) or Tribal Council approval for all and any prospective participants. I received inquiries from prospective participants about my procurement of IRB approval from their tribal entity; however, when I reached out to their council/board it was clear that the process was going to take many months and may or may not require travel to present in person to the board. In addition to the length of time required, it is now becoming more common that

each tribe has their own research review process and these processes vary significantly. While this is an excellent protocol to have in place given the misuse of AI/ANs in past research studies, it is definitely a factor to consider when creating the timeline for data collection with AI/AN communities from across the nation.

However, even though the study information was disseminated through 14 contacts and six listservs, only 66 individuals attempted to complete the survey during the eight weeks of data collection; and of those 66, only 36 were eligible to participate. The four eligibility questions screened out nearly half (45.5%) of prospective participants. The eligibility questions asked whether the individual was (1) over the age of 18, (2) worked on an AI/AN physical activity program and (3) assisted in the evaluation of that program, and (4) whether their program was funded by an external funding source. The respondent viewed and responded to all eligibility questions at one time and therefore could have answered negatively to more than one screening question. Most individuals were ineligible because they did not work on a program that was externally grant funded (66.7%) and/or they did not work on the evaluation of a physical activity program (63.3%). While the initial pilot participants found these questions to be understandable, additional testing is still needed to determine whether prospective participants were actually ineligible to participate or whether they were misunderstood the screening questions.

**Survey design.** By question 29 of 48, seven participants dropped out (19.4%). Therefore, it may be important in the next version to either remove questions that did not capture meaningful information and/or redesign the question structure to not appear burdensome. When considering questions to be removed, survey items 24 and 25 (asking

about the perception of Indigenous evaluation as narrative and/or focused on holistic impact) did not have much variability in the responses and in some ways are simply confirming what is already known about Indigenous evaluation (see Table I6).

In addition to the lessons learned from survey implementation, one expert panelist provided feedback suggesting a future version capture whether participants perceive a connection between Indigenous evaluation methods and the ability of the program to provoke change. In other words, is it more likely that program impact will be greater with the use of Indigenous evaluation methods (that are culturally appropriate and based on the AI/AN communities' strengths and traditional ways of knowing), as compared to the use of Western evaluation methods? Another expert panelist suggested that, in addition to being online, the survey be offered over the phone, as based on their experience the panelist found this to be a successful way to improve survey participation among this population. This option would require significant staffing.

As a next step for developing an effective survey to assess the use of and interest in using Indigenous evaluation for evaluating AI/AN physical activity programs, the eligibility and survey questions need to be tested further and revised or removed to ensure quality data collection and enrollment. Additionally, and most importantly, recruitment efforts need to begin well in advance of data collection and need to include in person meetings with tribal organizations, presentations at tribal meetings and conferences, and opportunities for webinars where prospective participants can ask the researcher questions and learn more about the project. If, through this extended and intense promotion and enrollment effort, the researcher is able to obtain phone numbers for

prospective participants, these individuals should be called in person and the survey should be offered over the phone at their convenience.

## **Summary of Results**

**Organization and program information.** Most participants worked at a non-profit (47.2%) or Tribal government (38.9%) organization conducting an AI/AN physical activity program that was being funded by an external grant. Participants represented 17 different states, with the most common being Arizona (16.7%), New Mexico (13.9%), and South Dakota (11.1%); and 10 of the 12 Indian Health Services areas. The majority of programs included both community-wide and individual components (66.7%), and served all populations (e.g., youth adolescents, adults, Elders). Nearly all of the programs involved a health promotion/health behavior change intervention (91.7%), and close to half included environmental change (47.2%). Most programs were funded by federal grants (83.%) (see Table I1).

**Participant characteristics.** The majority of respondents self-identified as American Indian (65.5%). The most common job titles/roles were Health Educator (37.9%), Program Director (34.5%), and Fitness Trainer (27.6%). The majority of participants obtained either a Bachelor's degree (31%) or a Master's degree (31%), and most had received some training in evaluation (86.2%) (see Table I2).

