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AN INTERSECTIONAL MIXED METHODS APPROACH TO UNDERSTAND AMERICAN INDIAN MEN'S HEALTH

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ABSTRACT

This study used a parallel, convergent, mixed-methods design with TribalCrit theory and intersectionality as analytical frameworks to identify how the identities of American Indian men intersect with broader structures and systems in shaping their eating and physical activity choices and behaviors, and in eliciting recommendations for a men's lifestyle intervention. American Indian men were recruited in Minneapolis, Minnesota, and Portland, Oregon, between March and December 2017, and in Phoenix, Arizona, in December 2019 to participate in a survey and focus groups. The survey included questions on demographics and physical and cultural activities men engage in, perceived social support for lifestyle behaviors, masculine characteristics, and values important to American Indian men. The six-item Kessler Psychological Distress Scale was used to assess psychological distress. Focus groups were audio recorded and transcribed for a phenomenological analysis. Descriptive statistics and correlations were computed for survey data. We conducted 15 focus groups with 151 adult American Indian men in three urban sites. The mean age of participants ranged from 36 to 51 across the sites; 7–32% were college graduates; 13–22% were currently married, and 28–41% were working full time. The most important values reported by participants were being strong mentally and emotionally, a good parent, responsible, spiritual, and a good spouse or partner. On the K6 psychological distress scale, 63–70% scored ≥5 but <13 (moderate mental distress), and 8–15% scored ≥13, indicating severe mental distress. Younger age was significantly correlated with higher mean K6 score ($P < 0.0001$). Settler colonialism that took root in the United States imposed cultural and gender hegemony, which in turn enforced a patriarchal capitalist system that has had long-lasting and deleterious effects on American Indians, particularly American Indian men.

Keywords: *American Indian men; intersectional; lifestyle interventions; masculinity; mixed methods; TribalCrit*

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INTRODUCTION

American Indians are the indigenous people of what is now the United States, which they have inhabited for at least 15,000 years.[1] European colonization of the Americas resulted in a precipitous decline in the population of American Indians through introduced infectious diseases, warfare, genocide, and slavery.[2, 3] Following the formation of the United States, the policies of settler colonialism continued to exterminate American Indians, remove them from their ancestral lands, and subject them to one-sided treaties and discriminatory government policies.[4] Settler colonialism is defined as an imposed structure rather than a historical event.[5] This structure is characterized by relationships of domination and subjugation that become woven throughout the fabric of society and even becomes disguised as paternalistic benevolence.[6] The logic of settler colonialism is to destroy, or assimilate, in order to replace.[7] Assimilation involves the systematic stripping away of indigenous culture and replacing it with the dominant culture.

Indian termination was the policy of the United States from the mid-1940s to the mid-1960s.[8] It was shaped by a series of laws and policies with the intent of assimilating American Indians into mainstream society. In 1956, the Indian Relocation Act was authorized to terminate the tribal status of numerous tribes and relocate American Indians to select urban centers. This policy played a significant role in increasing the population of urban American Indians in succeeding decades. Although the act did not force people to leave their reservations, it made it difficult for families to stay on their reservation by dissolving federal recognition of most tribes, and ending federal funding for reservation schools, hospitals, basic services, and the jobs they created.[9] Although the federal government paid for relocation expenses to the cities, and provided some vocational training, urban American Indians faced high levels of job discrimination, and they were offered few opportunities for job advancement.[10] Without the support promised by the federal government, American Indians were not prepared for life in a city. Many experienced poverty, joblessness, inferior housing in poor neighborhoods with inadequate schools, homelessness, and depression.[11] Relocated tribal members became isolated from their communities and faced racial discrimination and segregation. Moreover, they could not return to dissolved reservations.[10] Overall, the program had devastating, long-term effects that endure in contemporary urban American Indians.[10]

Individual and community relocation is a highly disruptive and traumatic event,[12,13] and was a significant turning point in the life course of many American Indians. Structural displacement has been shown to be particularly problematic for American Indians who have a strong community-orientation[14] and much of their cultural identity is tied to physical place and peoples.[15–18] American Indian's experiences of relocation represent a population's life course turning point of considerable consequence for identity; social and family networks; and mental, physical, emotional, and spiritual health, the detrimental effects of which persist even today.[10]

AMERICAN INDIAN MEN'S HEALTH AND WELL-BEING

Today, 78% of more than 6 million American Indians live in urban areas.[19] Since the 1960s, self-determination movements have resulted in changes meant to improve the lives of American Indians, although there are still many inequities that continue to affect American Indians physically, mentally, emotionally, and spiritually. The health and well-being of American Indians is rooted in colonization and continues to be impacted across generations through ongoing settler colonialism, racism, oppression, and unhealed historical and contemporary traumas, particularly for American Indian men,[10, 20, 21] who have striking health disparities compared to both men of other races and ethnicities and American Indian women.[22] For example, the life expectancy for American Indian men is 8 years less than for white men (66.1 vs. 74.5 years),[23] and American Indian men have a higher prevalence of disability compared to men of other races and ethnicities.[24] Death rates owing to diabetes, suicide, human immunodeficiency virus/acquired immunodeficiency syndrome, homicide, unintentional injury, and alcohol abuse are 2–5 times higher in American Indian men than American Indian women.[25,26] Diabetes and obesity

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are major public health issues for American Indian men.[27] The prevalence of obesity is 39% in American Indian men, compared to 26% in non-Hispanic white men,[28,29] and the prevalence of diabetes[30] and diabetes-related mortality in American Indians is similarly higher.[27] American Indian men are almost two times more likely than non-Hispanic white men to die from diabetes.[27]

American Indian men also face significant socioeconomic disparities that have a direct impact on their health, well-being, and career opportunities. Compared to all other racial or ethnic groups of non-elderly males, 47% of American Indians have a family income ≤138% federal poverty level, and 25% of American Indian households have income from food stamps, compared to 11% of white households.[24] In 2014, 18% of American Indians did not complete high school, compared to only 8% of non-Hispanic white students.[31] Among adults aged 25– 64 years, 11% of American Indians were unemployed, compared to 5% of non-Hispanic whites.[31] The 2015 total college enrollment rate was lowest for American Indians (23%), compared to all other racial and ethnic groups in the United States,[32] and fewer American Indian males enrolled in college than American Indian females.[31] In the US justice system, American Indian youth are three times more likely than white youth to be in custody.[33]

SETTLER COLONIALISM, HEGEMONIC MASCULINITY, AND AMERICAN INDIAN MEN

The impact of Western hegemonic masculinity on American Indian men is best understood within a historical context in which race, gender, and settler colonialism have played major roles.[20,21] For five centuries, American Indians have experienced devastating collective, intergenerational, cataclysmic group trauma and compounding discrimination, racism, and oppression.[34] Colonizers and missionaries that settled in the United States imposed cultural and gender hegemony, which enforced a patriarchal capitalist system that has had long-lasting and deleterious effects on American Indians, particularly American Indian men. Hegemonic masculinity is typically characterized by restrictive emotionality, competitiveness, dominance, and aggression, which are directly opposite to stereotypical feminine qualities such as emotional, passive, gentle, and dependent.[35] Hegemonic forms of masculinity legitimate men's power over women and structure hierarchical social relations that ensure the power of men and certain masculinities.[36] The cultural hegemony enforced by Europeans and White Americans often contradicted precolonial American Indian practices in which sex roles were complementary and women and children were not viewed as property. Gender complementarity created social balance because it valued equal authority and leadership among men and women. Missionaries and the US government viewed this as a threat to their heteropatriarchal understanding of gender roles and made transforming or eliminating American Indian gender systems a goal,[20, 37] which was enforced through laws, legislation, religion, education, and employment.[38] The US government, at the behest of religious groups, spent millions of dollars designing and implementing programs and policies to "kill the Indian and save the man."[39]