**Evaluation methods used.** The most common methods applied in formative evaluation were using relationships/interactions with the community (77.1%), using the staff knowledge of the community's preferences and interests (60%), and using observations of the community (51.4%). The most frequently reported methods used for process evaluation included attendance records (68.6%), satisfaction or feedback surveys

from participants (62.9%), and using relationships/interactions with the community (57.1%). When asked how participants evaluated the impact/outcome of their program, the most common responses included attendance records (62.9%), participant health measures (54.3%), and participants' self-reported physical activity levels (54.3%). Lastly, to collect data for the progress report to the funding agency, participants reported using attendance records (75%), participant health measures (60.7%), and participant physical fitness assessments (46.4%) (see Table I3).

**Desired evaluation.** There were many outcomes that participants desired to measure to assess the success of their physical activity programs. The most common outcomes included participants' activity levels outside of the program or over time (82.4%), participants' feelings towards the program (70.6%), the needs of the community members (67.6%), how the program connected participants with their culture (67.6%), the holistic impact of the program on the participants (67.6%), and the participants' health measures (67.6%). If money and resources were not an issue, participants reportedly would use the following methods to evaluate their physical activity programs: collect baseline physical activity and health data (67.6%), assess participants' health measures on-site (67.6%), and track participants' health behavior over the year (61.8%) (see Table I4).

**Perceptions of evaluation.** Participants identified focus groups as being most useful for program improvement (73.5%) and program development (67.9%). They identified talking circles as most useful for program improvement (70.5%) and the evaluation of impact (61.8%). Similarly, participants reported digital stories and storytelling as also most useful for program improvement and the evaluation of impact

(see Table I5). To implement these qualitative methods of evaluation, participants most commonly identified needing trained staff (70%) and ideas of how to do culturally sensitive, evidence-based evaluation (70%). However, the following were reported as the most significant barriers to conducting qualitative evaluation: getting participants together at the end of a program (60%) and the lack of trained staff in qualitative evaluation (56.7%). Most respondents felt that the purposes of evaluation are to identify ways to improve the program to meet the community's needs (93.1%) and to demonstrate progress to sustain funding and/or obtain new funding (86.2%). Other purposes of evaluation included: telling the story of the program impact (72.4%) and providing funders with data and/or reports (58.6%) (see Table I5). Most participants either agreed or strongly agreed that Indigenous evaluation includes narrative or qualitative data (84.4%), and that it assess holistic impact (78.8%) (see Table I6).

**Evaluation experiences.** Most respondents have to report on their program's progress to the funding agency (80%). The majority of individuals felt that the funding agency provided opportunities for gathering with other programs and sharing ideas (82.8%). While many agreed that the funding agency provided resources for evaluation (76.8%), nearly 20% did not agree. When asked if the funding agency provided *sufficient* resources for programs to meet evaluation expectations, more than half agreed (69%) but 21% neither agreed nor disagreed and 10% disagreed. Approximately half of respondents felt that the required evaluation methods (55.2%) and outcomes (58.6%) were culturally sensitive. The funding agency does not dictate the program goals (62.1%) or methods (55.2%) for the majority of respondents. However, more than half of participants did report that the funding agency dictated the evaluation data that needed to be collected

(55.2%), and of those, 37.5% want to collect data that is different from the data they are required to collect. Participants identified resources (60.7%) and time (46.4%) as the most common barriers they face in conducting the type of evaluation they desire (see Table I7).

### **Preliminary Comparison to Qualitative Findings**

While a full interpretation of the qualitative and quantitative findings together is beyond the capacity of this dissertation, a preliminary comparison was conducted to begin to capture whether the two data collection methods obtained information that could be compared. Although the sample size is small, many of the survey results aligned with and supported the qualitative findings from the in-depth interviews. Participants in both phases of the study perceived Indigenous evaluation as narrative and focused on the holistic impact of the program on the participant. Among both sets of participants this study also found interest in capturing what could be defined as “Indigenous knowledge-based outcomes” and using scientifically rigorous (often Western) methods of data collection to evaluate their physical activity programs. In addition, it was evident through both the interviews and surveys that capacity building was very much desired among physical activity program staff, specifically training for staff in conducting scientifically and culturally rigorous, evidence-based evaluation. The survey also provided results that challenged the qualitative findings. The culturally specific barriers to evaluation identified in the interviews (e.g., history of evaluation in Indian Country, cultural beliefs about sharing personal information) were not as significant to the survey participants as were the barriers of sufficient resources and time.

**Table I1. Organization & Program Information**

| <b>Survey Item</b>                       | <b>N</b> | <b>Percent</b> |
|--|----------|----------------|
| <b>Organization Type<sup>a</sup></b>     |          |                |
| Non-profit                               | 17       | 47.2%          |
| Tribal government organization           | 14       | 38.9%          |
| Health services provider                 | 6        | 16.7%          |
| State or Federal organization            | 5        | 13.9%          |
| Other                                    | 5        | 13.9%          |
| <b>Organization Location<sup>a</sup></b> |          |                |
| Arizona                                  | 6        | 16.7%          |
| New Mexico                               | 5        | 13.9%          |
| South Dakota                             | 4        | 11.1%          |
| California                               | 3        | 8.3%           |
| Oklahoma                                 | 3        | 8.3%           |
| Oregon                                   | 3        | 8.3%           |
| Idaho                                    | 2        | 5.6%           |
| Michigan                                 | 2        | 5.6%           |
| Nebraska                                 | 2        | 5.6%           |
| Louisiana                                | 1        | 2.8%           |
| Massachusetts                            | 1        | 2.8%           |
| Minnesota                                | 1        | 2.8%           |
| Montana                                  | 1        | 2.8%           |
| North Carolina                           | 1        | 2.8%           |
| Utah                                     | 1        | 2.8%           |
| Washington                               | 1        | 2.8%           |
| Wisconsin                                | 1        | 2.8%           |
| <b>Program Type</b>                      |          |                |
| Community/group                          | 11       | 30.6%          |
| Case management/individual               | 1        | 2.8%           |
| Both community and individual            | 24       | 66.7%          |
| <b>Program Audience<sup>a</sup></b>      |          |                |
| Youth/adolescents                        | 29       | 80.6%          |
| Adults                                   | 27       | 75%            |
| Elders                                   | 23       | 63.9%          |
| <b>Program Intervention<sup>a</sup></b>  |          |                |
| Health promotion/health behavior change  | 33       | 91.7%          |
| Environmental change                     | 17       | 47.2%          |
| Policy change                            | 10       | 27.8%          |
| Other                                    | 3        | 8.3%           |
| <b>IHS Area of Program<sup>a</sup></b>   |          |                |
| Great Plains                             | 6        | 16.7%          |
| Albuquerque                              | 5        | 13.9%          |
| Bemidji                                  | 4        | 11.1%          |
| Navajo                                   | 4        | 11.1%          |
| Portland                                 | 4        | 11.1%          |
| California                               | 3        | 8.3%           |
| Oklahoma City                            | 2        | 5.6%           |
| Tucson                                   | 2        | 5.6%           |



|                                    |    |       |
|------------------------------------|----|-------|
| Billings                           | 1  | 2.8%  |
| Phoenix                            | 1  | 2.8%  |
| <b>Type of Funding<sup>a</sup></b> |    |       |
| Federal grant                      | 30 | 83.3% |
| Non-profit/foundation grant        | 11 | 30.6% |
| State grant                        | 10 | 27.8% |
| Tribe                              | 8  | 22.2% |
| Other                              | 5  | 13.9% |