American Indian men were forced to negotiate new roles in a context that favored American and Judeo-Christian hegemonic masculinity that was defined by ownership and control of property, which included land, women, and children.[37] American and Christian paternalistic discourse placed American Indians in a hierarchy of race, class, and gender that maintained the privilege of the White oligarchy[40] and emasculated American Indian men with pervasive, socially embedded views of them as lazy, stupid, violent, sexually unappealing to Native women and doomed to failure in the marketplace, which became internalized by many American Indians.[37] In spite of a Western education and active participation by some American Indian men in the capitalist system, either out of necessity or willingly, they were not afforded the same rights and benefits afforded to White Americans. There were political, economic, and social forces that undermined Indigenous agency and reinforced the structural power of the colonizers. With the Western introduction of land ownership, ranching, and voting power, American Indians had little political power and access to land that could support independence. Land

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was also key to culture, traditions, and identity.[20, 37] These losses have led to long-lasting and unresolved negative physical, social, and psychological consequences, particularly among men, extending from one generation to the next, a condition commonly referred to as historical trauma.[34] Outcomes of historical trauma and unresolved grief may manifest as poor overall physical and behavioral health, including low self-esteem, depression, self-destructive behavior, marked propensity for violent or aggressive behavior, substance misuse and addiction, and high rates of suicide and cardiovascular disease.[41]

A result of the collective experience of historical trauma and unresolved grief is male separation from the traditional self,[42] low self-esteem, internalization of oppression, and identification with the aggressor where he both sees and despises himself, and other American Indian men, through the eyes of the oppressor.[37, 42] American Indian beliefs of the warrior were transformed by the forces of mainstream society. Traditionally, warrior status was associated with humility, compassion, respect, and wisdom, rather than with bravado and violence as it is perceived today.[42] This altered perception draws contemporary American Indian men and youth to the military or gangs in order to achieve "warrior" status.[42] Hegemonic masculinity in the capitalist society values individual achievement and the accumulation of wealth. However, the American Indian man who is achievement-oriented may be identified as the oppressor and suffers rejection by family members and/or his community.[37] American Indian men continue to find themselves trapped in the masculinity of American society.

TRIBAL CRITICAL THEORY AND INTERSECTIONALITY

Understanding the historical context and concomitant consequences of settler colonialism reveals the many factors that intersect to produce American Indian men's health and well-being. Tribal Critical Theory (TribalCrit), adapted from Critical Race Theory (CRT), provides a theoretical lens to address many contemporary American Indian health issues. Developed in the United States in the mid-1970s in Critical Legal Studies, CRT examines the relationship between race, racism, and power, with the basic assumption that racism is endemic to society, that is, it represents the historical, systemic, and ideological manifestations of power, aimed at maintaining and protecting White privilege.[43, 44] Like CRT, TribalCrit values narrative and stories as important sources of data and is consistent with American Indian oral traditions, such as storytelling, used to share history, customs, rituals, and legends. TribalCrit addresses American Indian's liminality as both legal/political and racialized beings *and* the experience of settler colonialism.[45] It emphasizes that colonization is endemic to society,[45] and, as a structure, settler colonialism is upheld through formal oppressive systems founded on capitalism, White superiority, competition, ownership, possession, and individualism. Like all systems of oppression that require denial of benefits to some, settler colonialism keeps American Indians in a consistent cycle of trauma, abuse, and turmoil through policies, practices, and social norms that serve to position American Indians as inferior and unworthy of investment.[46]

Intersectionality is an analytical framework proposing that multiple social categories (e.g., race, ethnicity, gender, sexual orientation, and socioeconomic status) intersect at the micro level of individual experience to reflect multiple interconnected systems of privilege and oppression at the macro, social-structural level (e.g., racism, sexism, ethnocentrism).[47] As a conceptual framework, intersectionality is ideally suited for the study of men of color for several reasons. First, it emphasizes the idea that men of color have relatively unique experiences that differ from men in general and from women of color.[48] Second, intersectionality reflects the reality and complexities of men of color's lives and the simultaneous intersecting subordinate identities that they possess.[49] Finally, this approach can reveal health disparities within subpopulations that may go unnoticed if men of color are simply studied as men or as people of color.[47, 48] TribalCrit theory and an intersectionality framework are complementary approaches to understand American Indian men's health and well-being because they both promote an analysis of the ways in which structures and dominant ideologies (e.g., colonialism and racism) mutually

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constitute one another to sustain a complex matrix of power and domination over other groups.[50, 51]

American Indian men have been virtually absent in most health research, and there is an overall lack of intersectional research that examines the ways in which meanings of race, culture, colonialism, masculinities, and health are intertwined. An intersectional approach using a TribalCrit lens can help identify how each of these structures and dominant ideologies work together to effect American Indian men's health and well-being. For the purposes of the research described in this article, we are specifically interested in those behaviors that may promote and prevent or delay cardiometabolic conditions, such as obesity, diabetes, and cardiovascular disease. Several large, randomized, controlled trials confirm that cardiometabolic conditions can be prevented or delayed by interventions that promote weight loss and healthy lifestyles,[52–54] but these findings are largely based on female samples.[55] Little empirical data exist on interventions to prevent cardiometabolic conditions in men.[56] Men, in general, are less likely to attempt weight loss than women and are notoriously difficult to recruit to weight loss programs.[57, 58] Lifestyle interventions specifically designed for American Indian men are particularly sparse, which is concerning because men experience a similar prevalence of obesity as women, and may be more vulnerable to some obesity-related diseases, such as cardiovascular disease, and experience a shorter lifespan than women.[55, 59, 60] Men could benefit greatly from lifestyle interventions that are designed to meet their needs, preferences, and values, and fit within their sociocultural and historical context. Therefore, the purpose of this study was to use TribalCrit theory and an intersectional analytical framework to identify how contemporary American Indian men's identities intersect with broader structures and systems to shape their eating and physical activity choices and behaviors in three urban settings.

METHODS

Study design

This study used a parallel, convergent, mixed-methods design[61] with TribalCrit theory and intersectionality as analytical frameworks to identify how the identities of American Indian men intersect with broader structures and systems in shaping their eating and physical activity choices and behaviors, and in eliciting recommendations for a men's lifestyle intervention. Quantitative data were collected through surveys and focus groups from the survey sample. The same concepts were addressed in quantitative and qualitative data collection to facilitate comparison and integration. Data were analyzed separately and then merged together in joint display tables[61] for overall comparison and interpretation (Figure 1).

Participants and setting

Between March and December 2017, partner organizations in Minneapolis, Minnesota, and Portland, Oregon, recruited a homogeneous purposive sample of American Indian men through flyers, word-of-mouth, and social network connections. Ten to 15 men were recruited for each focus group. Men were eligible to participate if they self-identified as an American Indian male and were ≥18 years of age. The Phoenix, Arizona, site was added in December 2019 to include experiences of American Indian men in another area with a large urban American Indian population. Minneapolis, Portland, and Phoenix are home to a large population of urban American Indians. Minneapolis was one of the first cities chosen for the federal Indian relocation program,[62] as 1.5% of its 3 million residents were American Indian. Around 2.2% of the more than 2 million residents of Portland and 3.2% of the 4 million residents of Phoenix are American Indian,[19] as American Indians were also exiled to Portland[63] and Phoenix[64] when their tribal governments were abolished, lands taken, and treaty agreements broken.