<sup>a</sup> Respondents had the option to check all that applied

**Table I2. Participant Characteristics**

| Survey Item   | N  | Percent |
|---|----|---------|
| <b>Self-identified race <sup>a,b</sup></b>              |    |         |
| American Indian   | 19 | 65.5%   |
| Caucasian   | 10 | 34.5%   |
| African American  | 1  | 3.4%    |
| Hispanic/Latino   | 1  | 3.4%    |
| <b>Job title/role <sup>a,b</sup></b>                    |    |         |
| Health Educator   | 11 | 37.9%   |
| Program Director  | 10 | 34.5%   |
| Fitness Trainer   | 8  | 27.6%   |
| Program Coordinator                                     | 7  | 24.1%   |
| Evaluator   | 5  | 17.2%   |
| Other   | 2  | 6.9%    |
| <b>Level of education <sup>b</sup></b>                  |    |         |
| Master's degree   | 9  | 31%     |
| Bachelor's degree                                       | 9  | 31%     |
| Some college (not graduate)                             | 5  | 17.2%   |
| Doctoral degree   | 4  | 13.8%   |
| Associate degree  | 2  | 6.9%    |
| <b>Participated in Evaluation Training <sup>b</sup></b> |    |         |
| Yes   | 25 | 86.2%   |
| No  | 4  | 13.8%   |

<sup>a</sup> Respondents had the option to check all that applied.

<sup>b</sup> Total number of respondents for this survey item was 29. Therefore, the denominator for the percentages is 29.

**Table I3. Types of Methods Used for the Formative, Process, and Outcome Evaluation of Physical Activity Programs**

| <b>Survey Item</b>   | <b>N</b> | <b>Percent</b> |
|--|----------|----------------|
| <b>Formative evaluation <sup>a,b</sup></b>                 |          |                |
| Relationships/interactions with community                  | 27       | 77.1%          |
| Staff knowledge of community preferences/interests         | 21       | 60%            |
| Observations of the community                              | 18       | 51.4%          |
| Focus groups   | 12       | 34.3%          |
| Quantitative surveys                                       | 9        | 25.7%          |
| Talking circles  | 6        | 17.1%          |
| Qualitative interviews                                     | 6        | 17.1%          |
| Storytelling/success stories                               | 5        | 14.3%          |
| Secondary data analysis                                    | 5        | 14.3%          |
| Digital stories  | 2        | 5.7%           |
| Other  | 2        | 5.7%           |
| <b>Process evaluation <sup>a,b</sup></b>                   |          |                |
| Attendance records   | 24       | 68.6%          |
| Satisfaction/feedback surveys from participants            | 22       | 62.9%          |
| Relationships/interactions with community                  | 20       | 57.1%          |
| Observations of the community                              | 16       | 45.7%          |
| Focus groups   | 10       | 28.6%          |
| Qualitative interviews                                     | 10       | 28.6%          |
| Satisfaction/feedback surveys from program facilitators    | 10       | 28.6%          |
| Storytelling/success stories                               | 8        | 22.9%          |
| Talking circles  | 5        | 14.3%          |
| Other  | 5        | 14.3%          |
| Digital stories  | 4        | 11.4%          |
| <b>Impact/Outcome evaluation <sup>a,b</sup></b>            |          |                |
| Attendance records   | 22       | 62.9%          |
| Participant health measures                                | 19       | 54.3%          |
| Participant self-report physical activity levels           | 19       | 54.3%          |
| Satisfaction/feedback surveys from participants            | 18       | 51.4%          |
| Relationships/interactions with community                  | 14       | 40%            |
| Observations of the community                              | 14       | 40%            |
| Participant physical fitness assessment                    | 13       | 37.1%          |
| Satisfaction/feedback surveys from program facilitators    | 9        | 25.7%          |
| Storytelling/success stories                               | 8        | 22.9%          |
| Focus groups   | 6        | 17.1%          |
| Talking circles  | 5        | 14.3%          |
| Qualitative interviews                                     | 5        | 14.3%          |
| Digital stories  | 4        | 11.4%          |
| Other  | 2        | 5.7%           |
| <b>To collect data for report to funder <sup>b,c</sup></b> |          |                |
| Attendance records   | 21       | 75%            |
| Participant health measures                                | 17       | 60.7%          |
| Participant physical fitness assessment                    | 13       | 46.4%          |
| Satisfaction/feedback survey from participants             | 12       | 42.9%          |
| Participant self-reported physical activity levels         | 12       | 42.9%          |