Data collection

The focus group discussions began with an introduction to, and purpose of, the survey and discussion group. The facilitators briefly described health inequities among American Indian men and the intent to use the survey and focus group data to develop a healthy lifestyle program, specifically for American Indian men. Participants were offered a healthy meal, completed verbal informed consent prior to starting the survey and focus group discussion, and received a $50.00 store gift card for their participation. All data

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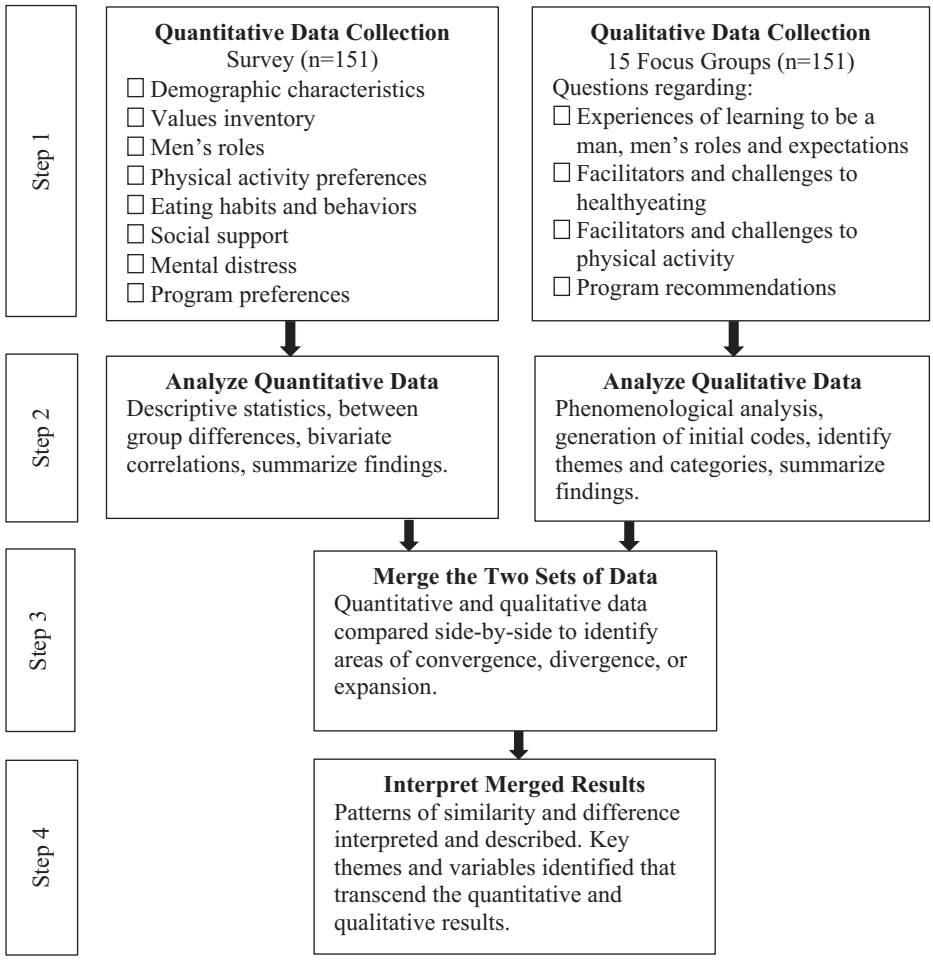
FIG. 1 Parallel convergent mixed-methods model.



were anonymous and survey data were not linked to focus group data. Participants were instructed not to use their names during the focus group discussion. The study was approved as exempt by the Washington State University Institutional Review Board (#15307) and the Indian Health Service National Institutional Review Board (#N16-BE-10).

Quantitative data were collected through a brief survey prior to each focus group discussion. The survey included demographic questions (e.g., age, educational attainment, and marital and employment status). A 22-item values inventory, adapted from the Healthy Body, Healthy Spirit project,[65] was used to assess the importance of differing values for American Indian men. Using a 5-point Likert-type scale (1 = very important, 5 = not important at all), the main question was, "How important is it for men to…" and included: to be physically strong, not show emotions, care for family members, participate in cultural or community events, prepare meals for his family, have a job, get annual physical checkups from the doctor, and talk about health with other men. Participants were also asked their preference by the peer educator of a lifestyle intervention. Responses included a man of any race; a woman of any race; an American Indian man; an American Indian woman; and no preference. Finally, we included the Kessler 6-item (K6) screening scale, a nonspecific psychological distress scale that screens for severe mental illness defined as a K6 score ≥13, estimated to afflict about 6% of

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US adults.[66] The K6 was shown to be an appropriate screening and severity measure for mood disorders in a sample of 3084 American Indians.[67] The responses range from "none of the time" coded 0 to "all of the time" coded 4. The six items are summed to yield a number between 0 and 24.

Eight items were used to assess the likelihood of engaging in several types of daily physical activities (e.g., go to a gym, play team sports, walk/run, and play with children) using a 5-point Likert-type scale (1 = very likely, 5 = not likely at all). One item was asked using a 5-point Likert-type scale (5 = strongly agree, 1 = strongly disagree) to measure social support for exercising at least three times per week.[68] Other items using the same scale asked if it was hard to find time to exercise, and if exercising with a friend or family member would increase the probability of exercising.

Several questions were asked to assess eating habits, access to and availability of healthy food options, and family support for healthy eating. Using a 5-point Likert-type scale (5 = strongly agree, 1 = strongly disagree), participants were asked how strongly they agreed with the following statements: There are many healthy food options, such as fruits and vegetables, available in my community; Healthy food options are too expensive in my community; Native foods are part of what I eat every day; My family would support me in eating healthier meals; and I would like to learn new ways to prepare nutritious meals and snacks for my family. Two survey questions assessed the frequency of eating at fast food restaurants and convenience stores or gas stations with response options of none, 1–2 meals, 3–5 meals, and 6 or more meals.

Following completion of the survey, participants engaged in focus groups that were facilitated by the first author, who is an American Indian, and co-facilitated by American Indian research assistants in each site. Focus groups were conducted in the community setting from which participants were recruited; lasted 2 h; and were conducted over 3–5 days at varying times at each site to accommodate participant's schedules. The focus group guide included questions on men's experiences about becoming and being a man (e.g., what is expected of men, what are their roles in their homes and communities, how have men's roles changed as a result of settler colonialism, how do expectations of men facilitate or impede healthy lifestyle behaviors?), motivations to be healthy, facilitators and challenges to healthy eating and physical activity, including the availability of community resources, social support, mental and emotional influences on lifestyle behaviors, and recommendations for an American Indian men's lifestyle program, which could positively impact health and influence health behaviors. Focus groups were audio recorded and transcribed verbatim.

Data analysis

Quantitative and qualitative data were collected and analyzed separately. Results were then paired side-by-side in joint display tables[61] by topic. Meta-inferences of the integrated results were made to illustrate where data converged or diverged, and where qualitative data expanded the quantitatively measured relationship. Meta inferences are an overall conclusion, explanation, or understanding developed through, and integration of, the inferences obtained from the qualitative and quantitative strands of a mixed-method study.[69]

Quantitative analysis

Summary statistics, including frequency distributions, means, and other descriptive analyses of variables were calculated by site to provide an overview of the characteristics of study participants and their survey data. Between-group differences for categorical variables were calculated using chi-square, and one-way analysis of variance (ANOVA) was used with continuous variables with $P < 0.05$ considered significant. Bivariate correlations between demographic variables and survey data were evaluated. Analyses were performed using SPSS software version 26.

Qualitative analysis

Focus group transcripts were entered into the qualitative data software, ATLAS.ti 8.0 (Scientific Software Development, Berlin, Germany, 1998), for analysis. Each transcript was labeled with the date, location, and the number of participants. Transcripts were reviewed line-by-line by three research team members to inductively identify recurring categories and themes that yielded a codebook of phenomenological concepts or "codes." A phenomenological approach was used to explore the meanings and perspectives

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of participants. Phenomenological inquiry includes individuals who have experienced the phenomenon of interest and asks individuals to describe the topic of interest in the context of their everyday lived experience.[70] Codes were assigned to the text and reviewed to ensure accuracy and agreement between research team members. After review and refinement of the codes, an intercoder reliability measure was calculated by comparing the agreement between codes assigned to randomly chosen segments of the text by each research team member. The final intercoder reliability was 96%. Finally, a multilevel framework was used to illustrate the multiple dimensions of experience that shape American Indian men's risk for cardiometabolic conditions.

Mixed-methods analysis

After independent analyses of the quantitative and qualitative data, the results were paired in joint display tables for analysis and comparison for which there were corresponding data in both the survey and focus groups. A Joint display table provides a visual means to both integrate and represent mixed-methods results to generate new inferences.[71] Side-by-side comparisons were made to determine in what ways the quantitative and qualitative results converged, diverged, or expanded to provide additional insight into American Indian men's experiences.

RESULTS

Quantitative results

A total of 151 AI men participated in 15 focus groups across the three sites. Table 1 summarizes the between-group differences in demographic characteristics of participants by site. There was a significant difference in age between sites with a mean age of 51 years in Minneapolis, compared to 36 and 44 years in Portland and Phoenix, respectively. There was also a difference in educational attainment by site with significantly more college graduates among Minneapolis and Portland participants, compared to Phoenix participants. There were no significant differences in marital or employment status between the sites.

The top five most important values reported by participants were being strong mentally and emotionally, being a good parent, being spiritual, and being responsible (Table 2). Participants across all sites reported that caring for family and children, being a good community member, and knowing one's culture and traditions were important or very important. There was a significant difference in the reported importance of staying in control of temper and situations, with fewer Portland participants reporting this as important or very important. There was also a significant difference in the importance of maintaining a healthy body weight, with fewer participants in Phoenix reporting this as important or very important. There were no significant differences in mental distress between sites. However, it is important to note that 63–70% of participants scored ≥5 but <13, suggesting moderate mental distress, and 8–15% of participants scored ≥13, suggesting severe mental distress. More than 60% of participants across all sites reported an interest in participating in a men's fitness and healthy eating program. When asked for their preference for a program instructor, the majority had no preference, followed by an American Indian man.

When asked about the likelihood of engaging in different types of daily physical activities (Table 3), participants reported they were very likely to work out or go for a walk or run alone; work out or go for a walk or run with friends or family; include exercise or physical activity in their paid job or daily routine; and go hunting, fishing, trapping, horseback riding, canoeing. There was a significant difference between sites in men who reported that their family would support them in exercising at least thrice a week, with fewer participants reporting family support in Phoenix.

Fewer than 50% of the participants reported that it was hard for them to find time to exercise. More than 50% of the participants reported that they would exercise more if they had someone like a friend or family member to exercise with.

At least 70% of participants agreed or strongly agreed that their family would support them in eating healthier meals and 68–82% wanted to learn new ways to prepare nutritious meals and snacks for their family (Table 4). At least 37% of participants strongly agreed or agreed that there are many healthy food options available in their community, although

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TABLE 1 Between-group differences in demographic characteristics of study participants (N = 151).

	Minneapolis, MN (n = 66)	Portland, OR (n = 34)	Phoenix, AZ (n = 51)
Age in years; mean (SD)**	51 (13)	36 (11)	44 (13)
18–49 years	28 (42)	30 (89)	31 (61)
50 years and older**	38 (59)	4 (11)	20 (39)
Education*			
Less than high school	4 (6)	0 (0)	9 (17)
High school/some college	41 (62)	25 (74)	38 (76)
College graduate	21 (32)	9 (26)	4 (7)
Currently married	9 (13)	6 (19)	11 (22)
Working full time	18 (28)	14 (41)	16 (32)

MN, Minnesota; OR, Oregon ; AZ, Arizona.
*Data are n (%) unless otherwise noted. Group differences value based on χ^2 and one-way ANOVA, as appropriate; *P < 0.05; **P < 0.001.*

more than 50% of participants reported that healthy food options are too expensive in their community. When asked if Native foods were part of what they ate every day, responses differed significantly with fewer responses in agreement among Minneapolis men. About 50% of men in each site ate 1–2 meals per week at a fast food restaurant.

As Table 1 shows, age was significantly correlated with site. Age was also correlated with employment status (P < 0.0001). Of the participants who were not retired (n = 140), 64 men (46%) were unemployed; of those unemployed, 28 (44%) were aged 30–65 years. Education and employment status were significantly correlated (P < 0.0001). Unemployment was 50% among participants who were not college graduates, compared to 4% among college graduates. K6 mean score was significantly correlated with, and linearly related to, age (P < 0.0001); young men had the highest mean score, compared to older men.

QUALITATIVE RESULTS

Table 5 presents the multilevel facilitators and challenges to healthy eating, physical activity, and men's recommendations for lifestyle interventions. The bullet points in Table 5 are expanded upon by quotes in this section.

MEN'S ROLES AND SETTLER COLONIALISM

Consistent with the survey data, focus group participants in the three sites believed that men should be providers, protectors, and leaders of the family and community. Men said that it was important to have a job to provide for the family. As described by a participant in Portland:

> I think a man is supposed to take care of his family and his community. To me, that's a healthy man."

When asked, "What did you learn about being a man when you were growing up?," men emphasized that being an engaged father was important and that they wanted to be a better father to their children than their father was for them. Several men shared their experiences growing up in foster care with non-Native foster parents or with a father with a substance use disorder. As one participant in Minneapolis explained:

> Growing up not having a father, I didn't really learn how to be a man. I had to just find that on my own. I just watched men in our community.

Another man in Minneapolis explained:

> I was raised in foster care by non-Native parents and I don't know anything about my parents or the tribal community I come from. That's why I come to the Indian Health Board, because they have cultural programs

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TABLE 2 American Indian men's self-reported values, mental distress, and program preferences (N = 151).

	Minneapolis, MN (n = 66)	Portland, OR (n = 34)	Phoenix, AZ (n = 51)
From whom did you learn what it means to "be a man?" ±			
Family members	49 (74)	27 (79)	36 (71)
Friends*	14 (21)	16 (47)	10 (20)
Observing men's behavior in the community**	14 (21)	24 (71)	20 (39)
Observing men's behavior on television, magazines, the Internet, social media*	11 (17)	15 (44)	14 (27)
Values (top five reported)			
Be strong mentally and emotionally	35 (53)	23 (67)	27 (52)
Be a good parent	35 (53)	16 (48)	22 (44)
Be spiritual	28 (43)	19 (56)	16 (32)
Be responsible	35 (53)	11 (33)	21 (42)
Be a good spouse/partner	24 (36)	14 (41)	15 (29)
How important is it for men to… (very important or important response)			
Care for family	66 (100)	33 (97)	48 (95)
Care for children	65 (98)	33 (97)	50 (98)
Spend time with family	65 (98)	34 (100)	45 (88)
Stay in control of temper and situations*	65 (98)	28 (82)	48 (95)
Maintain a healthy body weight*	62 (94)	33 (97)	35 (68)
Have a job	59 (89)	32 (94)	46 (90)
Know culture and traditions	59 (89)	32 (94)	37 (73)
Mental distress			
Kessler 6; mean (SD)	6 (5)	8 (5)	7 (4)
Kessler 6 ≥ 5 moderate but not severe mental distress	44 (66)	24 (70)	32 (63)
Kessler 6 ≥ 13 severe mental distress	5 (8)	5 (15)	6 (12)
Are you interested in participating in a Native men's fitness and healthy eating program?			
Yes	64	82	71
Who would you prefer as the instructor for a men's health and wellness program?			
American Indian man	17 (26)	14 (41)	16 (31)
Man of any race/ethnicity	0 (0)	1 (3)	0 (0)
American Indian woman	1 (2)	0 (0)	0 (0)
Woman of any race/ethnicity	5 (8)	0 (0)	3 (6)
No preference	44 (66)	19 (56)	32 (63)

MN, Minnesota; OR, Oregon ; AZ, Arizona; SD, standard deviation.