|   |    |       |
|---|----|-------|
| Relationships/interactions with community               | 10 | 35.7% |
| Qualitative interviews                                  | 8  | 28.6% |
| Storytelling/success stories                            | 7  | 12.1% |
| Satisfaction/feedback surveys from program facilitators | 7  | 12.1% |
| Observations of the community                           | 6  | 21.4% |
| Focus groups  | 4  | 14.3% |
| Digital stories   | 4  | 14.3% |
| Talking circles   | 2  | 7.1%  |

<sup>a</sup> Number of total respondents for this survey item is 35. Therefore, the denominator for the percentages is 35.

<sup>b</sup> Respondents had the option to check all that applied

<sup>c</sup> Number of total respondents for this survey item is 28. Therefore, the denominator for the percentages is 28.

**Table I4. Participants' Desired Ways to Assess the Success of Their Physical Activity Programs**

| Survey Item   | N  | Percent |
|---|----|---------|
| <b>Desired/Ideal Outcomes</b> <sup>a,b</sup>                      |    |         |
| Participants' activity levels outside of the program or over time | 28 | 82.4%   |
| Participants' feelings towards the program                        | 24 | 70.6%   |
| Needs of community members  | 23 | 67.6%   |
| How the program connected participants with culture               | 23 | 67.6%   |
| Holistic impact of the program on participants                    | 23 | 67.6%   |
| Participants' health measures                                     | 23 | 67.6%   |
| Success stories   | 22 | 64.7%   |
| Intermediate indicators of behavior change                        | 22 | 64.7%   |
| Participants' physical fitness                                    | 20 | 58.8%   |
| Reach of the program  | 20 | 58.8%   |
| How participants' felt towards instructors                        | 19 | 55.9%   |
| Participant engagement in traditional forms of activity           | 18 | 52.9%   |
| Participants' engagement outside of the program                   | 17 | 50%     |
| <b>Desired/Ideal Methods</b> <sup>a,b</sup>                       |    |         |
| Collect baseline physical activity and health data                | 23 | 67.6%   |
| Assess participants' health measures on-site                      | 23 | 67.6%   |
| Track participants' health behavior over the year                 | 21 | 61.8%   |
| Compile all evaluation data into one database                     | 20 | 58.8%   |
| Collect stories/narratives  | 17 | 50%     |
| Collect digital stories   | 16 | 47.1%   |
| Track attendance  | 16 | 47.1%   |
| Use social media  | 15 | 44.1%   |
| Collect participants' health measures from clinic                 | 14 | 41.2%   |
| Assess participants' physical fitness on-site                     | 14 | 41.2%   |
| Conduct focus groups  | 12 | 35.3%   |
| Host talking circles  | 9  | 26.5%   |

<sup>a</sup> Total number of respondents for this survey item was 34. Therefore, the denominator for the percentages is 34.

<sup>b</sup> Respondents had the option to check all that applied

**Table I5. Perceptions of Evaluation**

| <b>Survey Item</b>  | <b>N</b> | <b>Percent</b> |
|---|----------|----------------|
| <b>Focus groups <sup>a,b</sup></b>                                |          |                |
| Useful program improvement  | 25       | 73.5%          |
| Useful for program development                                    | 23       | 67.6%          |
| Useful for evaluation of impact                                   | 18       | 52.9%          |
| Not useful  | 3        | 8.8%           |
| <b>Talking circles <sup>a,b</sup></b>                             |          |                |
| Useful for program improvement                                    | 24       | 70.5%          |
| Useful for evaluation of impact                                   | 21       | 61.8%          |
| Useful for program development                                    | 17       | 50%            |
| Not useful  | 4        | 11.8%          |
| <b>Digital stories <sup>a,c</sup></b>                             |          |                |
| Useful for evaluation of impact                                   | 22       | 66.7%          |
| Useful for program improvement                                    | 12       | 36.3%          |
| Useful for program development                                    | 8        | 24.2%          |
| Not useful  | 3        | 9.1%           |
| <b>Storytelling <sup>a,c</sup></b>                                |          |                |
| Useful for program improvement                                    | 20       | 60.1%          |
| Useful for evaluation of impact                                   | 20       | 60.1%          |
| Useful for program development                                    | 17       | 51.5%          |
| Not useful  | 4        | 12.1%          |
| <b>Resources needed for qualitative evaluation <sup>b,d</sup></b> |          |                |
| Trained staff   | 21       | 70%            |
| Ideas of how to do culturally-sensitive evidence-based evaluation | 21       | 70%            |
| Ideas of how to systematically capture stories                    | 19       | 63.3%          |
| Support from the funding agency                                   | 19       | 63.3%          |
| Equipment   | 18       | 60%            |
| A way to bring participants together                              | 16       | 53.3%          |
| Partnerships with external resources                              | 15       | 50%            |
| Other   | 2        | 6.7%           |
| <b>Barriers to qualitative evaluation <sup>b,d</sup></b>          |          |                |
| Getting participants together at the end of a program             | 18       | 60%            |
| Lack of staff trained in qualitative evaluation                   | 17       | 56.7%          |
| Lack of community participation in evaluation                     | 11       | 36.7%          |
| Negative history of research/evaluation                           | 9        | 30%            |
| Evaluation requirements from funding agency                       | 7        | 23.3%          |
| Community members not wanting to share information                | 7        | 23.3%          |
| Other   | 1        | 3.3%           |
| <b>Perceived purpose of evaluation <sup>b,e</sup></b>             |          |                |
| To identify ways to improve program to meet community needs       | 27       | 93.1%          |
| To demonstrate progress to sustain funding/obtain new funding     | 25       | 86.2%          |
| To tell the story of program impact                               | 21       | 72.4%          |
| To provide funders with data/reports                              | 17       | 58.6%          |

<sup>a</sup> Total number of respondents for this survey item was 34. Therefore, the denominator for the percentages is 34.

<sup>b</sup> Respondents had the option to check all that applied

<sup>c</sup> Total number of respondents for this survey item was 33. Therefore, the denominator for the percentages is 33.

<sup>d</sup> Total number of respondents for this survey item was 30. Therefore, the denominator for the percentages is 30.

<sup>e</sup> Total number of respondents for this survey item was 29. Therefore, the denominator for the percentages is 29.

**Table I6. Perceptions of Indigenous Evaluation**

| <b>Survey Item</b>  | <b>N</b> | <b>Percent</b> |
|---|----------|----------------|
| <b>Indigenous evaluation includes narrative/qualitative data <sup>a</sup></b> |          |                |
| Strongly agree  | 17       | 53.1%          |
| Agree   | 10       | 31.3%          |
| Neither agree nor disagree  | 5        | 15.6%          |
| Disagree  | 0        | 0%             |
| Strongly Disagree   | 0        | 0%             |
| <b>Indigenous evaluation assesses holistic impact <sup>b</sup></b>            |          |                |
| Strongly agree  | 17       | 51.5%          |
| Agree   | 9        | 27.3%          |
| Neither agree nor disagree  | 6        | 18.2%          |
| Disagree  | 1        | 3%             |
| Strongly Disagree   | 0        | 0%             |

<sup>a</sup> Total number of respondents for this survey item was 32. Therefore, the denominator for the percentages is 32.

<sup>b</sup> Total number of respondents for this survey item was 33. Therefore, the denominator for the percentages is 33.