*Data are n (%) for categorical variables unless otherwise noted. Significant between-group differences value based on χ^2 and one-way ANOVA, as appropriate; *P < 0.05; **P < 0.001.*

±*Response option was "check all that apply" so that multiple responses could have been selected by individual respondents.*

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TABLE 3 American Indian men's self-reported physical activity preferences, behaviors, and family support for physical activity by site (N = 151).

	Minneapolis, MN (n = 66)	**Portland, OR (n = 34)**	**Phoenix, AZ (n = 51)**
When active, how likely are you to…(very likely response)			
go to a gym or fitness center	17 (25)	6 (19)	16 (32)
play team sports	11 (17)	9 (26)	8 (15)
work out or go for a walk or run by yourself	30 (45)	15 (44)	30 (59)
work out or go for a walk or run with friends or family	25 (38)	9 (26)	20 (39)
play games or sports with your child(ren)	14 (21)	9 (26)	15 (29)
include exercise or physical activity in your paid job or daily routine	31 (47)	15 (44)	21 (42)
go hunting, fishing, trapping, horseback riding, canoeing	13 (19)	13 (37)	16 (32)
dance in powwows, or do ceremonial or traditional dancing	9 (13)	6 (19)	9 (17)
My family would support me in exercising at least thrice a week.			
Strongly Agree or Agree*	56 (85)	32 (94)	31 (61)
It is hard for me to find time to exercise.			
Strongly Agree or Agree	28 (42)	14 (41)	15 (29)
I would probably exercise more if I had someone like a friend or family member to exercise with.			
Strongly Agree or Agree	41 (62)	21 (62)	32 (63)

MN, Minnesota; OR, Oregon ; AZ, Arizona.
*Data are n (%) for categorical variables. Significant between-group differences value based on χ^2; *P < 0.05; **P < 0.001.*

for Natives, and I can be around other Natives and learn from them. Because of the way I look, like I'm Native, people ask me questions about Indians, what tribe I'm from, about my culture, but I can't tell them because I don't know. It can be kind of embarrassing sometimes, but I'm trying to learn more and be part of the community here.

Another in Phoenix said:

For me, I learned how not to be from my father. My dad was an alcoholic. He'd run around and come back home when money ran out. I learned that's how I didn't want to be.

Men also discussed the importance of being strong mentally, physically, and emotionally; treating one's partner as an equal; and respecting one's self and others. Several **perspicacious** participants discussed the effects of settler colonialism and emphasized the importance of challenging cultural hegemony and returning to, or learning, traditional practices and tribal languages. A Portland participant said:

Reconnecting to our culture is something that's positive because, once we know our roles in society and what was taken from us, then we can know how to come back.

A common theme across sites was the cultural value of performing acts that benefit the community rather than just the individual. The men said they would find "purpose" in doing something for their community.

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TABLE 4 American Indian men's self-reported healthy food availability and eating habits by site (N = 151).

	Minneapolis, MN (n = 66)	Portland, OR (n = 34)	Phoenix, AZ (n = 51)
There are many healthy food options, such as fruits and vegetables, available in my community.			
Strongly Agree or Agree	38 (57)	16 (48)	19 (37)
Healthy food options are too expensive in my community.			
Strongly Agree or Agree	38 (57)	23 (67)	28 (55)
It is difficult to find fresh fruits and vegetables in my community.			
Strongly Agree or Agree	9 (13)	4 (11)	5 (10)
Native foods are part of what I eat every day.			
Strongly Agree or Agree**	1 (2)	5 (15)	12 (24)
How many meals per week do you eat at fast food restaurants?			
None	26 (39)	4 (12)	14 (27)
1–2 meals	32 (48)	19 (56)	23 (45)
3–5 meals	6 (9)	9 (26)	9 (18)
6 or more meals*	1 (2)	2 (6)	5 (10)
How many meals per week do you eat at convenience stores or gas stations?			
None	35 (53)	11 (32)	17 (33)
1–2 meals	20 (30)	10 (29)	21 (41)
3–5 meals	7 (11)	11 (32)	10 (20)
6 or more meals	4 (6)	1 (3)	3 (6)
My family would support me in eating healthier meals.			
Strongly Agree or Agree	60 (91)	28 (82)	37 (73)
I would like to learn new ways to prepare nutritious meals and snacks for my family.			
Strongly Agree or Agree	50 (76)	28 (82)	35 (68)

MN, Minnesota; OR, Oregon ; AZ, Arizona.
*Data are n (%). Significant between-group differences value based on χ^2; *P < 0.05; **P < 0.001.*

A man in Minneapolis commented:

We need a reason to feel like what we're doing for ourselves has a greater purpose other than just ourselves. We need to feel that what we do benefits our community and each other.

In Portland, a participant stated:

If we're doing something to be warriors, then you think about it differently. You know, I'm not just gonna come for myself, but if it's something that I need to do to better my family or my community then I'd be more inclined to come to a program.

Men described the lack of men's groups or places where men could gather to talk and learn from one another, such as the traditional longhouse for some tribes that provided a place where men could gather. Several men described the impact of hegemonic masculinity on their health and well-being. One man in Phoenix said:

> We have a colonized mind frame that men are supposed to be invincible. Young guys don't think about personal wellness, like regular check-ups, mental-health engagement, or preventative actions in health care. Men don't

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TABLE 5 Summary of multilevel factors that influence healthy eating, physical activity, weight loss, program attendance, and lifestyle intervention recommendations reported by American Indian male focus group participants (n = 151).

Masculinity & Manhood				
Discussion topics	**Individual**	**Social (family/ friends)**	**Cultural**	**Environment/ Community**
Men's roles	Be an engaged father Be responsible for actions Support family and community, especially children and elders	Take fatherhood role seriously Be the provider—make money, feed the family, be the leader, always have a job	Be a leader, teacher, and role model to other men and youth Responsibility and emotional control important Do things to support the community and elders	Protect the land and community Carry on and teach children culture and traditions
Positive attributes of men reported by participants	Hard worker Men are the protectors and providers Having a good mind/ restraint (regarding eating, not fighting, stay out of jail)	Tough/strong mentally, physically, emotionally Treat partner as an equal Take care of kids Work to provide Drinking and women Take responsibility for actions Respect yourself, partner/spouse, and others Work hard then party	Men should be the provider and leader Physical strength important Protect family from harm Teach and respect others Be clean and sober	Sacrifice for family and others Take care of community. but in an urban setting, it was not clear as to how to do this
Healthy Eating				
Facilitators	Self-confidence Learn balance with eating	Include family in meal planning Families teaching men how to cook Cook meals ahead of time and freeze for quick weekly meals Men as the provider should cook healthy meals Learned role of nutrition in health when participating in team sports Cooking and shopping with others for support	Meal/food shopping education Being part of a cultural program that promotes taking care of the whole person Gardens Learn about traditional Native foods Learn about other cultures' foods and traditional medicines	Farmers' markets Support food sovereignty and protect Native plants/seeds

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TABLE 5 (*continued*)

Challenges & Concerns	Not knowing proper diet for desired results Taste preferences Procrastination Lack time and motivation Lose interest when weight loss results not immediate	Lack of knowledge about nutrition Social pressure to eat unhealthy foods (e.g., Indian tacos) Grocery shopping and preparing meals seen as feminine	Salad is feminine, must have meat Fry bread and other foods that are associated with culture but not traditional 60-h work weeks	Government commodities Easy access to junk/ fast food Healthy food expensive Hunting/fishing restrictions Short lunch break
Physical Activity				
Facilitators	Played sports as youth Stay healthy to be present for family	Cultural dances/ activities Role models Support (friends to call, partners, family) and accountability Physical activity benefits to family Learn benefits of exercise	Connect exercise to stereotypical masculine sports like boxing, lacrosse, basketball Healthy warrior concept	Native athlete role models Gyms/centers geared toward Native communities
Challenges & Concerns	No instant gratification Create own barriers to exercise Competing priorities Aging and disability limits physical activity Need support	Not having a support network Do not know a variety of exercises for weight loss, except running and weightlifting. Want to engage in physical activities that maintain their masculinity	Most exercise programs geared toward women	Gym/health center hours/capacity Physical space Membership/ materials Childcare Hunting/fishing licensing costs Transportation
Program				
Logistics (preferred time; location; facilitator, that is, man or woman; number of classes; length of classes, etc.	Feeling connected to program, not just a number 8–12 sessions preferred 1 h/week or 1–2x/ month depending on group schedule If 16 weeks, can miss a few sessions and still receive incentive Ability to join at any time Straight-forward content	Family-oriented programing (sometimes) Father–kid activity Field trips (to reservation for urban population, hunting, fishing, planting)	Peer educator—Native man or no preference Same person from start to finish Hands on and visual Teaching discipline through cultural activities that require work and communication	Offer classes via Zoom or Skype when cannot make it in-person (due to weather) or alternating classes Daytime or evening classes/activities preferred

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TABLE 5 (*continued*)

Recommendations	Resource guide Exercise sheets "Realistic diet" assistance	Cooking class Tribal cookbook Exercise for differing physical abilities and ages Exercise/games that include teamwork Competition (weight loss, exercise, cooking) Motivation buddy Field trips to reservation for urban population to hunt, fish Occasionally invite family/partner	Community gardens Traditional activities/ crafts Community pantry-type program Intergenerational Share expertise, train the trainer, possible certification to teach community	Allow people to miss a few sessions or to join program late How to shop for healthy foods on a budget
Incentives	Money or gift cards for attending, meeting health goals Meal planning with\ dietician and nutritionist	Group meals (either provided, traditional meal classes, meal prepping, cooking challenges/ competitions) Group sports with trainers for more advanced things such as boxing Gardening Family events	Traditional dances (including making all necessary components) Traditional activities/ games/crafts and make the materials Sweat lodge Traditional medicine classes/walks	Exercise equipment/ clothes Sporting equipment/ licensing coverage Cooking/kitchen equipment Gym membership Groceries Transportation coverage Clothes to fit new weight Healthy food vouchers

have a support system of other men to learn from and lean on when they need help like they did when we had the longhouse.

Another Portland participant stated:

> Our diets and the food we eat have been colonized. Parenting has been colonized. The way we think about each other has been colonized. I think it's selfish if I just think about myself. I want to participate in something that helps lots of people. We need to be resistant to this dominant culture that is killing us. Instead, we should be doing those traditional things that are better for us and our community.

One man in Minneapolis explained that fry bread was the result of forced relocation to reservations where poor-quality foods were provided that continues to devastate American Indian communities today. The effects of contemporary poor-quality foods were likened to the smallpox-infected blankets given by colonizers to American Indians to extirpate them:

> Fry bread is a wartime ration from concentration camps. I see a lot of our people think that fry bread is traditional, but that's what gives us high blood pressure and diabetes and heart attacks. That's what our people were given when they were put on reservations. They couldn't leave the rez to go hunting or fishing to get our natural food. They got rancid meat and flour with weevils in it and were told to make something of it. I seldom eat fried bread. I don't appreciate that at all. It's part of my decolonized thinking. I think a lot of Natives are trying to get more into traditional foods and get away from the foods that are killing us, slowing killing us. Like the blankets.

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FACILITATORS TO PHYSICAL ACTIVITY

During the discussion about physical activity, men suggested including Native athlete role models to encourage men to be active, promote a healthy warrior concept, facilitate sports teams to compete, have a buddy system for motivation and accountability, and include family in some events and activities. The inclusion of cultural and traditional activities was encouraged. One Portland man suggested:

> Maybe incorporate some of our traditional dances into a workout. At the community center they offer hoop dancing as physical activity; offering a variety of different activities that incorporate our culture would be fun.

As expressed earlier when discussing men's roles and the importance of performing acts that would benefit the community, participants discussed engaging in activities that would benefit the elders in the community. One Minneapolis participant said:

> We could do something to keep us healthy and active and benefit the community at the same time. Sometimes the elders need firewood or work done on their home. We could connect with our elders in the community *and* get a workout.

CHALLENGES TO PHYSICAL ACTIVITY

Men described several challenges to physical activity, including lack of motivation, needing support, aging and physical disabilities that limited exercise, the perception that cardio is not "manly", many exercise programs are geared toward women and not men, not knowing what exactly constitutes exercise, the cost of a gym membership, and lack of child care and/or transportation. A man in Phoenix said:

> I'd like to learn more about weightlifting but I can't afford a gym membership and I don't know any guys who could teach me. Even if I could go to a gym, I'd feel stupid asking some guy in the gym to teach me.

In Minneapolis, a participant explained:

> All I know about exercise is running and weightlifting, maybe bicycling counts too. There are a lot more exercises for women, like yoga and Zumba, but I don't think a lot of guys would feel comfortable doing those with a bunch of women in a class. I'd have to be in the back of the class so nobody could see me and laugh.

A Minneapolis participant explained:

> I have bad knees and I'm old, so you need to have some activities for different age groups. Maybe the older guys could teach the younger guys some things too and be like mentors.

FACILITATORS TO HEALTHY EATING

Men identified several facilitators to healthy eating, including the support of families in teaching men to cook healthy meals, understanding the synergy between physical activity and healthy eating, the availability of farmer's markets and gardens, how to shop on a budget, and the benefit of being in a program that promotes a holistic view of health. For example, one man in Minneapolis said:

> If you're not eating right, you feel miserable and unhealthy. It affects your feelings, your mental, emotional and spiritual well-being. It's all off balance.

Another Portland participant explained the importance of support for healthy eating:

> If you have a supportive household that can support that way of eating and support that way of life, then it makes it a lot easier, but if you have people around you who are eating the things you're trying not to eat, then it's tough to change those habits and create healthy habits.

A Phoenix participant explained the importance of supporting food sovereignty to make wild game, traditional fruits and vegetables, and medicines more available:

> Some of the tribes are starting to breed more buffalo and grow some of their traditional foods and medicines so they can cut back on buying some expensive foods in the grocery stores and reduce the amount of fast food their members are eating.