**Table I7. Evaluation Experiences**

| <b>Survey Item</b>  | <b>N</b> | <b>Percent</b> |
|---|----------|----------------|
| <b>Required to report program progress to funding agency <sup>a</sup></b>                                       |          |                |
| Yes   | 28       | 80%            |
| No  | 7        | 20%            |
| <b>Funding agency provides opportunities for gathering with similar programs and sharing ideas <sup>b</sup></b> |          |                |
| Strongly agree  | 6        | 20.7%          |
| Agree   | 18       | 62.1%          |
| Neither agree nor disagree  | 4        | 13.8%          |
| Disagree  | 1        | 3.4%           |
| Strongly disagree   | 0        | 0%             |
| <b>Funding agency provides resources for evaluation <sup>b</sup></b>  |          |                |
| Strongly agree  | 7        | 24.1%          |
| Agree   | 15       | 51.7%          |
| Neither agree nor disagree  | 2        | 6.9%           |
| Disagree  | 5        | 17.2%          |
| Strongly disagree   | 0        | 0%             |
| <b>Funding agency provides sufficient resources to meet</b>   |          |                |

|   |    |       |
|---|----|-------|
| <b>evaluation expectations <sup>b</sup></b>                               |    |       |
| Strongly agree  | 6  | 20.7% |
| Agree   | 14 | 48.3% |
| Neither agree nor disagree  | 6  | 20.7% |
| Disagree  | 3  | 10.3% |
| Strongly disagree   | 0  | 0%    |
| <b>Required evaluation methods are culturally sensitive <sup>b</sup></b>  |    |       |
| Strongly agree  | 4  | 13.8% |
| Agree   | 12 | 41.4% |
| Neither agree nor disagree  | 9  | 31%   |
| Disagree  | 4  | 13.8% |
| Strongly disagree   | 4  | 13.8% |
| <b>Required evaluation outcomes are culturally sensitive <sup>b</sup></b> |    |       |
| Strongly agree  | 4  | 13.8% |
| Agree   | 13 | 44.8% |
| Neither agree nor disagree  | 7  | 19.4% |
| Disagree  | 5  | 13.9% |
| Strongly disagree   | 0  | 0%    |
| <b>Funding agency dictates the goals of our program <sup>b</sup></b>      |    |       |
| Disagree  | 18 | 62.1% |
| Agree <sup>c</sup>  | 11 | 37.9% |
| <b>Funding agency dictates evaluation methods <sup>b</sup></b>            |    |       |
| Disagree  | 16 | 55.2% |
| Agree <sup>d</sup>  | 13 | 44.8% |
| <b>Funding agency dictates data collected for evaluation <sup>b</sup></b> |    |       |
| Agree <sup>e</sup>  | 16 | 55.2% |
| Disagree  | 13 | 44.8% |
| <b>Barriers to conducting desired evaluation <sup>f,g</sup></b>           |    |       |
| Resources   | 17 | 60.7% |
| Time  | 13 | 46.4% |
| Community participation   | 9  | 32.1% |
| Reporting requirements  | 6  | 21.4% |
| None of the above –<br>we are doing the evaluation we want to do          | 5  | 17.9% |

<sup>a</sup> Total number of respondents for this survey item was 35. Therefore, the denominator for the percentages is 35.

<sup>b</sup> Total number of respondents for this survey item was 29. Therefore, the denominator for the percentages is 29.

<sup>c</sup> Among those that agreed (n=11), 45.5% want goals for their program that are different from the goals set by the funding agency.

<sup>d</sup> Among those that agreed (n=13), 53.8% want to evaluate in ways that are different from the methods they are required to use.

<sup>e</sup> Among those that agreed (n=16), 37.5% want to collect data that is different from the data they are required to collect.

<sup>f</sup> Total number of respondents for this survey item was 28. Therefore, the denominator for the percentages is 28.

<sup>g</sup> Respondents had the option to check all that applied

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