CHALLENGES TO HEALTHY EATING

Men described challenges at the individual, social, cultural, and environmental level. At the individual and social level, men described a lack of nutritional knowledge and having food prepared for them without deliberately thinking about whether foods were healthy or not. One Minneapolis participant stated:

> We didn't learn anything about eating healthy. Ma was always just cookin' to fill our bellies. It was always good food. Meat, potato, and vegetable. Sometimes

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> the vegetables would be orange or green or yellow. We never had big salads or anything like that.

Other challenges to eating healthy included lack of motivation to change current eating habits; taste preferences; social pressure to eat unhealthy foods that are considered traditional Native foods, such as fry bread and Indian tacos; the high cost of healthy foods compared to low cost fast food and commodities; restrictions on hunting and fishing; and lack of housing to prepare healthy meals. For example, one man in Portland explained:

> How are you gonna eat healthier if you don't have a place to be healthy, or you don't even have a place? If you tell me, "Eat these foods because they're better for you," but I don't have any place to cook a meal, then I'm probably going to Burger King.

Related to masculinity and weight loss, a Phoenix man stated:

> I think there is a stigma for men when it comes to eating certain foods. Let's say you bring your lunch to work and its carrots and salad. Still to this day, a lot of men will think there's something funny with that. We have to justify when we eat healthy foods like yogurt or we're trying to lose weight.

Another Minneapolis participant disclosed his experience:

> I was obese but I lost a lot of weight. Friends and my family would tease me. They would say, "Man, you lost a lot of weight. Are you smoking?" Meaning, am I smoking crack cocaine or methamphetamines. This was the perception. I would be like, wow. Why do people think being skinny or small is a negative thing?

RECOMMENDATIONS FOR AN AMERICAN INDIAN MEN'S LIFESTYLE PROGRAM

When asked for recommendations for an American Indian men's lifestyle program, many men agreed that competition, social support, doing activities that would benefit the community, and some family events would motivate participants to engage in the program. Competition would allow men to challenge each other, would hold them accountable to their team, and provide social support. Other ideas were team sports, community gardens, traditional activities, and healthy food vouchers or a community-pantry program. Many men acknowledged the need for nutrition information, healthy food demonstrations, guidance on how to shop on a budget, meal preparation, and the inclusion of family at some events. Flexibility in joining the program and class attendance was suggested. Desirable incentives were gift cards, money, meeting with a dietitian, group meals, group sports, family events, traditional activities, games and crafts, sweat lodge, traditional medicine walks, cooking and exercise equipment or clothes, groceries, and assistance with transportation. Men said they wanted to feel connected to a program and not just a number and suggested 8–12 classes, either weekly or 1–2 times per month.

MIXED-METHODS COMPARISON

Convergence

Direct comparisons of the quantitative and qualitative parameters in joint display tables revealed considerable convergence in experiences, perceptions, and recommendations. Qualitative data provided extensive expansion of quantitative results. A theme of convergence in the quantitative and qualitative results and across and within sites was the importance of performing activities that would benefit not only the men but also their families and communities. Supporting and contributing to the health and welfare of the community would confirm their role as warriors and ensure connectedness to the community. However, not all men were aware of how to contribute to the community in their urban setting. Another topic of convergence was related to culture and traditions. Discussions confirmed survey data that reported the importance of knowing one's culture and traditions. In spite of its substantial importance, several participants described their lack of knowledge of culture and traditions because they were raised by non-Native parents or their family did not practice traditional ways.

Results of physical activity survey data and focus group discussions confirmed preferred physical activities that would benefit the community and include culture and traditions, such as powwow dancing and walking through the woods to find traditional medicines and food. Survey data also confirmed that men would likely exercise more if they had a friend or family member to exercise with. Participants recommended exercise buddies to keep each other motivated and to include family in some program activities.

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There was also considerable concordance in healthy eating survey and focus group data, particularly in agreement that healthy foods, such as fresh fruits and vegetables, are available, although healthy food options are too expensive. Focus group data also confirmed low consumption of Native foods reported in the survey, although there was a desire to grow and consume traditional foods. Qualitative data also confirmed a fairly high consumption of fast food and prepared foods from gas stations and convenience stores reported in the survey.

Divergence

There were far fewer themes upon which qualitative and quantitative results diverged. One theme of divergence was the importance of spirituality; 32–56% of men reported that being spiritual was an important value, yet several men described in the focus groups that they were unsure what "being spiritual" meant or how to include spirituality in their lives. Survey data indicated that 61–94% of men believed that family would support them in exercising at least thrice a week, yet there was little discussion in the focus groups about family support as instrumental in promoting men's physical activity.

Expansion

Qualitative data expanded several topics of survey data. For example, discussions of masculinity and men's health and well-being revealed an informed awareness of settler colonialisms' impact on what men think about their health and how hegemonic masculinities influence the perceptions of men regarding health risks and vulnerability; lack of, but appreciation for, traditional family values, foods, and medicines, support system. Survey data indicating the importance of being responsible was frequently discussed within the context of family and community. Similarly, the importance of staying in control of temper and situations was expanded upon in focus group discussions where participants described their male family members who encouraged them to stay strong mentally and emotionally by maintaining their composure in difficult situations. However, there was a significant difference across sites in the identification of staying in control of temper and situations as important. Survey data indicated that men thought it was important to maintain a healthy body weight. However, discussion revealed that, in spite of its importance, lack of peer support and perceptions of healthy foods, weight loss, and masculine norms can impede weight loss. There was also a significant difference between sites in the importance of maintaining a healthy body weight with fewer men in Phoenix reporting that it was important or very important.

DISCUSSION

This is the first study to use TribalCrit theory and an intersectional analytical framework to identify how contemporary identities of American Indian men intersect with broader structures and systems to shape the multilevel factors that influence their health and well-being, particularly the risk factors associated with cardiometabolic conditions. The success and capacity of American Indian communities has been severely hampered by the systemic legacy of settler colonialism policies, such as forced assimilation, that have created an environment wherein American Indians are more likely to experience disparate social, economic, and life conditions.[72] Discussions in the focus groups illustrated the devastating effects of settler colonialism, including loss of original homelands, language, culture, and traditions; the inability to provide healthy traditional food to their family and community; impact of substance use disorders on families; and the effect of US government supplied foods that contribute to diabetes and heart disease experienced by contemporary American Indians.

Themes in this study were related to men's experiences as youth and adults, as fathers and husbands, and as family and community members, and the influence of settler colonialism on these roles. Men recognized that individualism, economic success, material wealth, and social class status are hegemonic masculine aspirations, but these were not mentioned as goals by most participants. Instead, men discussed the importance of providing for family and community, and the desire to perform acts that would first benefit the community rather than themselves. Men who put family and community first were considered warriors and healthy men. For many participants, American

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Indian culture, values, and expectations shaped men's definitions of manhood, health, and the behaviors and goals they aspire for.

Conversely, results confirm that hegemonic masculinity also influences some identities of American Indian men. For example, some men discussed the importance of economic success to be able to provide material goods, such as the latest cell phones, branded clothes, and nice cars for their family. Some men also saw themselves as the "breadwinner" and "leader" of their family. This belief reflects the Western hegemonic masculine idea of "ownership" of and control over women and children that American missionaries and colonists imposed, and is in direct contrast to precolonial practices in which gender complementarity created balance and harmony in relationships.[37] Colonization has been so complete that many American Indians may fail to recognize that they have adopted colonialist values and norms that constrain the expression of themselves in ways that challenge the dominant society's ideas about who and what they are supposed to be and how they are to behave.[45]

Another theme across all three sites was the importance of including culture and traditional activities in men's programs. Several men discussed the absence of American Indian culture in their lives because they had been raised by non-Native parents or their parents did not practice their culture and traditions. However, the root cause of the absence of culture from their lives was attributed to settler colonialism. Similarly, men described absent parents, substance use disorders, homelessness, and unemployment as results of settler colonialism. While notions of masculinity of men are often used to explain their high rates of risky and unhealthy behaviors,[35, 73, 74] participants attributed their unhealthy behaviors to historical and intergenerational trauma caused by settler colonialism.[75] In this study, 8–15% of participants scored ≥13 on the K6 scale, suggesting severe mental distress compared to 6% of US adults.[76] The mean K6 score increased significantly with younger age.

This research with American Indian men supports a relationship between gender role conflict and psychological distress. Gender role conflict may be attributable to competing masculinities, one originating from a European tradition and the other from an American Indian tradition that has been influenced by a history of oppression.[77] Gender role conflict may, as with some African American men,[78] be associated with the high level of psychological distress reported in our study. For example, the social roles and status of American Indian men were diminished with colonization. American Indian men, the warriors of their society, were marginalized from traditional roles and were forced to compete within a larger capitalist and Western-dominated society.[38] The persistent effects of colonization and hegemonic masculinity imposed by American missionaries and colonizers has resulted in inequities in psychological well-being, physical health, and socioeconomic opportunities among American Indian men. In this study, 46% of working-age men were unemployed, and of those who were unemployed, 44% were aged 30–65. Of the 151 participants, only 23% were graduates, although higher than national data in which the conferral of Bachelor's degrees is the lowest among American Indians (0.5%), compared to men of all other racial and ethnic groups, and compared to 66% of White men and 6% of non-resident alien males.[79] These data are the same for Master's and Doctorate degrees.[79] In this study, unemployment was 50% among participants who were not college graduates, compared to 4% among college graduates.

Sociocultural and environmental/community challenges to healthy eating and regular physical activity were described in all three sites. Common facilitators to healthy eating and physical activity were social support and the motivation to stay healthy so as to spend time with family and community. Consistent with the survey responses, men discussed the importance of family and their responsibility as a man to provide for and protect the family's health and well-being. A study in Australia, Healthy Dads, Healthy Kids, recruited overweight and obese men to participate in a weight loss program.[80] The Healthy Dads, Healthy Kids intervention meetings alternated between men only, and other meetings that included their children. Facilitated meetings with children included playtime for fathers and their children and learning about healthy eating. Men lost weight, spent time with their

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children, and became role models for physical activity and healthy eating. Interventions like Healthy Dads, Healthy Kids that consider men's family values may be an appropriate approach to use with American Indian men.

A predominant challenge to healthy eating among American Indian men was related to modern practices and norms, such as social pressure to eat foods now considered traditional, although they were introduced by settler colonialism. Prior to Western contact, foods consumed by American Indians were protective against heart disease, obesity, and diabetes. For example, the traditional diet of Midwest American Indians consisted of buffalo, venison, wild birds, and wild rice and berries. In the Southwest, the diet included corn, beans, squash, cacti, rabbit, and other small game. In the Pacific Northwest, a traditional diet included salmon, seafood, venison, bannock, wild berries, mushrooms, elk, and deer. Settler colonialism and the ensuing destruction of traditional food sources brought about the importation and regular consumption of inexpensive, abundantly available calorie-dense, high-fat processed foods and sugar-sweetened beverages. The cultural traditions and importance of serving food at social events continues even today, although traditional foods are accompanied by high-fat, calorie-dense Western foods that contribute to obesity, diabetes, and cardiovascular disease observed throughout American Indians today.

In spite of numerous large, randomized controlled trials demonstrating the effectiveness of lifestyle weight loss programs to prevent or delay type 2 diabetes, few men, particularly American Indian men, have been included. The current model and success of lifestyle programs have been based primarily on women, resulting in programs that may not attract participation from men, nor be effective for men.[56] Underrepresentation of American Indian men in lifestyle interventions is concerning because they experience similar prevalence of obesity and diabetes, and a higher rate of cardiovascular disease, compared to women.[55, 59] American Indian men could benefit from healthier lifestyle behaviors and interventions that incorporate their values, preferences, and conceptions of masculinity with an understanding of the complex historical context in which they were formed.

The impact of settler colonialism and the resulting historical trauma in American Indian males includes the challenge of defining their roles and position in contemporary society. In order to appropriately intervene with American Indian men, one must consider how the collective traumatic history of American Indian communities has contributed to the erosion of traditional roles and male identity development. The health of American Indian men is most accurately understood through a TribalCrit lens and intersectional framework that considers entrenched structures and systems that shape men's health and well-being. The data from this study is intended to inform the tailoring of lifestyle interventions for American Indian men. Other groups of men likely experience many of the same challenges to initiating and maintaining healthy lifestyle behaviors and may benefit from similar approaches.

Limitations and strengths

Although a convergent parallel approach was used to confirm qualitative and quantitative data, the generalizability of these data may be limited. Further studies with American Indian men can extend these data. Some men may not have felt comfortable responding to focus group questions due to the presence of other men and/or because the facilitators were community members. We did not link participant survey data to discussion comments. Therefore, there is no way to confirm convergence or divergence of quantitative and qualitative data within participants. In addition, qualitative findings are subject to interpretive bias. Although we made an effort to include diverse American Indian men, our participants may not be representative of a national or local sample of American Indian men. Another limitation is related to the timing of the focus groups. The Minneapolis and Portland focus groups were conducted between March and December 2017. Another urban site was planned, but they decided not to participate. The Phoenix site was added in December 2019 to include experiences of American Indian men in another urban area. However, there were few differences between Phoenix and the other two sites, which would indicate temporal changes in

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health or health behaviors of American Indian men in these sites. Furthermore, we did not confer with focus group participants to confirm interpretations of the data. Finally, the meta-inferences made in the mixed methods comparison may not be generalizable to other contexts or settings. Nevertheless, this study adds to our understanding of the intersections of the identity of American Indian men and broader structures and systems that affect their health and health behaviors. The survey and focus groups identified several themes that will be important to consider in the design of future programs to positively influence the health of American Indian men.

CONCLUSIONS AND IMPLICATIONS

American Indian men experience health as a socially racialized and oppressed group whose health is deeply rooted in the enduring legacy of colonization—a traumatizing act of foreign invasion and cultural genocide. Ongoing colonial violence, which contemporary American Indian men experience, continues to disrupt their relationship with traditional values, cultural practices, and ancestral knowledge that previously guided their journeys to manhood and warrior status. The impact of colonialism on the transmission of cultural knowledge is evident in the forced transformation of masculinity constructs within American Indian culture.[81] Forced gender construction based on Western values and maintained by land and cultural disruptions are powerful processes that continue to negatively impact the health of American Indian men.[81]

The stories of men in these focus groups embody survivance, which is more than mere survival—it is a way of life that nourishes Indigenous ways of knowing.[82] In spite of the historical and contemporary traumas, American Indian men are resilient and seek each other out to learn, to laugh, and to regenerate and remake culture, traditions, and images of what it means to be an American Indian man. Hence, pathways to healthy and thriving American Indian communities emerge from reclaiming traditional cultural understanding and practices related to becoming, and being, a healthy American Indian man.[42] The processes of resistance and resurgence are powerful responses to colonial violence and act to promote cultural resilience and sustain a cycle of healthy American Indian communities far into future generations.[46] Acknowledgement and understanding of the effects of settler colonialism and implementation of strengths-based approaches that promote cultural resilience can inform more effective strategies for lifestyle programs for American Indian men. Indeed, improving the health of American Indian men requires programs that consider the profound nature of settler colonialism and the importance of "making power" to reclaim traditions and cultural practices.[83]

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